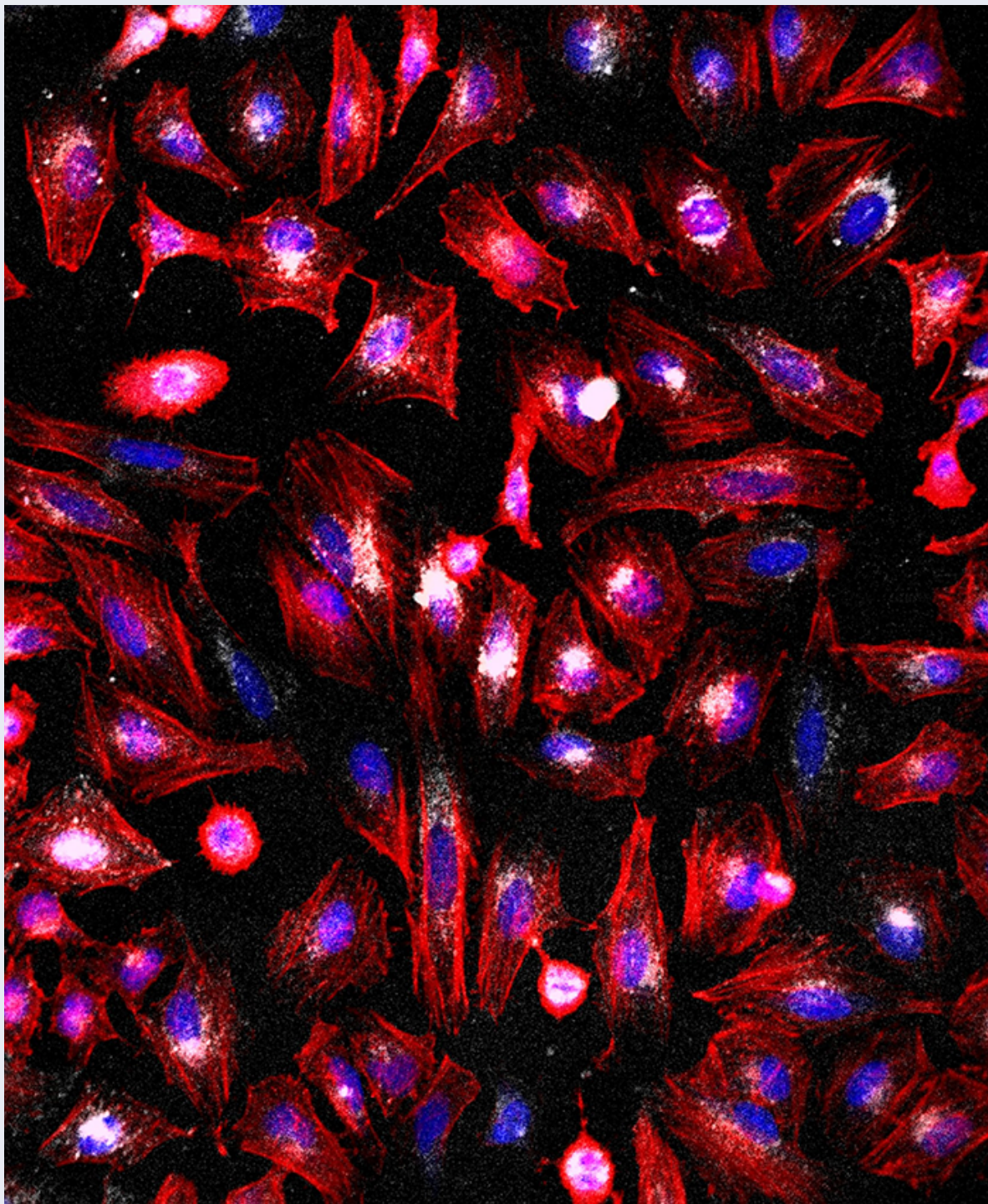
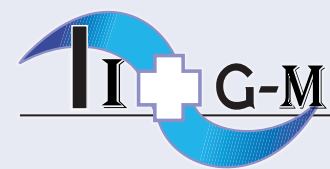




ANNUAL SCIENTIFIC  
REPORT

2023



Instituto de Investigación Sanitaria  
**Gregorio Marañón**



# Annual Scientific Report 2023



Instituto de Investigación Sanitaria  
Gregorio Marañón



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**FUNDACIÓN INVESTIGACIÓN BIOMÉDICA**  
HOSPITAL GREGORIO MARAÑÓN



CONSEJERÍA DE SANIDAD

**Comunidad de Madrid**

Dirección General de Investigación,  
y Docencia

Ir a la siguiente página

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This Annual Scientific Report 2023 from IISGM was prepared by the Fundación para la Investigación Biomédica of Hospital Gregorio Marañón and Instituto de Investigación Sanitaria Gregorio Marañón, with additional funding from the European Union via the European Regional Development Fund and the European Social Fund.



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## 1

## Presentation

We are delighted to present the 2023 Scientific Report from the **Institute for Health Research at the Hospital General Universitario Gregorio Marañón (IISGM)**. Our main goal is to share the research and innovative activities carried out within our institution with various stakeholders and the broader community. In addition, we would like to recognize the outstanding dedication of the researchers in each Research Group.

Over recent years, research activity has experienced significant growth. The **number of publications** has increased from the previous year to reach a total of 1,192 publications in 2023. It is important to highlight the rigorous assessment process for publications associated with IISGM, which strengthens the credibility of this indicator. Moreover, it's notable that IISGM researchers led 50% of the publications, reflecting strong international collaboration. Additionally, 56% of our research outputs were published in first-decile or first-quartile journals, marking a significant improvement over previous years.

**IISGM's innovation efforts** are also remarkable, featuring a diverse portfolio of innovative projects, including three successful spin-offs (Corify Care, Telara Pharma, and ThyTech), along with a new one (Ownmed Innovation), all aimed at meeting the evolving needs of the healthcare system. Notably, more than 50% of our patents have been licensed, showcasing significant potential for future development and generating interest from industrial and commercial sectors.



This outstanding research and innovation success is driven by our researchers' **exceptional ability to secure competitive funding for projects and human resources**. These resources are particularly essential as they lay the groundwork for the continuous renewal of researchers across generations. We must also highlight the commitment of IiSGM groups to **researcher training**, demonstrated by the large number of doctoral theses defended in 2023 and the ambitious Training Plan, which includes 13 accredited courses coordinated by the IiSGM Training Commission.

The managing entity of IiSGM, the **Foundation for Biomedical Research of the Hospital Gregorio Marañón (FIBHGM)**, remains dedicated to improving internal processes and upholding a commitment to ongoing quality improvement. Key achievements include receiving the European Excellence Award in Human Resources Management for the **Human Resources Strategy for Researchers (HRS4R)** and being the only Health Research Institute **fully certified under the ISO9001:2015 quality standard**.

These accomplishments result from the dedication of all IiSGM professionals, and we express our deepest gratitude to them, particularly in the context of the demanding environment of hospital-based scientific research. The exceptional results outlined in this report are the pro-

duct of a coordinated, collective effort driven by a strategy focused on improving patient care. Notably, a new group, Group 1.06, «Biomedical Applications of Engineering», led by Javier Pascau González and Arrate Muñoz Barrutia, joined the IiSGM structure in 2023 within Research Area 1, «Biomedical Engineering».

Lastly, we would like to extend our appreciation to all **Area Coordinators, Group Leaders, Research Groups, Research Support Services (SAls), Clinical Services, and especially our young researchers**, who form the core of IiSGM's progress and activities.

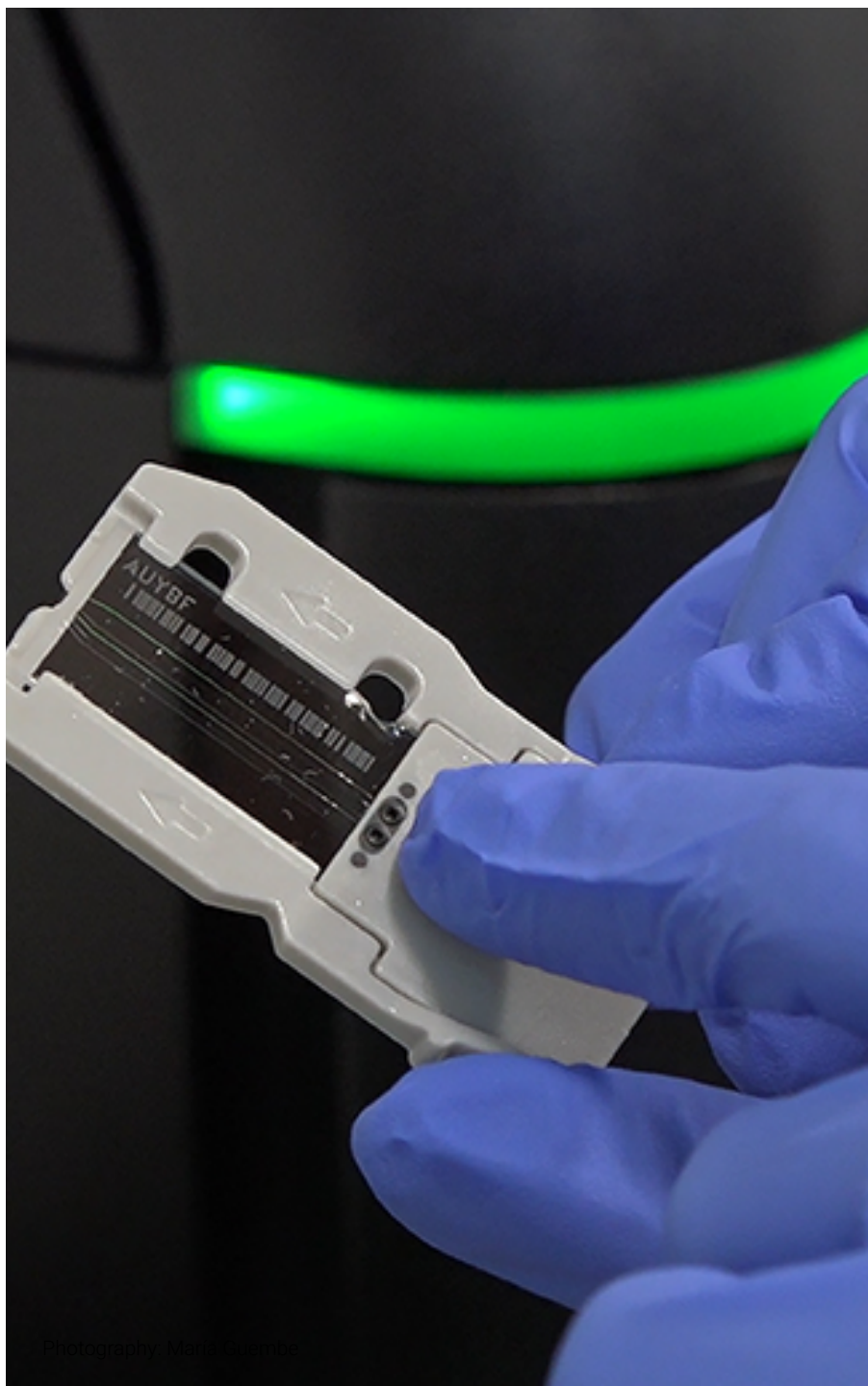
Once again, the results presented in this report confirm that our institution continues to evolve and grow, fostering high expectations for the future. This positions us well to face significant upcoming challenges while contributing to the pillars of biomedical research: observation, generating questions from clinical practice, and encouraging multidisciplinary collaboration to find solutions.

Thank you very much.

**Dr. Ismael Buño Borde**  
IiSGM Scientific Director

**Dra. Sonia García de San José**  
Managing Director HGUGM  
(Hospital General Universitario Gregorio Marañón)





Photography: María Guembe

# 2

## Introduction

### MISSION

The IiSGM is an institution that develops excellent research and innovation, focused on the patient and aimed at obtaining results with high impact on the clinical practice and the productive sector, generating value for the efficiency of the SNS and the quality of life of the population as the final recipient.

### VISION

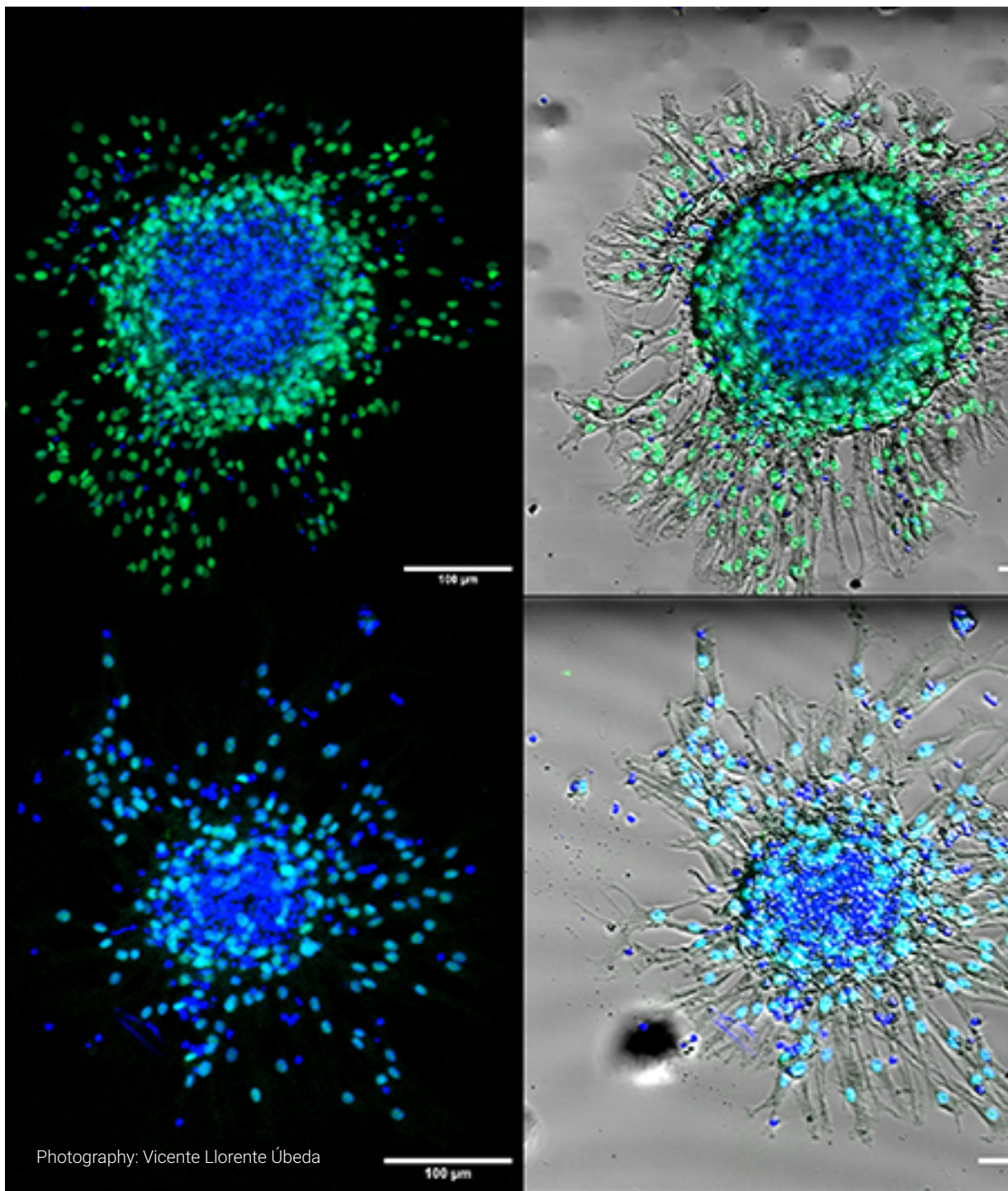
The IiSGM must maintain its position as a leading center in biomedical research and scientific and technological innovation at a national and international level under quality standards, being a benchmark for the population as a multidisciplinary entity that offers innovative and efficient responses to health needs and challenges of the society.

### VALUES

- Excellence and leadership.
- Competitiveness and innovation.
- Internationalization.
- Commitment.
- Ethics and social responsibility.
- Accessibility and transparency.
- Equality.

Bodies that constitute the Institute of Health Research in Hospital Gregorio Marañón (IiSGM):





Photography: Vicente Llorente Úbeda

3

Highlights



**1242**  
Researchers  
at the IISGM



**160**  
Active competitive  
R&D projects



**1784**  
Active Clinical  
Studies and Trials



**6355**  
Total Impact  
Factor Points



**83**  
PI with an active  
project



**77**  
Projects awarded through  
competitive calls



**94**  
Agreements



**1192**  
Publications



**307**  
Employees  
of the FIBHGM



**23**  
Intramural grants  
awarded



**110**  
Contracts



**56%**  
Publications in first-quartile  
journals



**19**  
Research Support  
Services



**22**  
Groups in cooperative  
structures



**84**  
Donations



**50%**  
Lead author IISGM



**149**  
Active innovation  
projects



**55**  
Copyrights

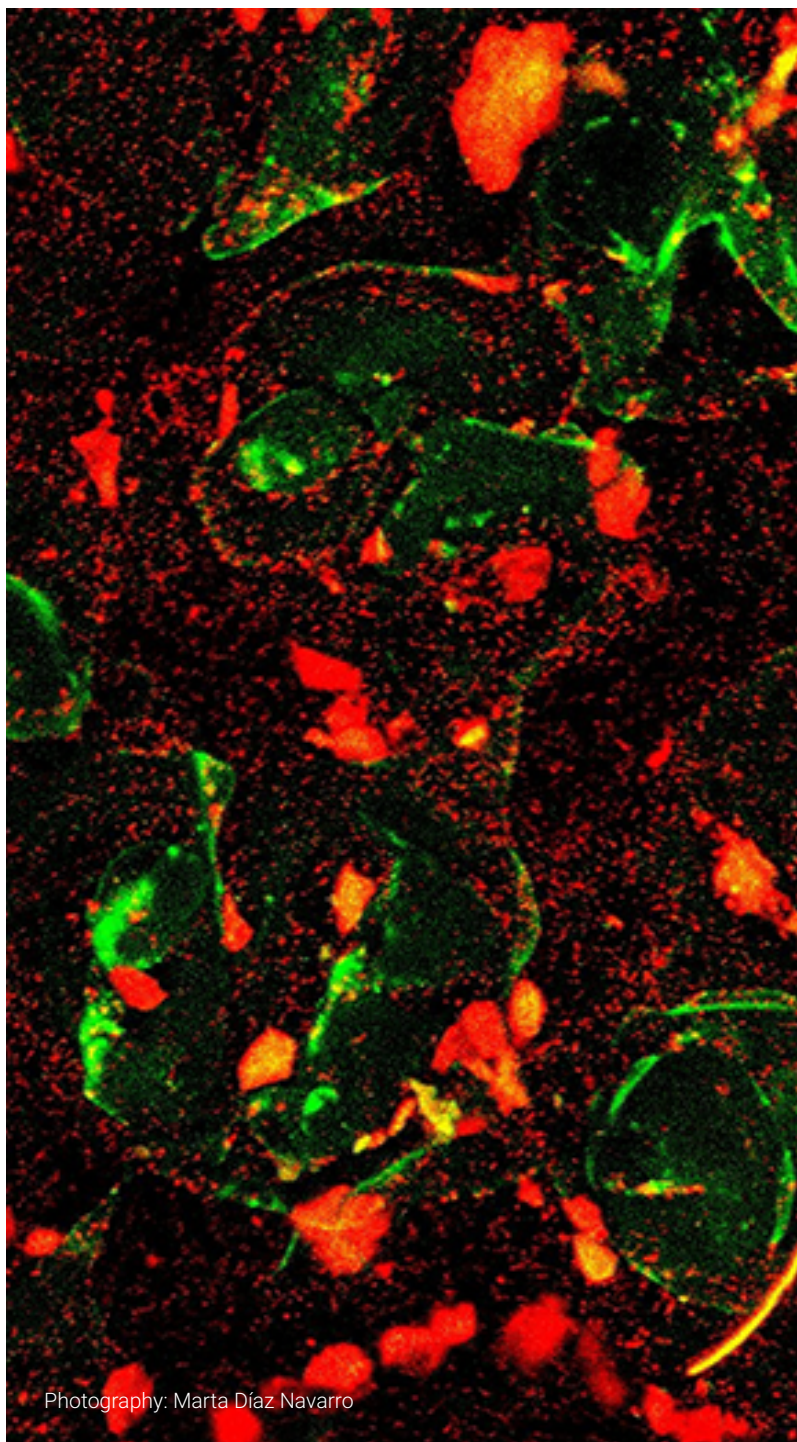


**79**  
Patents



**5.33**  
Mean impact factor





Photography: Marta Díaz Navarro

# 4

## Executive Summary



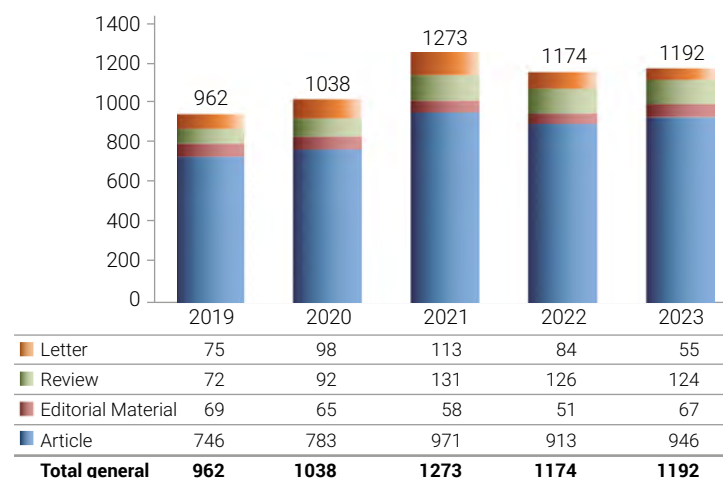


## Global Analysis

Analysis of the scientific production of IISGM and its bibliometric impact is an essential element in the evaluation of the Institute's research activity, given that both factors reflect the competitiveness of its researchers. In order to prepare this research report, we analyzed journals indexed in the main collection of the Web of Science (WOS) and in PubMed, the most popular open-access database specialized in health sciences. It is important to note that before being assigned to the different research Areas and Groups, the only publications considered were those in which IISGM, Hospital General Universitario Gregorio Marañón, or both were included in the institutional affiliation data in Web of Science. Nevertheless, the search for publications is made based on the name(s) that the individual researcher at the Institute has pointed out as being his/her own. As in previous years, the total sum for the impact factor only takes into account information from indexed publications (eg, original articles, reviews, editorials, and proceedings papers) and excludes other types of publication (eg, letters to the editor and case reports). Of note, the impact factor presented in the figures corresponds to the relevant year of publication. Publications involving different groups or areas of the Institute are counted individually in each group and area, although only once for the calculation of the total impact factor of the Institute. The objective of the methodology used is none other than to apply internationally validated bibliometric tools for the analysis of scientific production, thus ensuring the robustness of the data contained in this Research Report. The following graphs provide a quantitative representation of the scientific output of IISGM during the year 2023 with a total of 1192 indexed publications (1137 excluding letters), which represent a global impact factor over 6355 points [6027 excluding letters].

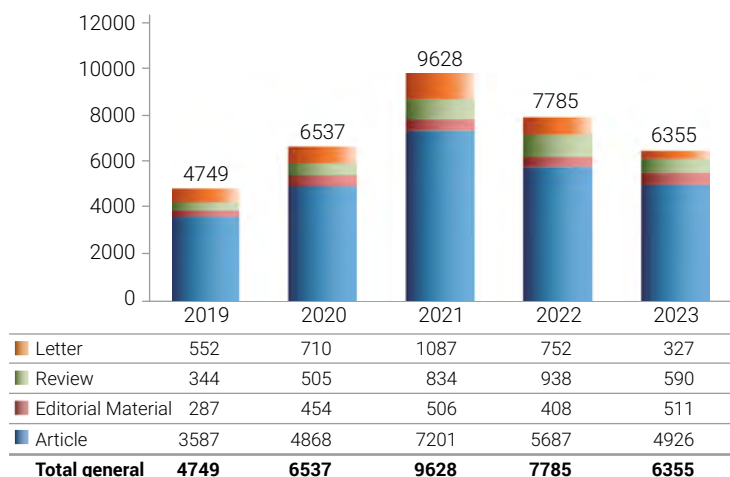
Regardless of the increase in 2021 and 2022, derived from both the «COVID effect» and the change in the Impact Factor calculation procedure, the 2023 results maintain the increasing trend observed during recent years specifically regarding the number of publications.

**Scientific output of IISGM in indexed journals  
with impact factor: number of publications by type of publication**



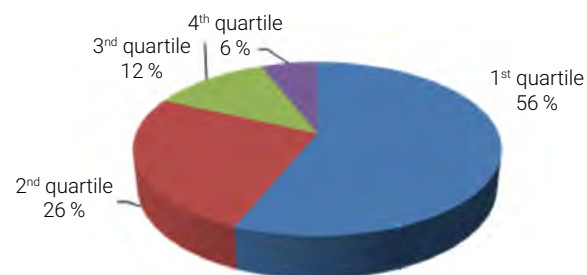


**Scientific output of liSGM:  
total impact factor by type of publication**

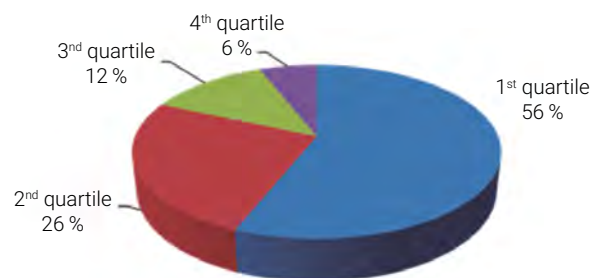


The previous figures summarize the total impact factor corresponding to the scientific production of the liSGM for each of the last 5 years and its distribution according to the different types of publication as can be observed, in this year 2023 the highest impact factor corresponds (in order) to: original articles, reviews, letters and editorials. It is important to note that, once again this year and as in the previous years, the main increase was mainly observed in the number of original articles.

**Scientific output of liSGM in indexed journals with impact factor: distribution by quartiles (relative to 2023, including letters)**



**Scientific output of liSGM in indexed journals with impact factor: distribution by quartiles (relative to 2023, no letters)**





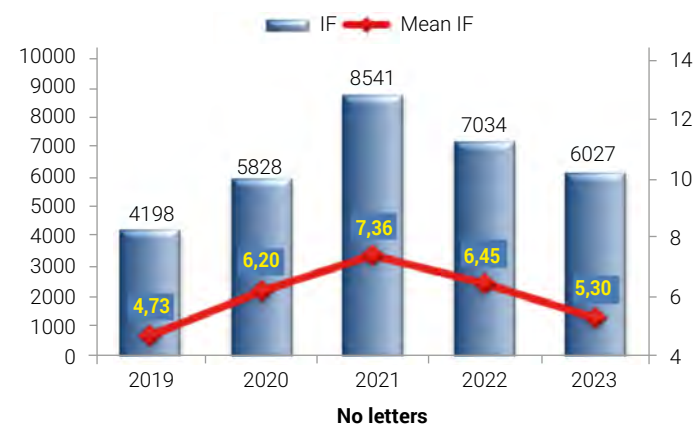
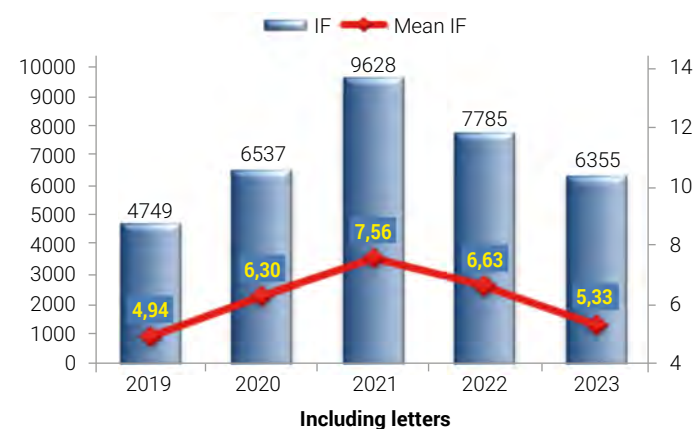
### Scientific output of IISGM in indexed journals with impact factor. distribution of publications by deciles and quartiles (absolute values)



\*Only publications in journals indexed in the JCR of the WOS main collection

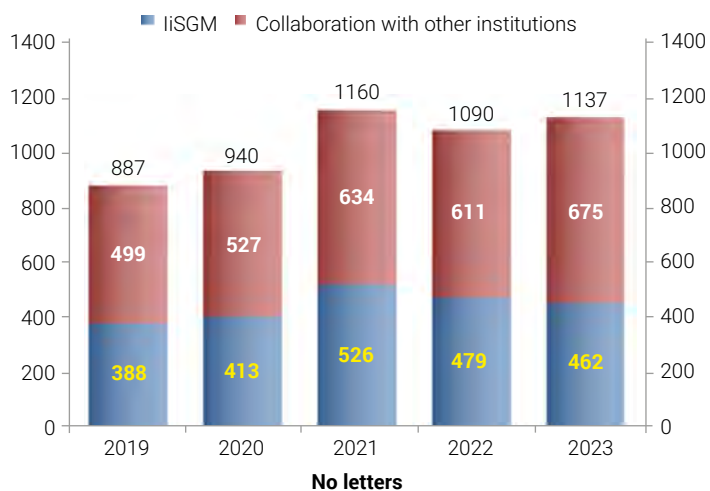
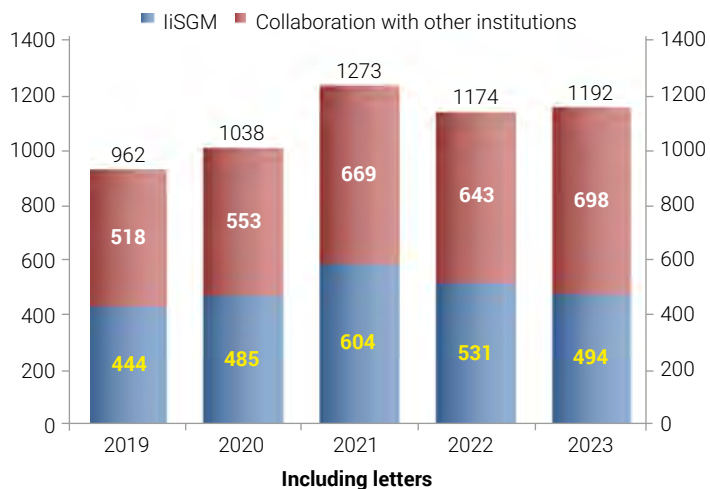
The distribution of IISGM publications according to quartile and decile is shown in the in the two previous graphs. The absolute number of publications in the first decile and first quartile has increased significantly compared to 2022.

### Global impact factor and mean impact factor by publication

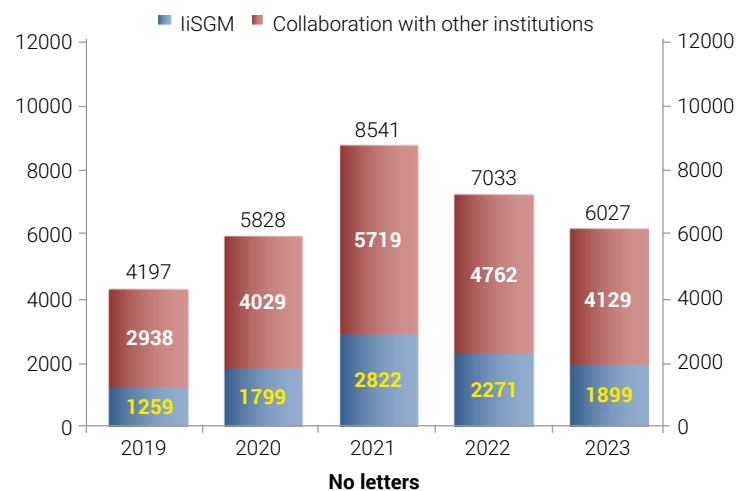
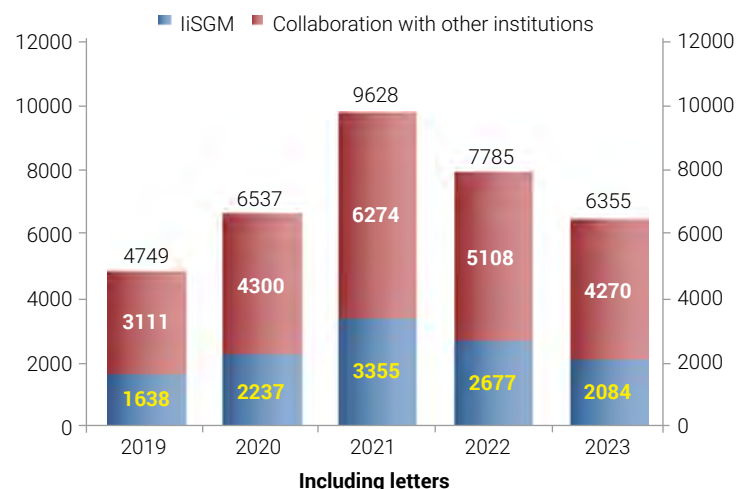




**Scientific output of IiSGM in indexed journals with impact factor. total number of publications**



**Scientific output of IiSGM in indexed journals with impact factor. impact factor**





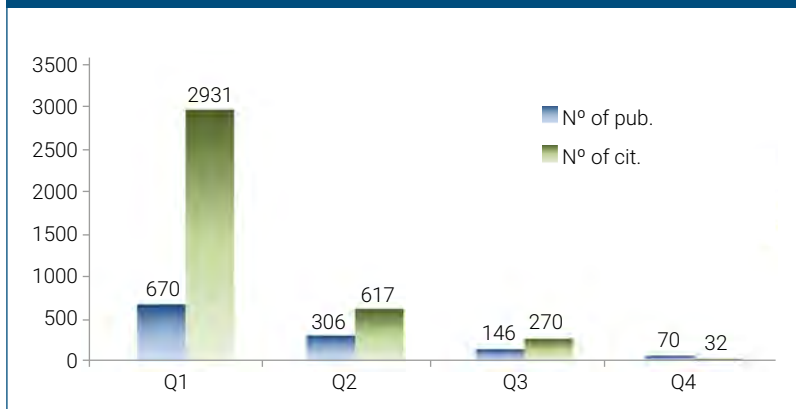


### Number of publications and citations



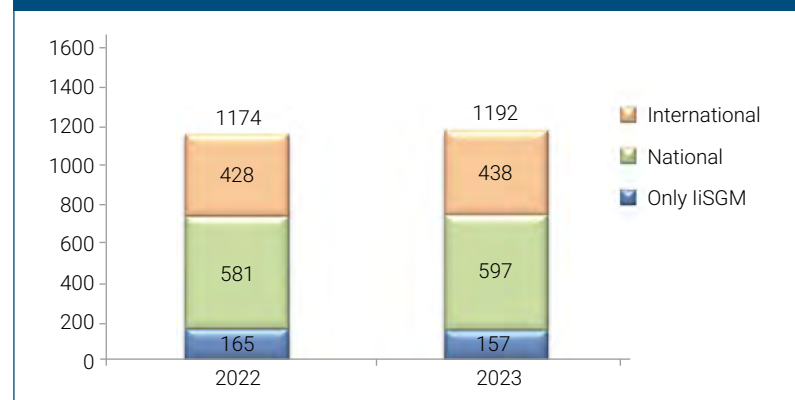
The number of citations for Institute publications over time is logically greater in elder publications, although the number of citations in relatively recent publications (2019-2023) is noteworthy, as is the number of first-quartile citations.

### Number of publications and citations by quartile



The analysis of activity specifically includes publications whose principal authors (first, last, or corresponding author) are IISGM researchers.

### Scientific production of IISGM in indexed journals with impact factor: number of publications



Finally, one of the most relevant elements within the scientific structure of Health Research Institutes is the grouping of research activity to priority areas, which are characterized by their scientific and social relevance and by their capacity for transferring knowledge to society. IISGM has seven priority research areas whose scientific activity is set out in detail below in 2 figures per Research Area:

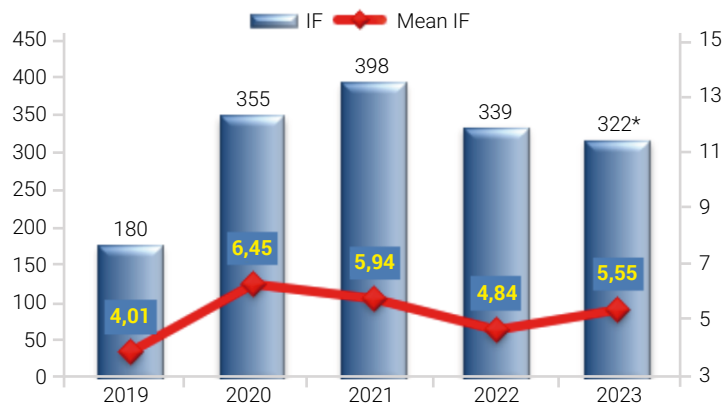
- The first (on the left) summarizes the total impact factor together with the mean impact factor by publication.
- The second (on the right) summarizes the scientific output of the research area distributed by first decile and quartiles.

Both figures show the scientific output for the last 5 years.



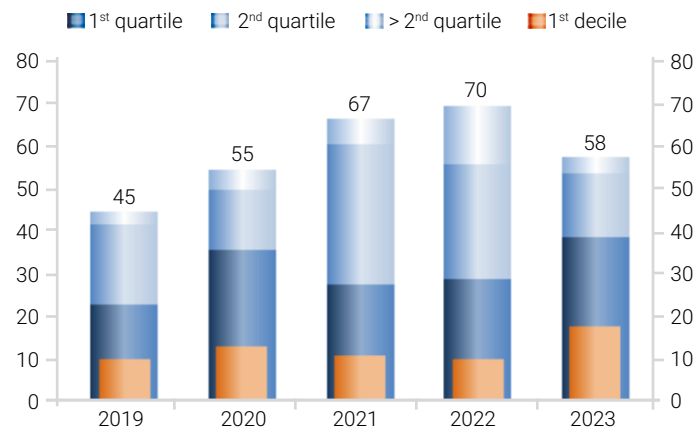
## AREA 1: BIOMEDICAL ENGINEERING

Scientific output of Area 1 in indexed journals with impact factor: total and mean impact factor



\* Excluding letters: 322

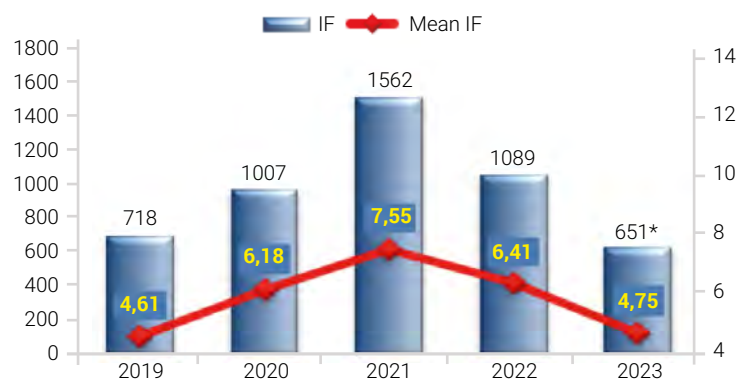
Scientific output of Area 1 in indexed journals with impact factor: distribution of publications by decile and quartile (absolute values)





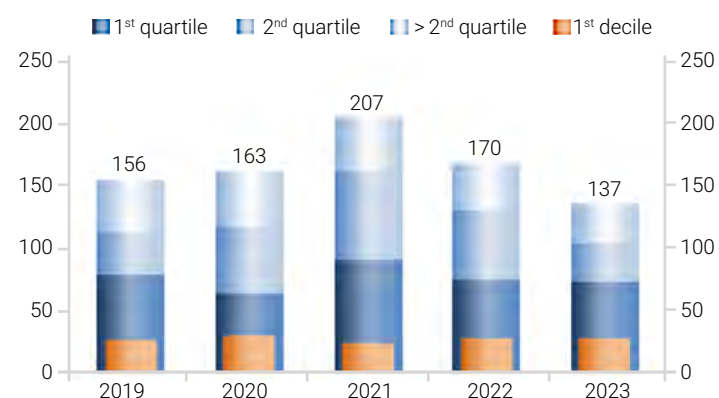
## AREA 2: CARDIOVASCULAR DISEASES

Scientific output of Area 2 in indexed journals with impact factor: total and mean impact factor



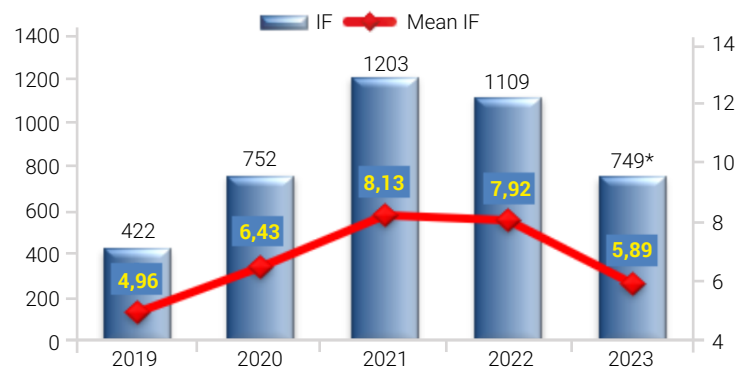
\* Excluding letters: 616

Scientific output of Area 2 in indexed journals with impact factor: distribution of publications by decile and quartile (absolute values)



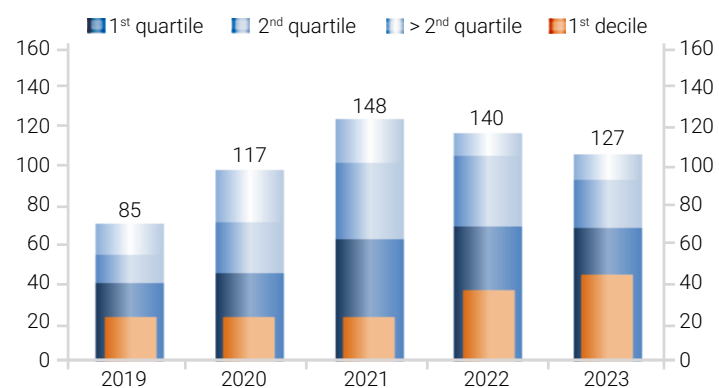
## AREA 3: NEUROSCIENCE AND MENTAL HEALTH

Scientific output of Area 3 in indexed journals with impact factor: total and mean impact factor



\* Excluding letters: 739

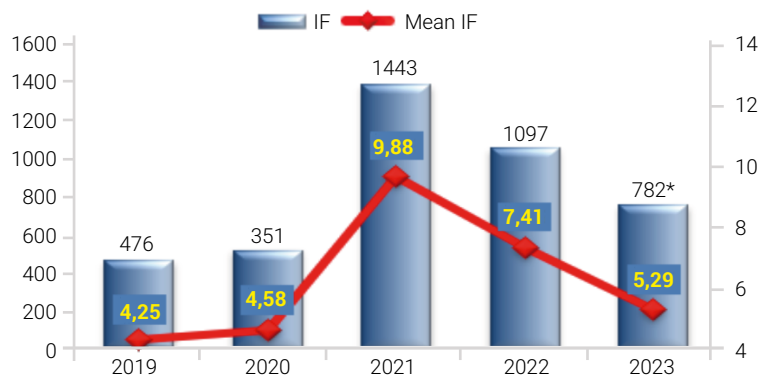
Scientific output of Area 3 in indexed journals with impact factor: distribution of publications by decile and quartile (absolute values)





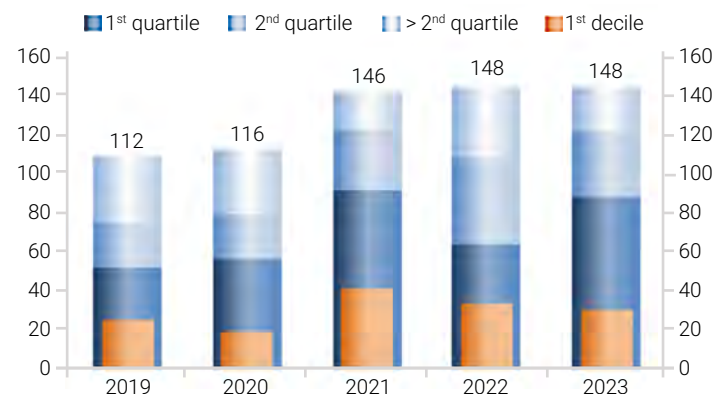
## AREA 4: CLINICAL MICROBIOLOGY, INFECTIOUS DISEASES AND AIDS

Scientific output of Area 4 in indexed journals with impact factor: total and mean impact factor



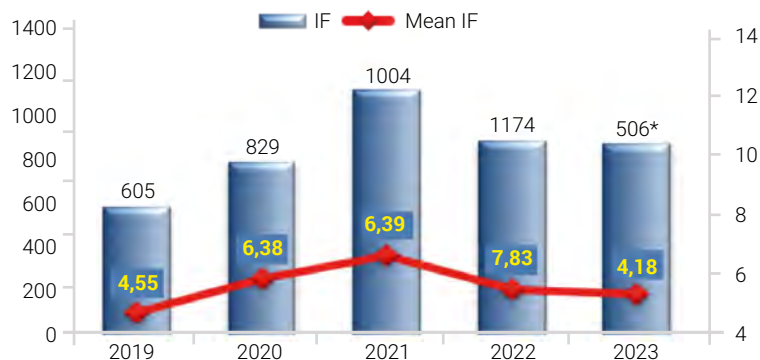
\* Excluding letters: 722

Scientific output of Area 4 in indexed journals with impact factor: distribution of publications by decile and quartile (absolute values)



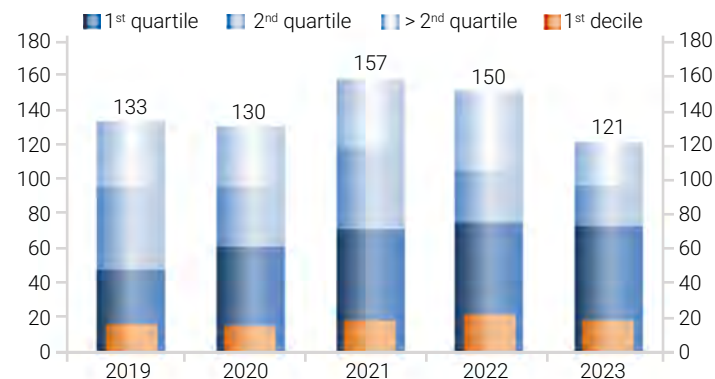
## AREA 5: DISEASES OF THE IMMUNE SYSTEM

Scientific output of Area 5 in indexed journals with impact factor: total and mean impact factor



\* Excluding letters: 479

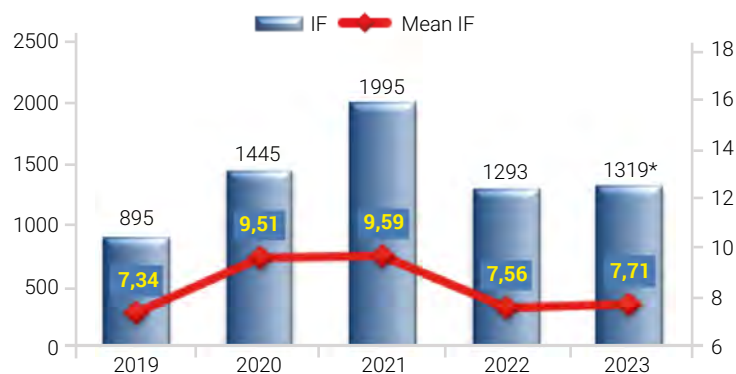
Scientific output of Area 5 in indexed journals with impact factor: distribution of publications by decile and quartile (absolute values)





## AREA 6: TRANSLATIONAL ONCOLOGY

Scientific output of Area 6 in indexed journals with impact factor: total and mean impact factor



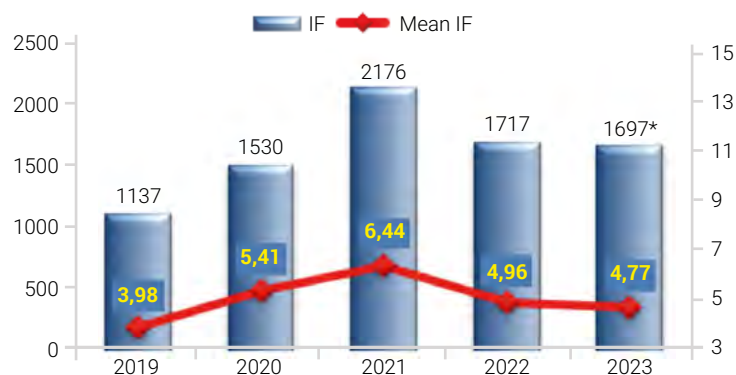
\* Excluding letters: 1194

Scientific output of Area 6 in indexed journals with impact factor: distribution of publications by decile and quartile (absolute values)

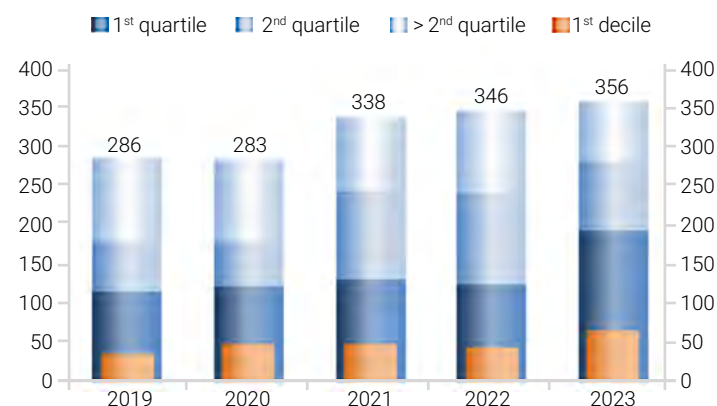


## AREA 7: SYSTEMIC DISEASES AND ORGAN TRANSPLANTATION

Scientific output of Area 7 in indexed journals with impact factor: total and mean impact factor



Scientific output of Area 7 in indexed journals with impact factor: distribution of publications by decile and quartile (absolute values)

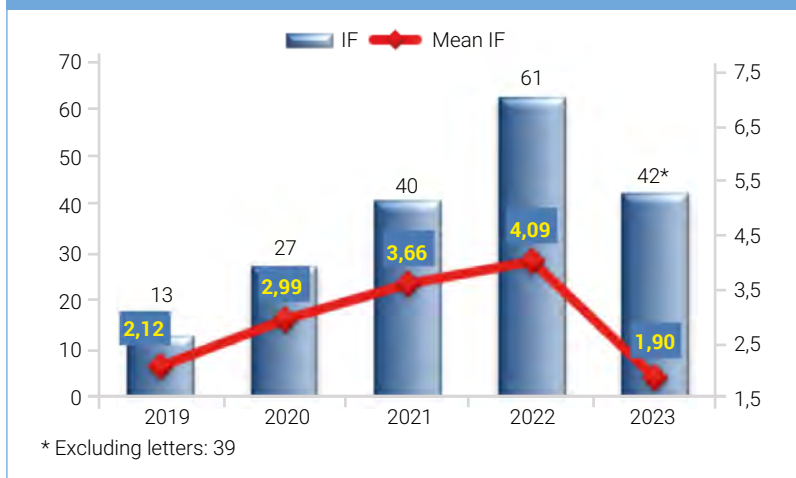




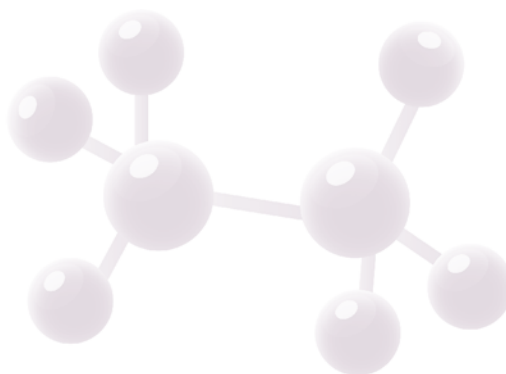
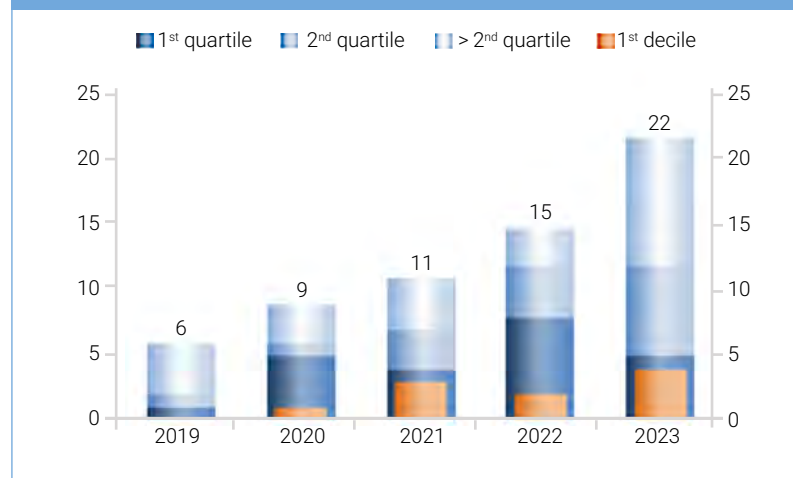


## NURSING RESEARCH GROUP

Scientific output of Nursing Group in indexed journals with impact factor: total and mean impact factor



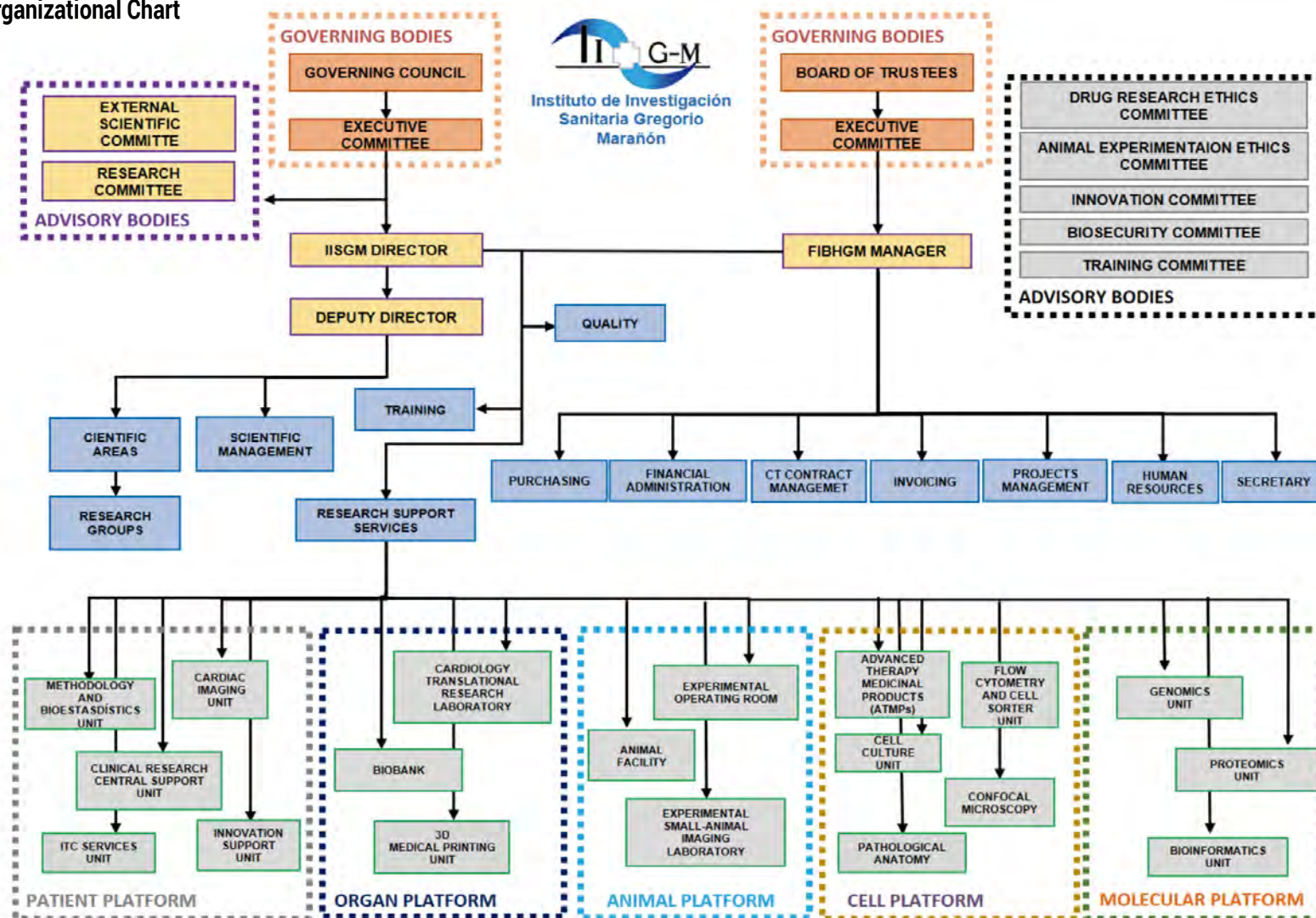
Scientific output of Nursing Group in indexed journals with impact factor. distribution of publications by decile and quartile (absolute values)





## Organizational structure of IISGM

### 1. Organizational Chart





## 2. Governing Bodies

### GOVERNING COUNCIL

- **Chair:** Laura Gutiérrez Barreno (Vice Councillor of Health care. Comunidad de Madrid).
- **First Deputy chair:** Margarita San Andrés Moya (Vice-Chancellor of Scientific Policy, Research, and Doctorates. UCM).
- **Second Deputy-chair:** Juan Romo Urroz (Chancellor of UC3M).
- **Members at large:** Sonia García de San José (Manager of HGUGM), Ismael Buño Borde (Scientific Director of IISGM, Chair of research Committee), Andrés Jesús Muñoz Martín (Chair of the Clinical Research Ethics Committee, UCM Vicedean in HGUGM), Rafael Bañares Cañizares.
- **Members:** Celso Arango López (Trustee of the FIBHGM), Rafael Bañares Cañizares (Trustee of the FIBHGM), Manuel Desco Menéndez (Trustee of the FIBHGM), Francisco Fernández-Avilés Díaz (Trustee of the FIBHGM) Miguel Martín Jiménez (Trustee of the FIBHGM), María Sanjurjo Sáez (Trustee of the FIBHGM), Carmen Oñate Heredero (Trustee of the FIBHGM), Miguel Ángel Pozo García (UCM), Juan José Vaquero (UC3M. Trustee of the FIBHGM), Luis Enrique García Muñoz (UC3M), Francisco López García (UCM), M<sup>a</sup> Luz de los Mártires (Director General for Research, Teaching, Innovation of the Regional Ministry of Health).
- **Secretary:** Thierry Bardinnet (until 9-2023) (Director of the FIBHGM).

### EXECUTIVE COMMITTEE OF THE BOARD OF TRUSTEES

- **Chair:** Sonia García de San José (Manager of the HGUGM), Ismael Buño Borde (Scientific Director of IISGM).
- **Members:** Marta Sánchez Celaya, Celso Arango López (Trustee of the FIBHGM), Francisco Fernández-Avilés Díaz (Trustee of the FIBHGM), Miguel Martín Jiménez (Trustee of the FIBHGM), Miguel Ángel Pozo García (UCM), Rafael Bañares Cañizares (UCM. Trustee of the FIBHGM), Juan José Vaquero (UC3M. Trustee of the FIBHGM).
- **Secretary:** Thierry Bardinnet (until 9-2023) (Director of the FIBHGM).

## 3. Advisory bodies

### EXTERNAL SCIENTIFIC COMMITTEE

- Agustín Albillos Martínez. Head of Gastroenterology and Hepatology, Hospital Universitario Ramón y Cajal, IRYCIS. Professor of Medicine, Universidad de Alcalá, Madrid.
- Antoni L. Andreu Periz. Scientific Director of EATRIS (European infrastructure for translational medicine) Amsterdam. The Netherlands.
- Deborah Burks. Head of Research Group. Evaluator in different state and international agencies. Centro de Investigación Príncipe Felipe de Valencia.
- Ángel Carracedo Álvarez. Professor of the School of Medicine, Universidad de Santiago de Compostela. Instituto de Ciencias Forenses. Director of Fundación Pública Galega de Medicina Xenómica. IDIS (Instituto de Investigación Sanitaria de Compostela).
- Ana Lluch Hernández. Professor of Medicine at the Faculty of Medicine of the University of Valencia and Head of the Department of Hematology and Medical Oncology at the Hospital Clínico Universitario de Valencia. Head of the Breast Cancer Biology Research Group at the Health Research Institute of the Hospital Clínico Universitario de Valencia (INCLIVA).
- Ángeles Almeida Parra. Deputy Scientific Director of the Health Research Institute of Salamanca (IBSAL). Head of the Molecular Neurobiology Research Group of the IBSAL Institute. Associate Professor, Faculty of Pharmacy, University of Salamanca.
- Paloma Domingo García. Deputy Director of the General CSIC Foundation.
- Borja Ibáñez Cabeza. Head of the Translational Laboratory for Cardiovascular Imaging and Therapy and Director of the Department of Clinical Research at the National Center for Cardiovascular Research (CNIC), interventional cardiologist, Coordinator of the Research Unit and the Cardio-Oncology Unit at the Fundación Jiménez Díaz University Hospital.



## RESEARCH COMMITTEE

- **Chair:** Ismael Buño Borde. IISGM Scientific Director.
- **Secretary:** Constancio Medrano López. HGUGM.
- **Members:** Cristina Andrés Zayas (HGUGM/R1), Luis Álvarez-Sala Walther (HGUGM), Celso Arango López (HGUGM), Antonio Artés Rodríguez (until 2-2023), Juan José Vaquero (from 2-2023) (UC3M), Fernando Asensio Rubio (HGUGM), Rafael Bañares Cañizares (HGUGM), José M<sup>a</sup> Bellón Cano (HGUGM), Javier Bermejo Thomas (HGUGM), Rafael Correa Rocha (HGUGM), Isabel del Cura González (Primary Health Care), M<sup>a</sup> Carmen de la Cruz Arguedas (HGUGM), Manuel Desco Menéndez (HGUGM), Francisco Fernández-Avilés Díaz (HGUGM), Eduardo Fernández-Cruz (HGUGM), Ana M<sup>a</sup> García Pozo (HGUGM), Darío García de Viedma del Álamo (HGUGM), Juana Gil Herrera (HGUGM), Juan Antonio León Luis (HGUGM), Enrique Lledó García (HGUGM), Luis Andrés López Fernández (HGUGM), Miguel Martín Jiménez (HGUGM), Marta Martínez Bonet (HGUGM/R2), Javier de Miguel Díez (Teaching Committee of the HGUGM), Arantzazu Miner Vélez (Scientific Management of IISGM/Quality), Patricia Muñoz García de Paredes (HGUGM), Andrés Muñoz Martín (HGUGM), María Luisa Navarro Gómez (HGUGM).

## 4. Supporting bodies

### CLINICAL RESEARCH ETHICS COMMITTEE

- **Chair:** Andrés Jesús Muñoz Martín.
- **Vice-chair:** María Luisa Navarro Gómez.
- **Secretary:** Roberto Collado Borrell.
- **Members:** M<sup>a</sup> Luisa Baeza Ochoa de Ocariz, Ana M<sup>a</sup> Iglesias Mohezano, M<sup>a</sup> del Carmen Heras Escobar, Juan Antonio Andueza Lillo, M<sup>a</sup> del Carmen de la Cruz Arguedas, Ana Esther López Pérez, Vicente de las Peñas Gil, Eduardo Zatarain Nicolás, Pilar Aitana Calvo Ferrandiz, María Luisa Baeza Ochoa de Ocariz, Jose Luis Revuelta Herrero, Carlos Rojas-Marcos Asensi, Javier de Miguel Díez, Patricia Font López, Luis Andrés López Fernández.
- **Administrative:** Santos Puerta Cruz.

## ANIMAL EXPERIMENTATION ETHICS COMMITTEE

- **Chair:** Fernando Asensio Rubio.
- **Members:** Pedro Llontop Santisteban, María Luisa Soto Montenegro, Marta Roche Molina, Marta Martín-Arriscado Arroba, M<sup>a</sup> Victoria Gómez Gavero, Antonio Martínez Escandell, Javier Urbano Villares, Begoña Quintana Villamandos, María Eugenia Fernández Santos, Miguel Relloso Cereceda, Javier Vaquero Martín.

## INNOVATION COMMITTEE

- **Chair:** Ismael Buño Borde (IISGM. Scientific Director).
- **Vice-chair:** Manuel Desco Menéndez (UAI. Director).
- **Members:** Thierry Bardinet (until 9-2023) (FIBHGM. Manager), Sonia García de San José (HGUGM), Rubén Flores García (HGUGM), Carlos Blanco Bermejo (UC3M), Rafael Correa Rocha (FIBHGM. Investigator), Francisco Fernández Avilés Díaz (HGUGM), Ana Herranz Alonso (HGUGM), Iván Márquez Rodas (HGUGM), Rubén Pérez Mañanes (HGUGM), Guillermo Rodríguez Bernal (HGUGM), Juan Antonio de León Luis (HGUGM), David García (HGUGM), Manuel Pérez Vallina (HGUGM).
- **Secretary:** Antonio Rodríguez Hita (until 9-2023) (UAI).

## TRAINING COMMITTEE

- **Chair:** Constancio Medrano López.
- **Members:** Ismael Buño Borde, Thierry Bardinet (until 9-2023), José María Bellón Cano, Fernando Asensio Rubio, Rafael Correa Rocha, Javier de Miguel Díez, Arantzazu Miner Vélez.

## BIOSECURITY COMMITTEE

- **Chair:** Ignacio Sánchez-Arcilla.
- **Members:** Ismael Buño Borde, Thierry Bardinet (until 9-2023), Ana Cerrillo Martín, Purificación Pazos, Fernando Asensio, M<sup>a</sup> Dolores Vigil, José Luis Revuelta, Jesús Guinea, María del Carmen de la Cruz Arguedas, Javier Anguita, Julio Soto, Mario Arbequilla.
- **Secretary:** María Isabel Clemente Mayoral.



## RESEARCH SUPPORT SERVICES

- **Scientific Director:** Ismael Buño Borde.
- **Manager:** Thierry Bardinnet (until 9-2023).
- **Responsibles:** José María Bellón Cano (Methodology and Biostatistics Unit), M<sup>a</sup> Carmen de la Cruz Arguedas (Clinical Research Central Support Unit), Antonio Rodríguez Hita (until 9-2023) (Innovation Support Unit), Daniel Sánchez Puerto (from 9-2023) (Innovation Support Unit), Javier Bermejo Thomas (Cardiac Imaging Unit), Manuel Pérez Vallina (ICT Services Unit), María Ángeles Muñoz-Fernández (Biobank), M<sup>a</sup> Eugenia Fernández Santos (Cardiology Translational Research Laboratory), Rubén Pérez Mañanes (3D Medical Printing Unit), Fernando Asensio Rubio (Experimental Operating Room), Fernando Asensio Rubio (Animal Facility), Lorena Cussó (Experimental Small-Animal Imaging Laboratory), M<sup>a</sup> Eugenia Fernández Santos (Advanced Therapy Medicinal Products [ATMPs]), Laura Díaz Muñoz (Flow Cytometry and Cell Sorter Unit), Maribel Clemente Mayoral (Cell Culture Unit), Rafael Samaniego (Confocal Microscopy), Julia Suárez González (Genomics Unit), Concha Gil García (Proteomics Unit), Javier Menárguez Palanca (Pathological Anatomy), Antonio C. Picornell Company (Bioinformatics Unit).

## 5. Management body of liSGM

### HOSPITAL GREGORIO MARAÑÓN BIOMEDICAL RESEARCH FOUNDATION

- **Director:** Thierry Bardinnet (until 9-2023).
- **Project Management Area:** Montserrat Roura Portillo, Carlos Arias López, Rosa del Ser Toral (until 9-2023), Francisco Matarin, Carmen Burgos Roldán, Santiago Jiménez de Ory, Mariano Roda Cordero, Blanca González Estables, Margarita Wong.
- **Scientific Management Area:** Arantzazu Miner Vélez, Ana Isabel Bravo Vega, Paula Camarena Ramírez, Silvia Rueda García.
- **Clinical Trial Management:** María del Carmen de la Cruz Arguedas, Miguel Ángel Conejo, Adolfo Labajos Simón, Valentina Gómez.
- **Human resources:** Alberto Gómez Moreno, María González Rodríguez, María Josefa Martín, Cynthia Piñero.
- **Accounting:** Estefanía Lavilla Guevara, M<sup>a</sup> Isabel Olmedo Andueza.
- **Invoicing:** Marta Martín-Arriscado Arroba.
- **Purchasing:** Miguel Ángel Conejo Martín.
- **Quality:** Thierry Bardinnet (until 9-2023), Ana Álvarez, Arantzazu Miner Vélez.
- **Secretary:** Charo Calle Benito.





## Structure of research areas and groups

### AREA 1: Biomedical Engineering

**Coordinator:** Manuel Desco Menéndez

| Group                                                          | Group Leader                                              | Type of Group | Organization |
|----------------------------------------------------------------|-----------------------------------------------------------|---------------|--------------|
| 1.01 Advanced technological applications and human health      | Manuel Desco Menéndez                                     | CONSOLIDATED  | HGUGM-UC3M   |
| 1.02 Signal processing                                         | Antonio Artés Rodríguez                                   | CONSOLIDATED  | UC3M         |
| 1.03 Computer architecture, communications, and systems: ARCOS | Jesús Carretero Pérez                                     | CONSOLIDATED  | UC3M         |
| 1.04 Nonparametric statistics and intensive computing          | Juan Romo Urróz                                           | ASOCIATED     | UC3M         |
| 1.05 Structural and Functional Medical Imaging                 | Jesús de la Torre Fernández<br>Juan A. Guzmán de Villoria | EMERGING      | HGUGM        |
| 1.06 Biomedical applications of engineering                    | Javier Pascau González<br>Arrate Muñoz Barrutia           | EMERGING      | UC3M         |

### AREA 2: Cardiovascular diseases

**Coordinator:** Francisco Fernández-Avilés Díaz/Javier Bermejo Thomas

| Group                                                | Group Leader                                             | Type of Group | Organization |
|------------------------------------------------------|----------------------------------------------------------|---------------|--------------|
| 2.01 Natural history of heart disease                | Francisco Fernández-Avilés Díaz<br>Javier Bermejo Thomas | CONSOLIDATED  | HGUGM-UCM    |
| 2.02 Cardiovascular pathophysiology                  | Victoria Cachafeiro Ramos                                | CONSOLIDATED  | UCM          |
| 2.03 Cardiac cellular electrophysiology              | Eva Delpón Mosquera                                      | CONSOLIDATED  | UCM          |
| 2.05 Cardiology and heart transplantation in infants | Constancio Medrano López                                 | EMERGING      | HGUGM        |
| 2.06 Blood lipids and cardiovascular risk            | Luis Antonio Álvarez-Sala Walther                        | EMERGING      | HGUGM-UCM    |
| 2.07 Acute cerebral ischemia. Stroke                 | Antonio Gil Núñez                                        | EMERGING      | HGUGM        |

UCM: Universidad Complutense de Madrid. HGUGM: Hospital General Universitario Gregorio Marañón. UC3M: Universidad Carlos III.

### AREA 3: Neuroscience and Mental Health

**Coordinator:** Celso Arango López

| Group                                                                                           | Group Leader                   | Type of Group | Organization |
|-------------------------------------------------------------------------------------------------|--------------------------------|---------------|--------------|
| 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment | Celso Arango López             | CONSOLIDATED  | HGUGM-UCM    |
| 3.03B Neurological diseases                                                                     | Francisco Javier Grandas Pérez | CONSOLIDATED  | HGUGM        |

### AREA 4: Clinical Microbiology: Infectious Diseases and AIDS

**Coordinator:** Patricia Muñoz García de Paredes

| Group                                                                                | Group Leader                         | Type of Group | Organization |
|--------------------------------------------------------------------------------------|--------------------------------------|---------------|--------------|
| 4.01 Clinical microbiology and infectious diseases                                   | Patricia Muñoz García de Paredes     | CONSOLIDATED  | HGUGM-UCM    |
| 4.02 Clinical and epidemiological aspects of HIV infection and associated conditions | Juan Carlos López Bernaldo de Quirós | CONSOLIDATED  | HGUGM        |

### AREA 5: Diseases of the Immune System

**Coordinator:** Eduardo Fernández-Cruz Pérez

| Group                                                                                           | Group Leader                           | Type of Group | Organization |
|-------------------------------------------------------------------------------------------------|----------------------------------------|---------------|--------------|
| 5.01 Pathophysiology and clinical research into chronic inflammatory and immunological diseases | Eduardo Fernández-Cruz Pérez           | CONSOLIDATED  | HGUGM        |
| 5.02 Molecular biology of HIV                                                                   | M <sup>a</sup> Ángeles Muñoz Fernández | CONSOLIDATED  | HGUGM        |
| 5.03 Systemic autoimmune diseases                                                               | José María Álvaro Gracia               | CONSOLIDATED  | HGUGM        |
| 5.05 Pathogenesis of the immunoallergic response                                                | José Manuel Zubeldia Ortuño            | EMERGING      | HGUGM        |
| 5.06 Immune regulation and homeostasis in diseases of the immune system                         | Rafael Correa Rocha<br>Marjorie Pion   | EMERGING      | HGUGM        |
| 5.07 Infections in pediatric patients                                                           | María Luisa Navarro Gómez              | CONSOLIDATED  | HGUGM        |

UCM: Universidad Complutense de Madrid. HGUGM: Hospital General Universitario Gregorio Marañón. UC3M: Universidad Carlos III.



## AREA 6: Translational Oncology

**Coordinator:** Miguel Martín Jiménez

| Group                                                                                                      | Group Leader                                     | Type of Group | Organization |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------|--------------|
| 6.01 Interdisciplinary oncology and biotechnology                                                          | Ana Álvarez González<br>Mercedes Muñoz Fernández | CONSOLIDATED  | HGUGM-UCM    |
| 6.02 Translational medical oncology and personalized cancer therapy                                        | Miguel Martín Jiménez                            | CONSOLIDATED  | HGUGM-UCM    |
| 6.03 Genetics and clinical aspects of hematologic malignancies and hematopoietic stem cell transplantation | José Luis Díez Martín/Ismael Buño Borde          | CONSOLIDATED  | HGUGM        |
| 6.04 Surgical oncology                                                                                     | Luis González Bayón                              | EMERGING      | HGUGM        |

## AREA 7: Systemic Diseases and Organ Transplantation

**Coordinator:** Rafael Bañares Cañizares

| Group                                                                                                                                | Group Leader                                   | Type of Group | Organization |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|---------------|--------------|
| 7.01 Vascular damage and inflammation in chronic kidney disease, dialysis, and kidney transplantation. Pathophysiology of the kidney | María de los Ángeles Goicoechea Díezhandino    | CONSOLIDATED  | HGUGM        |
| 7.02 Pathophysiology and natural history of liver and digestive diseases                                                             | Rafael Bañares Cañizares                       | CONSOLIDATED  | HGUGM-UCM    |
| 7.04 Diseases of the critically ill child                                                                                            | Jesús López-Herce Cid                          | CONSOLIDATED  | HGUGM        |
| 7.05B Physiological and therapeutic medical-surgical aspects of respiratory diseases                                                 | Luis Puente Maestu<br>Ignacio Garutti Martínez | CONSOLIDATED  | HGUGM        |
| 7.06 Regenerative medicine in plastic surgery                                                                                        | José M <sup>a</sup> Lasso Vázquez              | ASOCIATED     | HGUGM        |
| 7.07 Experimental kidney transplantation                                                                                             | Enrique Lledó García                           | EMERGING      | HGUGM        |
| 7.08 Pediatric endocrinology                                                                                                         | Marina Mora Sitjá<br>María Sanz Fernández      | ASOCIATED     | HGUGM        |

UCM: Universidad Complutense de Madrid. HGUGM: Hospital General Universitario Gregorio Marañón. UC3M: Universidad Carlos III.

| Group                                                                      | Group Leader                                                            | Type of Group                                | Organization |
|----------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------|--------------|
| 7.10 Regeneration and biomaterials in musculoskeletal disease              | Francisco Javier Vaquero Martín                                         | EMERGING                                     | HGUGM-UCM    |
| 7.12 Emergency medicine                                                    | Javier Muñoz González                                                   | ASOCIATED                                    | HGUGM        |
| 7.16B Pathophysiology of the cardiovascular system and circulatory support | M <sup>a</sup> Begoña Quintana Villamandos<br>Juan Francisco del Cañizo | EMERGING                                     | HGUGM        |
| 7.18 Peritransplant evaluation (liver)                                     | José María Pérez Peña                                                   | ASOCIATED                                    | HGUGM        |
| 7.19 Perianesthetic assessment                                             | Carmen Fernández Riveira                                                | ASOCIATED                                    | HGUGM        |
| 7.20 Anesthesia, toxins, and arrhythmias                                   | Matilde Zaballos García                                                 | ASOCIATED                                    | HGUGM        |
| 7.21 Biopathology of aging                                                 | José Antonio Serra Rexach                                               | CONSOLIDATED                                 | HGUGM        |
| 7.22 Neonatal and developmental pathophysiology                            | Manuel Sánchez Luna                                                     | EMERGING                                     | HGUGM        |
| 7.26 Evaluation of health services and clinical epidemiology               | Nieves López Freneña                                                    | EMERGING                                     | HGUGM        |
| 7.27 Hospital pharmacy and pharmacogenomics                                | María Sanjurjo Sáez                                                     | CONSOLIDATED                                 | HGUGM        |
| 7.28 Clinical nutrition                                                    | M <sup>a</sup> Cristina de la Cuerda Compés                             | EMERGING                                     | HGUGM        |
| 7.29 Vascular pathophysiology and pharmacology                             | Francisco Pérez Vizcaino                                                | CONSOLIDATED                                 | UCM          |
| 7.31 Pathophysiology in women, pregnancy, labor, and puerperium            | Santiago Lizarraga Bonelli<br>Juan Antonio León Luis                    | EMERGING                                     | HGUGM        |
| 7.32 Physical medicine and rehabilitation                                  | Sonia Esteban<br>Marta Supervía Pola                                    | EMERGING                                     | HGUGM        |
| 7.33 Pathological Anatomy                                                  | Javier Menárguez Palanca                                                | EMERGING                                     | HGUGM        |
| 7.34 Multimorbidity, chronic diseases and health services. Primary Care    | Isabel del Cura González<br>Jesús Martín Fernández                      | CONSOLIDATED (in the process of integration) | HGUGM        |
| 7.35 Dermatología traslacional: Investigación e Innovación                 | Ana Pulido Pérez<br>Marta Bergón Sendín                                 | EMERGING                                     | HGUGM        |

## Nursing Research Group

**Coordinator:** Ana García Pozo

| Group               | Group Leader          | Organization |
|---------------------|-----------------------|--------------|
| Research in nursing | Ana María García Pozo | HGUGM        |

UCM: Universidad Complutense de Madrid. HGUGM: Hospital General Universitario Gregorio Marañón. UC3M: Universidad Carlos III.



## Competitive publicly funded research staff contracts

### INSTITUTO DE SALUD CARLOS III

|                                        | Area                                                   | Group                                                                                                                      | IP                            |
|----------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| <b>Miguel Servet Tipo II contracts</b> |                                                        |                                                                                                                            |                               |
| Susana Carmona Cañavate                | 1. Biomedical Engineering                              | 1.01 Advanced technological applications and human health                                                                  | Manuel Desco Menéndez         |
| María Guembe Ramírez                   | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                                         | María Guembe Ramírez          |
| Belén Rodríguez Sánchez                | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                                         | Belén Rodríguez Sánchez       |
| Laura Pérez García                     | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                                         | Laura Pérez García            |
| Pilar Escribano Martos                 | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                                         | Pilar Escribano Martos        |
| <b>Sara Borrell contracts</b>          |                                                        |                                                                                                                            |                               |
| Javier González Peñas                  | 3. Neuroscience and Mental Health                      | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment                            | Celso Arango López            |
| David Rodríguez Temporal               | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                                         | Belén Rodríguez               |
| Laura Tarancón Díez                    | 5. Diseases of the Immune System                       | 5.02 Molecular biology of HIV                                                                                              | María Ángeles Muñoz Fernández |
| Lara Valiño Rivas                      | 7. Systemic Diseases and Organ Transplantation         | 7.01 Inflammation and Vascular Damage in Chronic Kidney Disease, Dialysis and Renal Transplantation. Renal Pathophysiology | Alberto Lázaro Fernández      |

|                                      | Area                                                   | Group                                                                                           | IP                            |
|--------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------|
| <b>Río Hortega contracts</b>         |                                                        |                                                                                                 |                               |
| María Amalia Tamargo Delpón          | 2. Cardiovascular diseases                             | 2.01 Natural history of heart disease                                                           | Javier Bermejo Thomas         |
| Álvaro Andreu Bernabeu               | 3. Neuroscience and Mental Health                      | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment | Celso Arango López            |
| David Alonso Menchén                 | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | Patricia Muñoz García-Paredes |
| Agustín Estévez Prieto               | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | Darío García de Viedma        |
| Alicia Hernanz Lobo                  | 5. Diseases of the Immune System                       | 5.02 Molecular biology of HIV                                                                   | María Ángeles Muñoz Fernández |
| Gema Manrique Martín                 | 7. Systemic Diseases and Organ Transplantation         | 7.04 Diseases of the critically ill child                                                       | Jesús López-Herce Cid         |
| Laura Butragueño Laiseca             | 7. Systemic Diseases and Organ Transplantation         | 7.04 Diseases of the critically ill child                                                       | Jesús López-Herce Cid         |
| <b>Juan Rodés contracts</b>          |                                                        |                                                                                                 |                               |
| María Covadonga Martínez Díaz-Caneja | 3. Neuroscience and Mental Health                      | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment | Celso Arango López            |
| Alicia Galar Recalde                 | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | Patricia Muñoz García-Paredes |
| Leire Pérez Latorre                  | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.02 Clinical and epidemiological aspects of HIV and associated conditions                      | Patricia Muñoz García-Paredes |
| Aránzazu Caballero Marcos            | 7. Systemic Diseases and Organ Transplantation         | 7.02 Pathophysiology and natural history of liver and gastroenterological diseases              |                               |
| Sarah Nicole Fernández Lafever       | 7. Systemic Diseases and Organ Transplantation         | 7.04 Diseases of the critically ill child                                                       | Jesús López-Herce Cid         |



### INSTITUTO DE SALUD CARLOS III (cont.)

|                                     | Area                                                   | Group                                                                                           | IP                                       |
|-------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------|
| <b>Predoctoral contracts (PFIS)</b> |                                                        |                                                                                                 |                                          |
| Magdalena Martínez García           | 1. Biomedical Engineering                              | 1.01 Advanced technological applications and human health                                       | Susana Carmona Cañabate                  |
| Jorge Martínez Solano               | 2. Cardiovascular diseases                             | 2.01 Natural history of heart disease                                                           | Manuel Martínez-Sellés D'Oliveira Soares |
| Mónica Burdeus Olavarrieta          | 3. Neuroscience and Mental Health                      | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment | María José Parellada Redondo             |
| Judith Díaz García                  | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | Jesús Vicente Guinea Ortega              |
| Aina Catalina Mesquida Marcos       | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | Jesús Vicente Guinea Ortega              |
| Cristina Rodríguez Grande           | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | Dario García de Viedma                   |
| Silvia Noemí Vázquez Cuesta         | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | Elena Manuela Reigadas Ramírez           |
| Ana Soriano Martín-Nieto            | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | Patricia Muñoz García-Paredes            |
| Sergio Buenestado Serrano           | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | Dario García de Viedma                   |
| Marta Díaz Navarro                  | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | María Guembe Ramírez                     |
| Marta Fernández Castillo            | 5. Diseases of the Immune System                       | 5.06 Immune regulation and homeostasis in diseases of the immune system                         | Rafael Correa Rocha                      |

|                                      | Area                                                   | Group                                                                                           | IP                               |
|--------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------|
| <b>Intensification contracts</b>     |                                                        |                                                                                                 |                                  |
| Javier Bermejo Thomas                | 2. Cardiovascular diseases                             | 2.01 Natural history of heart disease                                                           | Javier Bermejo Thomas            |
| Carmen Moreno Ruiz                   | 3. Neuroscience and Mental Health                      | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment | Carmen Moreno Ruiz               |
| Dario García de Viedma del Álamo     | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | Dario García de Viedma del Álamo |
|                                      |                                                        | <b>Area</b>                                                                                     | <b>Group</b>                     |
| <b>Research Management Contracts</b> |                                                        |                                                                                                 |                                  |
| Paula Camarena Ramírez               |                                                        |                                                                                                 | Technical Unit FIBHGM            |

### MINISTERIO DE EDUCACIÓN Y CIENCIA

|                                                              | Area                              | Group                                                                                           | IP                 |
|--------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------------------|--------------------|
| <b>FPU Contracts (University Teacher Training Contracts)</b> |                                   |                                                                                                 |                    |
| Laura Colomar Molla                                          | 3. Neuroscience and Mental Health | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment | Celso Arango López |
| Rocío Panadero Gómez                                         | 3. Neuroscience and Mental Health | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment | Celso Arango López |
| Hayford Abrokwa Acheampong                                   | 3. Neuroscience and Mental Health | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment | Celso Arango López |
| Nuria Martín Martínez                                        | 3. Neuroscience and Mental Health | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment |                    |



### COMUNIDAD AUTÓNOMA DE MADRID

|                                            | Area                                                   | Group                                                                                                      | IP                            |
|--------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------|
| <b>Grants for pre-doctoral recruitment</b> |                                                        |                                                                                                            |                               |
| Ismael de la Iglesia San Sebastián         | 6. Translational Oncology                              | 6.03 Genetics and clinical aspects of hematologic malignancies and hematopoietic stem cell transplantation | Carolina Martínez Laperche    |
| <b>Young employment Program contracts</b>  |                                                        |                                                                                                            |                               |
| María de la Jara Felipe Maestre            | 1. Biomedical Engineering                              | 1.01 Advanced technological applications and human health                                                  | Manuel Desco Menéndez         |
| Elena Fernández Cortés-Navia               | 1. Biomedical Engineering                              | 1.01 Advanced technological applications and human health                                                  | María Victoria Gómez Gaviro   |
| Adrián Margüello Molina                    | 1. Biomedical Engineering                              | 1.01 Advanced technological applications and human health                                                  | Manuel Desco Menéndez         |
| Jaime Abella Larraz                        | 1. Biomedical Engineering                              | 1.01 Advanced technological applications and human health                                                  | Manuel Desco Menéndez         |
| José González Leiva                        | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                         | Jesús Vicente Guinea Ortega   |
| Marta Díaz Navarro                         | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                         | María Guembe Ramírez          |
| Belén Rodríguez Márquez                    | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                         | Patricia Muñoz García-Paredes |
| Andrea Molero Salinas                      | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                         | Laura Pérez García            |
| Amadeo Sanz Pérez                          | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                         | Darío García de Viedma        |

|                                           | Area                                                   | Group                                                                                           | IP                                |
|-------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------|
| <b>Young employment Program contracts</b> |                                                        |                                                                                                 |                                   |
| Nerea Alonso Alegría                      | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | Pilar Escribano Martos            |
| Andrés Visedo García                      | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              | María Guembe Ramírez              |
| Rocío Alonso Armendariz                   | 5. Diseases of the Immune System                       | 5.01 Pathophysiology and clinical research into chronic inflammatory and immunological diseases | Javier Alberto Carbone Campoverde |
| Mario Alberto Cahuana Pérez               | 5. Diseases of the Immune System                       | 5.01 Pathophysiology and clinical research into chronic inflammatory and immunological diseases | Carmen Rodríguez Sainz            |
| Alicia Nieto Valle                        | 5. Diseases of the Immune System                       | 5.01 Pathophysiology and clinical research into chronic inflammatory and immunological diseases | Rafael Samaniego García           |
| Sergio Gil Manso                          | 5. Diseases of the Immune System                       | 5.06 Immune regulation and homeostasis in diseases of the immune system                         | Marjorie Pion                     |
| Sergio Checa Fernández                    | 5. Diseases of the Immune System                       | 5.06 Immune regulation and homeostasis in diseases of the immune system                         | Rafael Correa Rocha               |
| Celia Fernández Martín                    | 6. Translational Oncology                              | 6.01 Interdisciplinary oncology and biotechnology                                               | Mercedes Muñoz Fernández          |
| Paula Zapata Cobo                         | 7. Systemic Diseases and Organ Transplantation         | 7.27 Hospital pharmacy and pharmacogenomics                                                     | Luis Andrés López Fernández       |





### COMUNIDAD AUTÓNOMA DE MADRID (cont.)

|                                           | Area                                           | Group                                                           | IP                       |
|-------------------------------------------|------------------------------------------------|-----------------------------------------------------------------|--------------------------|
| <b>Young employment Program contracts</b> |                                                |                                                                 |                          |
| Alicia Herrero Rufo                       | 7. Systemic Diseases and Organ Transplantation | 7.31 Pathophysiology in women, pregnancy, labor, and puerperium | Miguel Relloso Cereceda  |
| Katia Ruth Baca Cornejo                   | 7. Systemic Diseases and Organ Transplantation | 7.31 Pathophysiology in women, pregnancy, labor, and puerperium | Miguel Relloso Cereceda  |
| Alba María Alises Zamora                  |                                                | Cell Culture Unit                                               | Maribel Clemente Mayoral |
| Blanca González Chicharro                 |                                                | Animal Facility                                                 | Fernando Asensio Rubio   |
| Marta García García                       |                                                | Animal facility                                                 | Fernando Asensio Rubio   |

### FUNDACIÓN PARA LA INVESTIGACIÓN BIOMÉDICA DEL IISGM (INSTITUTO DE INVESTIGACIÓN SANITARIA GREGORIO MARAÑÓN)

|                                                                     | Area                                                   | Group                                                                                           |
|---------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| <b>Intramural Program to Promote Research Predoctoral contracts</b> |                                                        |                                                                                                 |
| María Isabel González Gutiérrez                                     | 1. Biomedical Engineering                              | 1.01 Advanced technological applications and human health                                       |
| Vicente Llorente Úbeda                                              | 1. Biomedical Engineering                              | 1.01 Advanced technological applications and human health                                       |
| Ana Echevarría Bruno                                                | 3. Neuroscience and Mental Health                      | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment |
| Mario Blázquez Sánchez                                              | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              |
| María de la Sierra Espinar Buitrago                                 | 5. Diseases of the Immune System                       | 5.02 Molecular biology of HIV                                                                   |
| Sergio Gil Manso                                                    | 5. Diseases of the Immune System                       | 5.06 Immune regulation and homeostasis in diseases of the immune system                         |

|                                                                                             | Area                                                   | Group                                                                                                                                |
|---------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Intramural Program to Promote Research Predoctoral contracts</b>                         |                                                        |                                                                                                                                      |
| María Martínez García                                                                       | 6. Translational Oncology                              | 6.03 Genetics and clinical aspects of hematologic malignancies and hematopoietic stem cell transplantation                           |
| Beatriz Martín Sánchez                                                                      | 7. Systemic Diseases and Organ Transplantation         | 7.01 Vascular damage and inflammation in chronic kidney disease, dialysis, and kidney transplantation. Pathophysiology of the kidney |
| Elena Vázquez Ogando                                                                        | 7. Systemic Diseases and Organ Transplantation         | 7.02 Pathophysiology and natural history of liver and digestive diseases                                                             |
| <b>Intramural Program to Promote Research Predoctoral in healthcare innovation Contract</b> |                                                        |                                                                                                                                      |
| Alejandro Jorge Guerrero López                                                              | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                                                   |
| Daniel Peñas Utrilla                                                                        | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                                                   |
| <b>Intramural Program to Promote Research Post-specialized Health Training Contracts</b>    |                                                        |                                                                                                                                      |
| Jorge Martínez Solano                                                                       | 2. Cardiovascular diseases                             | 2.01 Natural history of heart disease                                                                                                |
| Álvaro Gabaldón Badiola                                                                     | 2. Cardiovascular diseases                             | 2.01 Natural history of heart disease                                                                                                |
| Christian Mario Amadeo Oblitas                                                              | 2. Cardiovascular diseases                             | 2.06 Blood lipids and cardiovascular risk                                                                                            |
| Sergio Moragón Ledesma                                                                      | 2. Cardiovascular diseases                             | 2.06 Blood lipids and cardiovascular risk                                                                                            |
| Pablo Andrés Camazón                                                                        | 3. Neuroscience and Mental Health                      | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment                                      |
| Agustín Estévez Prieto                                                                      | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                                                                   |



## FUNDACIÓN PARA LA INVESTIGACIÓN BIOMÉDICA DEL IISGM (INSTITUTO DE INVESTIGACIÓN SANITARIA GREGORIO MARAÑÓN) (cont.)

|                                                                                                                           | Area                                                   | Group                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| <b>Intramural Program to Promote Research<br/>Post-specialized Health Training Contracts</b>                              |                                                        |                                                                                                 |
| Maria Teresa Schiaffino                                                                                                   | 5. Diseases of the Immune System                       | 5.01 Pathophysiology and clinical research into chronic inflammatory and immunological diseases |
| Beatriz Somoza Fernández                                                                                                  | 7. Systemic Diseases and Organ Transplantation         | 7.27 Hospital pharmacy and pharmacogenomics                                                     |
| Zita María Gambacorti Passerini                                                                                           | 7. Systemic Diseases and Organ Transplantation         | 7.31 Pathophysiology in women, pregnancy, labor, and puerperium                                 |
| <b>Intramural Program to Promote Research<br/>Post-doctoral Contracts</b>                                                 |                                                        |                                                                                                 |
| Esmeralda Magro López                                                                                                     | 5. Diseases of the Immune System                       | 5.02 Molecular biology of HIV                                                                   |
| Sara Salvador Martí                                                                                                       | 7. Systemic Diseases and Organ Transplantation         | 7.27 Hospital pharmacy and pharmacogenomics                                                     |
| <b>Intramural Program to Promote Research<br/>Intensification of research activity contracts (I+D+I and Nursing care)</b> |                                                        |                                                                                                 |
| Julio González Luis                                                                                                       | 3. Neuroscience and Mental Health                      | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment |
| Sara Salas Pérez                                                                                                          | 3. Neuroscience and Mental Health                      | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment |
| María Luisa Martínez Ginés                                                                                                | 3. Neuroscience and Mental Health                      | 3.03B Neurological diseases                                                                     |
| Elena Manuela Reigadas Ramírez                                                                                            | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              |
| Jimena del Castillo Peral                                                                                                 | 7. Systemic Diseases and Organ Transplantation         | 7.04 Diseases of the critically ill child                                                       |
| <b>Researchers Stabilization Contracts</b>                                                                                |                                                        |                                                                                                 |
| María Luisa Soto Montenegro                                                                                               | 1. Biomedical Engineering                              | 1.01 Advanced technological applications and human health                                       |
| María Jesús Serramía Lobera                                                                                               | 1. Biomedical Engineering                              | 1.01 Advanced technological applications and human health                                       |

|                                                        | Area                                                   | Group                                                                                           |
|--------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| <b>Researchers Stabilization Contracts</b>             |                                                        |                                                                                                 |
| Joost Jansen                                           | 3. Neuroscience and Mental Health                      | 3.01 Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment |
| Jesús Vicente Guinea Ortega                            | 4. Clinical Microbiology: Infectious diseases and AIDS | 4.01 Clinical microbiology and infectious diseases                                              |
| Amaya Rocío Puig Kröger                                | 5. Diseases of the Immune System                       | 5.01 Pathophysiology and clinical research into chronic inflammatory and immunological diseases |
| José Luis Jiménez Fuentes                              | 5. Diseases of the Immune System                       | 5.02 Molecular biology of HIV                                                                   |
| Rafael Correa Rocha                                    | 5. Diseases of the Immune System                       | 5.06 Immune regulation and homeostasis in diseases of the immune system                         |
| Marjorie Pion                                          | 5. Diseases of the Immune System                       | 5.06 Immune regulation and homeostasis in diseases of the immune system                         |
| Javier Vaquero Martín                                  | 7. Systemic Diseases and Organ Transplantation         | 7.10 Regeneration and biomaterials in musculoskeletal disease                                   |
| Luis Andrés López Fernández                            | 7. Systemic Diseases and Organ Transplantation         | 7.27 Hospital pharmacy and pharmacogenomics                                                     |
| Miguel Relloso Cereceda                                | 7. Systemic Diseases and Organ Transplantation         | 7.31 Pathophysiology in women, pregnancy, labor, and puerperium                                 |
| <b>Research Support Technician and Technical Staff</b> |                                                        |                                                                                                 |
| Susana Suárez Sancho                                   | 2. Cardiovascular diseases                             | 2.01 Natural history of heart disease                                                           |
| Virginia Plasencia Martín                              | 2. Cardiovascular diseases                             | 2.01 Natural history of heart disease                                                           |
| José María Bellón Cano                                 |                                                        | Methodology and Biostatistics Unit                                                              |
| Rafael Samaniego García                                |                                                        | Confocal Microscopy Unit                                                                        |
| María Eugenia Fernández Santos                         |                                                        | Cardiology translational research Laboratory                                                    |
| Laura Díaz Muñoz                                       |                                                        | Flow Cytometry and Cell Sorter Unit                                                             |
| María Isabel Clemente                                  |                                                        | Cell Culture Unit                                                                               |
| Ainhoa Simón Zárate                                    |                                                        | Genomics Unit                                                                                   |



## Research Support Services (RSSs)

liSGM has organized research support services into various technology platforms according to the object of research. Thus, liSGM aims to promote the human and technological interrelationships necessary when investigating the object of biomedical research from different technological perspectives.

Five platforms have been developed, as follows:

1. Patient platform.
2. Organ platform.
3. Animal platform.
4. Cell platform.
5. Molecular platform.

| Patient Platform   | Methodology and Biostatistics Unit          | Clinical Research Central Support Unit       | Innovation Support Unit                      | Cardiac Imaging Unit | ICT Services Unit    |
|--------------------|---------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------|----------------------|
| Organ Platform     | Biobank                                     | Cardiology Translational Research Laboratory | 3D Medical Printing Unit                     |                      |                      |
| Animal Platform    | Experimental Operating Room                 | Animal Facility                              | Experimental Small-Animal Imaging Laboratory |                      |                      |
| Cell Platform      | Advanced Therapy Medicinal Products (ATMPs) | Flow Cytometry and Cell Sorter Unit          | Cell Culture Unit                            | Confocal Microscopy  | Pathological Anatomy |
| Molecular Platform | Genomics Unit                               | Proteomics                                   | Bioinformatics Unit                          |                      |                      |



## METHODOLOGY AND BIOSTATISTICS UNIT

### Mission

To researchers in implementing their hypotheses and research proposals, and to provide on the most appropriate methodology, study design, and statistical techniques.

### Description

Methodology and Biostatistics is a Research Support Service (RSS) that provides methodological and statistical advice for any aspect of their research project: study type and design, data collection, sample size, database design, and statistical techniques. The aim of the service is to provide researchers with the support necessary for the achievement of their research objectives.

The Unit also carries out statistical analyses and database operations for the analysis.

### Services provided

*Methodological advice:*

- Most appropriate study type and design.
- Calculation of sample size.
- Statistical techniques best suited to each type of study.
- Methodological design for research projects.
- Interpretation of statistical results.

*Support and follow-up of ongoing projects:*

- Scientific articles.
- Communications, scientific meetings, talks.
- Doctoral theses and research proficiency projects.

*Application and statistical analysis of databases:*

- Design and creation of databases: Excel, Access, SPSS, REDCap.
- Statistical analysis and application of databases.

The researcher can request an appointment in person, by telephone or by email, and will be allocated an appointment according to the availability of the unit's staff.

### Facility

The Methodology and Biostatistics Unit RSS is located in the prefabricated annex of the Experimental Medicine and Surgery building of Hospital General Universitario Gregorio Marañón (HGUGM). It comprises an office and an external workstation for residents in rotation.

Additionally, at the Maternal and Child Hospital (5th floor), (UDIMIFFA).

### Technology

Three networked computers with access to Internet and a shared printer. The computers run SPSS and open-access statistical software such as EPIDAT 3.1, Granmo 7.1, and R.

### Staff

- José María Bellón Cano Head of Unit.
- Biostatistician (UDIMIFFA).
- A resident from the Preventive Medicine Department in rotation.

### Unit documentation

Procedures manual of the *Methodology and Biostatistics Unit*.

### Contact

#### José María Bellón Cano

Head of Unit

Tel: 91 586 64 54

E-mail: josemaria.bellon@salud.madrid.org

Edificio prefabricado (planta 0)

Hospital General Universitario Gregorio Marañón

C/Dr. Esquerdo 46, 28007

#### Pablo González Navarro

Biostatistician (UDIMIFFA)

E-mail: pablo.gonzalez@iisgm.com

Hospital Materno Infantil Gregorio Marañón (planta 5)

C/O'Donnell 48, 28009 Madrid



## CLINICAL RESEARCH CENTRAL SUPPORT UNIT

### Mission

To serve society by working to improve the health and wellbeing of citizens through the management of patient-oriented clinical research (both non-commercial and commercial), through continuous improvement, innovation and training, as well as by stimulating the professional and scientific development of all its members.

### Description

It is a Research Support Service for all those IISGM researchers who require support in the logistic, operational, and regulatory design of clinical trials and observational studies.

The UCAICEC is conceived as a unit dedicated to the promotion and support of quality Clinical Research and Clinical Trials by means of an integral support to the investigator in the planning, development, processing and execution of the clinical trials and non-commercial research studies.

Among the activities developed by the UCAICEC is the management of SCReN in our center. SCReN is a platform funded by the Carlos III Health Institute (ISCIII) with representation in more than 20 hospitals in Spain (<https://www.scren.es>)

### Services

*Advice on the preparation and performance of research projects:*

- Support in the management of documentation for evaluation by the Ethics Committee and regulatory bodies (Spanish Medication Agency [AEMPS] and regional government bodies).
- Advice, management, and support with the preparation and follow-up of administrative documentation linked to the project.
- Coordination and follow-up of approvals and implementation of the study (logistics and operations).
- Advice on management of medication and on performance of the trial (selection of CRO).
- Advice on the management of supplier contracts.
- Monitoring Clinical studies.

ISO 9001: 2015 certificate ES18/81874

### Contact

#### María del C. de la Cruz Arguedas

Head of Unit

e-mail: [ucaicec@fibhgm.org](mailto:ucaicec@fibhgm.org)

Pabellón de Gobierno (planta baja)

Hospital General Universitario Gregorio Marañón

Calle Dr. Esquerdo, 46 28007 Madrid





## INNOVATION SUPPORT UNIT

### Mission

The Innovation Support Unit (UAI) of IISGM was created in 2013 within the framework of the ITEMAS Platform financed by Instituto de Salud Carlos III. Its goal is to transform inventions and scientific outcomes into new products, services and research spin-offs that benefit society.

### Description

The UAI has a multidisciplinary team of professionals that provide support and advice in all that relates to the identification, management, protection, transfer, marketing and dissemination of their research results.

### Services provided

The UAI offers the following services:

- Evaluation of ideas.
- Support in the valorization of ideas and research results.
- Prototyping (functional analysis and technical evaluation, design, prototype manufacturing).
- Support in the writing and planning of innovation projects.
- Search for funding.
- Support in the search for technological or commercial partners.
- Contractual advice (drafting of collaboration agreements, license contracts, etc.).

- Advice on aspects related to the strategy of Industrial and Intellectual Property protection.
- Drafting and filing of patents.
- Registration of intellectual property works (copyright).
- Operational and strategic advice in technology transfer (spin-offs, licenses, etc.).
- Training activities in innovation management, creativity, and entrepreneurship.
- Dissemination activities and organization of innovation management events.

### Organization

- Head of unit: Manuel Desco.
- Project manager: Daniel Sánchez.
- Innovation manager: Ana Álvarez.

### Documentation

<https://www.iisgm.com/innovacion/unidad-de-apoyo-a-la-innovacion/comunica-tu-idea-2/>

### Contact

#### Daniel Sánchez Puerto

Tel: 91 586 70 78

E-mail: [gestion.innovacion@iisgm.com](mailto:gestion.innovacion@iisgm.com)

Pabellón de Gobierno (Ground Floor)

Hospital General Universitario Gregorio Marañón

Calle Doctor Esquerdo 46, 28007 Madrid



## CARDIAC IMAGING UNIT

### Mission & Rationale

Measurement of heart function is a key objective in the evaluation of the effect of cardiovascular therapy. Given their close correlation with long-term diagnosis, the scientific evidence generated during the last 50 years has consolidated the use of measures based on cardiovascular imaging techniques as surrogate objectives in clinical trials on cardiovascular medicine. In addition, the criteria for inclusion of patients in clinical trials are usually established depending on the cut-off points in various heart function indexes.

Furthermore, studies aimed at evaluating the safety of drugs used in other disciplines more frequently require evaluations of potential cardiotoxicity. Therefore, the development of biologics, mainly in the field of oncology, has led to an increase in demand for the evaluation of heart function as part of many clinical research protocols.

Given its availability, portability, and low cost, echocardiography is the initial technique of choice for assessment of heart function and monitoring of progress after a specific therapeutic measure. Nevertheless, at present, cardiac magnetic resonance provides more accurate and reproducible parameters for obtaining data on ventricular function and size. Since the variability in measurement decreases compared with other techniques, magnetic resonance has shown that it is possible to significantly reduce the sample size in studies based on measurement of ventricular function. Stratification of cardiovascular risk based only on clinical criteria has proven insufficient in a large number of patients, mainly those in the “intermediate risk” group. Moreover, pharmacologic intervention in chronic inflammation in clinical practice may have a direct effect on cardiovascular risk. In this context, the noninvasive measurement of atherosclerotic load and intima-media thickness using carotid ultrasound provides a well-validated surrogate index of cardiovascular risk in a specific patient.

On this basis, the mission of the Cardiac Imaging Unit is to provide a service to research groups both within and outside the IiSGM that

can benefit from evaluation of heart function with echocardiography or magnetic resonance and evaluation of the risk of atherosclerosis using carotid ultrasound.

### Description

Echocardiography and carotid ultrasound are performed to support researchers in the Echocardiography Laboratory, which is situated on the Ground Floor of the Ambulatory Care Pavilion, HGUGM. The laboratory has 2 cutting edge machines that were acquired by the IiSGM for research studies.

Magnetic resonance is performed using specific equipment purchased by IiSGM and is used preferentially for cardiac magnetic resonance. The system is a Philips Achieva with a 1.5 T magnet in the magnetic resonance area situated in the basement of the Oncology Pavilion. The equipment has complete software for cardiovascular examinations and is integrated with the hospital's computer system.

The Cardiac Imaging Analysis Unit of the Cardiology Service is situated on the ground floor of the IPMQ building in Hospital Gregorio Marañón. It covers 40 m<sup>2</sup> and has a latest-generation computer system with high storage capacity. It also has validated systems for quantitative evaluation of cardiovascular parameters (see below).

### Services provided

#### *Echocardiography*

Image acquisition: 2D, 3D, tissue Doppler, color Doppler, continuous wave Doppler, and pulse Doppler of heart valves in parasternal, apical, subcostal, and suprasternal planes. Images are acquired using a 2.0 to 4.0 MHz transducer and a volumetric probe in a high-end device. The definitive model can be selected depending on the needs of the researcher.

#### *Carotid ultrasound*

Acquisition of images using B mode and Doppler ultrasound of the common carotid artery, carotid sinus, and internal carotid artery with a linear probe.



### *Functional cardiac MRI without contrast*

Acquisition of sequences to evaluate biventricular function in cine mode in short axes with complete coverage from base to apex of the LV: 2 cameras, 4 cameras, 3 cameras. 1.5 T device (Philips Achieva, software package release 9).

### *Functional cardiac MRI with and without contrast*

After administration of a bolus of gadolinium contrast medium (0.2 mmol/kg), a multiplane perfusion sequence is run in an initial stage, followed by a 3D delayed enhancement sequence using inversion-recovery. Inversion time is adjusted using the Look-Locker tool. The images are acquired 15 minutes after administration of contrast. 1.5 T device (Philips Achieva, software package release 9).

### *Standard echocardiography (as per request)*

Assessment of biventricular function using 2D images, assessment of mitral filling Doppler flow velocity, LV outflow tract, estimation of lung pressure, and tissue Doppler at the level of the mitral and tricuspid valves (EchoPac v.110.1.2, GE).

### *Advanced echocardiography (as per request)*

Measurement of biventricular function using 3D images of the LV (EchoPac v.110.1.2, GE) and 3D imaging of the RV (4D-RV function; TomTec Imaging Systems). Measurement of longitudinal and circumferential strain of the LV. Measurement of 3D strain in LV (EchoPac v.110.1.2, GE).

### *Carotid ultrasound (as per request)*

Measurement of the intima-medial thickness at the level of the common carotid artery, carotid sinus, and internal carotid artery (software IMT, EchoPac v.110.1.2, GE, software Q-Lab, Philips or ImageJ, which is adaptable according to the manufacturer).

### *Cardiac MR (as per request)*

Biventricular function, quantification of segmental contraction ("Wall Motion Analysis"), evaluation of intracardiac flow, quantification of delayed uptake (Medis® Cardiac MR QMass® and QFlow®). System can be adapted for quantification of clinical and preclinical imaging in large or small animals.

### **Procedure for requesting a specific service**

The order form to be used is IISGM IM-SPE-7.

The order form has 5 sections:

1. Name of the ISS.
2. Name of the person requesting the service.
3. Data on the service required and budget\*.
4. Remarks: Indicate whether the invoice is a self-invoice\*\*.
5. Signatures.

**NOTE:** Sample transport is the responsibility of the Imaging Unit. The procedure is as follows:

- Issue the study protocol whose parameters are to be analyzed.
- Once the protocol is studied by IU staff, the custom designed CRFs are sent to the center performing the study.
- The persons performing the study send the imaging studies to be analyzed to the IU with their corresponding CRFs.
- Performance of the analysis.
- The results are sent to the center performing the study.
- Imaging studies are filed in the IU for 1 year for re-analysis or to analyze other parameters if necessary.

\*Data on the services provided: Quantitative MR analysis. Quantitative echocardiography analysis. Quantitative carotid ultrasound analysis.

\*\*If justification is required for public projects, the SOP for self-invoicing IISGM (PR-SPE-06) will be applied.



### Contacts

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### PATIENT PLATFORM ICT SERVICES UNIT

## ICT SERVICES UNIT

### Mission

The HGUGM has enormous research potential and generates a great deal of information related to the clinical trials being conducted. With the aim of developing this potential, the Information and Communication Technologies Unit was established as an IAS, as a platform to help research in the HGUGM, which promotes information technologies to facilitate the generation of ICT solutions.

The Sai is formed by a multidisciplinary team with wide experience both in the technology sector and in the health sector.

### Objective

To offer specialized advice in the implementation of technological solutions.

Data representation: generation of dashboards and executive reports.

Data mining: Database data download, processing downloads, normalization, filtering and processing of large amounts of data.

Microinformatics: advice on user's position.

Communications: video services.

### Team

All staff have at least five years of experience in implementing ICT projects in the health field and fit the profile of Senior Information Systems and Technology Technician with responsibilities in:

1. IT and telecommunications project management.
2. Design, development and operation of computer systems, including requirements analysis and specification, technical design, user relations, technical support and administration of systems, data, communication networks and security.

### Competences and skills

- Messaging and data management standards (4 HL7).
- Document exchange standards (2CDA).
- Terminology standards or controlled vocabularies (4 SNOMED CT).
- Security standards (1 ISO 27001).
- Project Management (2 PMP).



## BIOBANK

### Mission

To contribute to the advancement of scientific knowledge in various diseases and to provide patients' biological samples for purposes of research. The samples are received, registered, processed, coded, and cryopreserved in the HIV Biobank of Hospital Gregorio Marañón (HGM HIV Biobank). They are then provided to research projects after approval by an external ethics committee and scientific committee.

### Description

The objectives of HGM HIV Biobank are met thanks to support from the bodies and people who collaborate with it:

- Cohorts with well-defined characteristics comprising patients with various diseases. The coordinators of the cohorts collect and store clinical information associated with the samples. HGM HIV Biobank currently holds samples from 9 cohorts: the HIV cohort, respiratory disease cohort, endocrinology cohort, neonatology cohort, oncology cohort, rare diseases cohort, infectious diseases cohort, nephrology cohort, and intensive care cohort.
- The various hospitals that deposit samples in HGM HIV Biobank, after signature of an agreement on the conditions of the deposit. At present, 57 Spanish hospitals deposit biological material. The departments of Hospital General Universitario Gregorio Marañón that currently deposit samples are Paediatrics, Neonatology, Anesthesia, Nephrology, and Paediatric Intensive Care.
- HGM HIV Biobank staff in charge of management, reception, processing, cryopreservation, and lending of samples.
- Other collaborating bodies include external ethics committee and scientific committee, which participate in decision making and evaluate the projects for which biological material is requested from HGM HIV Biobank.
- Lastly, researchers who are loaned samples for projects of excellence after previous approval by the appropriate committees.

- All the processes carried out in HGM HIV Biobank are subject to a strict quality control system based on standard UNE-EN ISO 9001, for which HGM HIV Biobank is certified and which guarantees the quality of the samples and the fulfilment of ethical and legal rules.

### Services offered

HGM HIV Bioank offers the following services:

- Management, preparation, distribution, and follow-up of all the documentation necessary for depositing samples in HGM HIV Biobank and their subsequent reception, processing, registration, cryopreservation, and provision.
- Reception, processing, and cryopreservation of biological material from the various cohorts after signature of the corresponding deposit agreement.
- Ensuring the quality, traceability, and maximum viability of the biological material stored in HGM HIV Biobank.
- Recording of basic sample information.
- Adaptation of the HGM HIV Biobank database so that the coordinators of the different cohorts can register clinical and laboratory data of donors.
- Advice to the cohort coordinators on the use of the HGM HIV Biobank database.
- Consolidation of data associated with samples available in HGM HIV Biobank with the cohort coordinators and services that deposit biological material.
- Provision, for research purposes, of samples for projects, after approval by the corresponding committees.
- Creation and management of new sample collections for research projects and clinical trials and studies.
- Centralization and management of samples for the development of multicentre studies.
- Processing of samples for the development of research projects and clinical trials and studies.





## ORGAN PLATFORM BIOBANK

- Advice on ethical and legal matters associated with the use of human samples for research.
- Advice on and analysis of economic sustainability
- Advice on design of and application for projects.
- Regulated teaching (processing techniques, biosafety, quality management quality control for biological samples), personalized training in technical and legal aspects of biobanks.
- Organization of events.
- Writing of scientific articles.
- The laboratory platform/HGM HIV Biobank also offers standardization of techniques between different groups or hospitals. Techniques such as ELISPOT and miRNA extraction are also offered for research projects and clinical studies and trials.

### Technology

HGM HIV Biobank currently has 2 cryopreservation rooms and a sample processing laboratory equipped with:

- 3 laminar flow cabinets.
- 2 microscopes.
- 2 centrifuges
- 2 microcentrifuges.
- 1 incubator.
- 1 thermostatic bath.
- 1 thermocycler.
- 1 thermomixer.
- 5 pipette controllers.

- 28 micropipettes.
- 1 refrigerator (4°).
- 1 freezer (−20°C).
- 13 freezers (−80°C).
- 9 nitrogen tanks.
- Telephonic alarms.

### Facility

The Innovation Support Unit HGM HIV Biobank is located in the Maternity Building of IiSGM. It covers 93 m<sup>2</sup> and has its own electricity supply and air conditioning system in order to meet the quality requirements necessary for the services offered.

### Contact

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## CARDIOLOGY TRANSLATIONAL RESEARCH LABORATORY

### Mission

The Cardiology Translational Research Laboratory, is an infrastructure of the Research Institute of the Gregorio Marañón Hospital that is part of the Organ Platform focused on the field of Regenerative Medicine, Basic electrophysiology and genetic analysis, of which Prof. Bermejo Thomas is the Scientific Director.

### Description

The laboratory started its activity focused on obtaining decellularized matrices, from animal and human organs, in order to decellularized them later with different cell types, thus achieving viable matrices that serve as replacement constructions for the sick organs that are not rejected in the transplant. Throughout its trajectory, it has reinforced these lines of research in Advanced Therapies with others linked to research in cardiology.

It is currently a Research Support Service that combines basic, preclinical and clinical research focused on understanding the specific processes at the molecular, cellular and organ level that underlie the broad spectrum of cardiovascular diseases.

The laboratory has implemented different technologies that support translational research in Cardiology and other disciplines at our hospital, as well as other research groups of national and international prestige.

Among them: Recellularization with bioreactors, 3D Bioimpression, Basic Electrophysiology, Genomics, Transcriptomics, Metagenomics, etc.

The RSS is managed by the IISGM's ISO 9001: 2015 quality system: which makes it possible to develop all projects in a reproducible manner and with proven traceability, in order to accelerate clinical translation.

### Services provided

- Organ decellularization.
- Study of ventricular mechanics in the intact heart and decellularized matrices.

- Histology of the samples obtained from the different scaffolds and constructs.
- Tissue and cell electrophysiology program.
- Recellularization of decellularized matrices by co-culture.
- Recellularization program using bioreactors.
- 3D Bioprinting
- Human cell culture:
  - Stromal Vascular Fraction from fat tissue.
  - Bone marrow mononuclear cells.
  - Mesenchymal stromal cells from Bone marrow.
  - Mesenchymal stromal cells from Adipose tissue.
  - Cardiac Stem Cell.
  - Obtaining iP cells.
  - Differentiation of iP cells into cardiomyocytes and endothelial cells.
- Culture of cells from animal tissue, eg, mesenchymal stromal cells, iP cells, cardiomyocytes, ...
- Maintenance of different cell lines.
- Studies on variants and gene expression, transcriptomics and metagenomics.
- Academic and training platform.

### Facility

The laboratory is located on floor -1 of the Maternity Hospital. Its covers 275 m<sup>2</sup> and is home to several work areas: the histology area, culture area, electrophysiology area, and genetics, genomics, and transcriptomics area.

### Technology

#### Histology program

- Cryostat: Thermo Scientific Microm HM525-U.
- Carousel-type automatic tissue processor: Thermo Scientific Microm STP120-2.



- Modular embedding center: Thermo Scientific Microm EC350.
- Histology bath: Termofin 3000459, Selecta.
- Microtome: Thermo Scientific Microm HM325.
- Culture oven: INCUBAT, Selecta.
- Leica BOND III for automatic IHC and ISH staining.
- Leica DMD108 Histology Station.
- Leica ICC50 HD Direct Light Microscope.

#### *Culture and cryopreservation program*

- CO<sub>2</sub> incubators: Nuaire, Nu-4850-E, and with control of CO<sub>2</sub> and O<sub>2</sub> Nuaire, Nu-4950-E.
- Biosafety II Cabinets: Nuaire, Nu-437-400-E.
- Safety cabinet: Safefast Elite.
- Ovens: 37°C (TherMark) and 22°C (Mettler).
- Toxic substance extraction cabinet: Captair Flex AM321.
- Inverted fluorescence microscope with camera: DMI3000.
- Liquid nitrogen tank: Taylor-Wharton, Cryocon M505K.
- Liquid nitrogen supply tank: Taylor-Wharton, L5750.
- Freezers (−80°C): Profiline and Innova U-360.

#### *Tissue and cell electrophysiology program*

- Medium-size Langendorff heart system (pig-human).
- Electric mapping system on Langendorff and cultures.
- Optical mapping system on Langendorff.
- Optical mapping system on tissue and culture.
- Electrical stimulation system.
- Decellularization program.
- Peristaltic pump: Masterflex 7524-45.
- Patch-Clamp set.

#### *Genetics, genomics, and transcriptomics program*

- Basic molecular biology equipment.
- Quantitative real-time PCR (RT-PCR) (CFX BioRad).
- Imaging equipment and gel analysis software.
- Gel-membrane transfer equipment: Trans Blot Turbo (BioRad).
- ImageQuant LAS 500 (GE Healthcare).
- Server for edition and analysis of massive sequencing data.

#### *Specific techniques*

- Flow cytometry with MacsQuant 3-laser cytometer.
- Cell purification with separator: AutoMACS Pro.
- Rokit 3D in vivo bioprinter (Palex Medical).

#### *Bioreactor/recellularization programs*

- Bioreactors for human and animal organs.
- Bioreactors with electromechanical stimulation.
- Static and dynamic cell seeding systems.

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## 3D MEDICAL PRINTING UNIT

### Mission

To provide consulting and 3D prototyping services to researchers, biosanitary institutions and biomedical companies, which can be applied in basic and translational research projects as well as health innovation, applying the personalized medicine paradigm.

### Description

SAI 3D is a research support service that helps health professionals and researchers who have a need in which 3D printing can contribute to the development of a specific and individualized application in the health sciences area.

The aim of these activities is that innovative projects in these areas have more potential to be transferred to society in general and to the patient in particular.

### Services offered

- 3D Modelling.
- Customized CAD/CAM solutions.
- Rapid prototyping: functional analysis, technical evaluation, design and manufacturing.
- 3D printing of biomodels from 3D model (STL, OBJ).
- 3D printing of patient-specific devices from medical image segmentation (CT, CBCT, MR, PET).
- Final product development: medical training, surgical simulation, positioning guides, customized instruments and electromedical components.
- Advisory on the integration of 3D printing technology in the research and clinical process:
  - Personalized medical care: patient-centered precision medicine, improved perceived quality thanks to improved medical communication, and objective quality allowing the optimization of therapeutic times

- Education and clinical training: medical training and procedure simulation.
- Pre-clinical testing: improving device design by testing on simulation models.
- Innovation in customized medical devices: advanced rapid prototyping reducing verification and validation times.

### Facilities

- Coworking space.
- 3D printing laboratory room (FabLab) with access control, air conditioning, humidity control and filtration system.
- Bioprinting room.
- Hybrid operating room with attached 3D printing room.
- ISO13485:2018 certified quality management system.

### Technologies

- Workstation for advanced 3D design.
- Hybrid multimodal operating room with state-of-the-art 3D angio-ct 3D (Allia IGS 7), surgical navigator (Brainlab), XR devices (Hololens2) and SLA Form3B+ printer for 3D printing of sterilizable medical devices.
- CAD/CAM software: Mimics, Materialise 3-matic, Solidworks, Autodesk Fusion 360, 3DSlicer.
- 3D printers: FDM (thermoplastic), SLA (resin), SLS (polyamide), MultiJet and metal printing technology.
- 3D surface scanner.
- Post-processing tools.
- New polymers and test materials.

### Human Resources

Multidisciplinary team of medical specialists, medical imaging experts, biomedical engineers and pharmacists.



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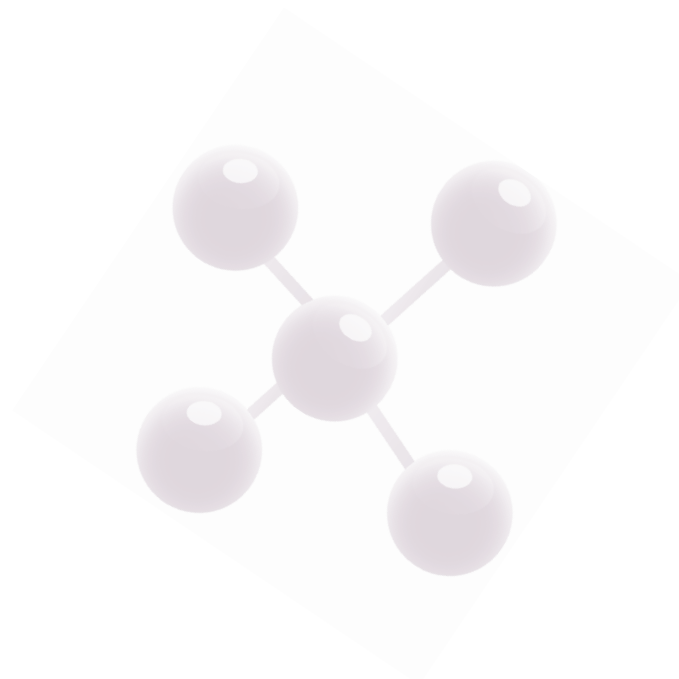
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## EXPERIMENTAL OPERATING ROOM

To provide appropriate surgical facilities and equipment for experiments with animals.

### Description

The experimental operating room is a Research Support Service (RSS) with the appropriate fittings, material, and instruments for the most common surgical procedures.

The main operating room (A) has 2 tables that are custom-designed for animals. One table is radiotransparent to enable x-ray techniques to be performed. A third table can be installed when necessary.

Equipment is also available for more specific procedures such as laparoscopic surgery and extracorporeal circulation.

There are also 3 rooms equipped for microsurgery in small-animal procedures. Two are within the clean area of the animal facility (B and C) and 1 is outside the area (outer room D). The rooms are used for microsurgery training courses and for experiments with small animals.

The RSS Experimental Operating Room of IISGM makes up the Surgical Area of the Experimental Medicine and Surgery Unit (MCE).

### Services provided

The basic unit for providing services in the Surgical Area is the so-called Surgical Session, which implies the use of 1 operating table or microsurgery station for at least 1 morning or 1 afternoon.

Morning: 8:30 h to 14:00 h (5.5 h).

Afternoon/evening: 15:30 h to 21:00 h (5.5 h).

In addition to the Surgical Session, requests can be made for animals, support staff, and other equipment (see rates).

The small-animal rooms can be used for a half-session.

If the procedure to be performed requires an operating table (eg, for x-ray) and this prevents the other table from being used, then an exclusivity supplement will be applied.

### Research

- Procedures associated with a funded research project.
- Procedures associated with a research project authorized by IISGM but which is pending funding.
- Procedures associated with research projects from bodies outside the hospital.

### Teaching/training

- Practical sessions for undergraduate students from Universidad Complutense.
- Practical sessions for undergraduate students from Universidad Carlos III.
- Practical sessions enabling hospital staff to perfect surgical techniques.
- Practical sessions enabling staff from other centers to perfect surgical techniques.
- Training courses organized by HGUGM services.
- Training courses organized by other bodies.

### Dissemination

- Demonstrations or presentations of equipment or procedures organized by companies.



### Technology

*Standard operating room. Equipped with the following:*

- Multipurpose tables.
- Monitoring equipment.
- Conventional surgical instruments.
- Electric scalpel.
- X-ray equipment.
- Extracorporeal circulation equipment.
- Basic laparoscopic surgery equipment.

### Procedure rooms

Equipped with 4 work tables with stereoscopic microscopes (Nikon SMZ-1 and Zeiss OPMI 99) and basic surgical instruments.

### Facilities

The RSU Experimental Operating Room is located in the Experimental Medicine and Surgery building of IISGM. It covers 97 m<sup>2</sup> divided into an operating room, pre-operating room, clean area for storing material with an autoclave for sterilizing, a dirty area for washing instruments with a chest freezer for animal cadavers, microsurgery laboratories, an office, and changing rooms.

### Contact

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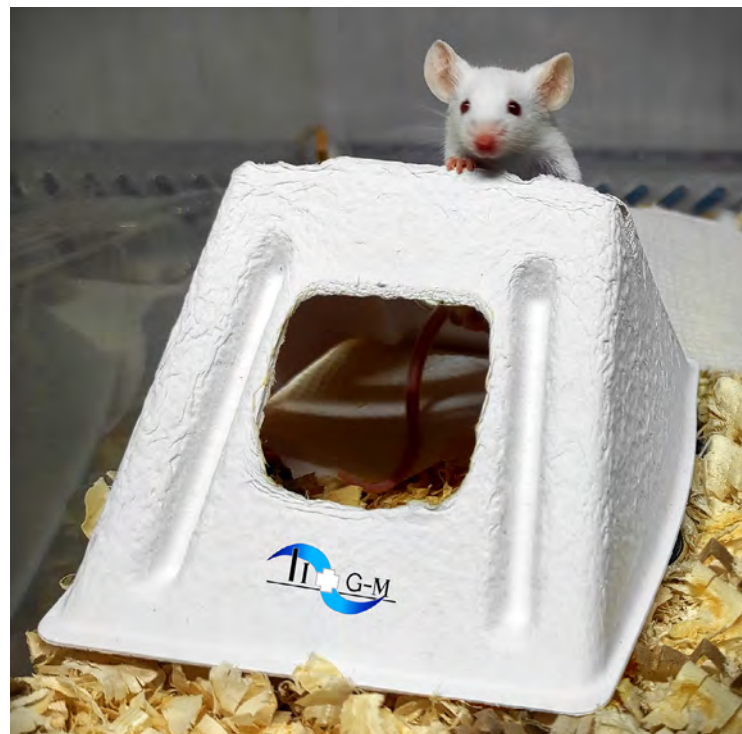
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Experimental Medicine and Surgery Unit

Hospital General Universitario Gregorio Marañón



Photography: Alba Alises Zamora



## ANIMAL FACILITY

### Mision

To support translational research based on animal models. Biomedical research requires the use of small experimental animals that fulfill, as do biologic reagents, all the necessary requirements for the performance of high-quality research in a setting with measures that guarantee the health and well-being of the animals.

### Description

The Animal Facility is a Research Support Unit (RSU) whose priority objective is to supply researchers with the best animals for their research projects and to maintain the appropriate environmental and clinical conditions for research to be carried out while ensuring animal health and well-being.

This service is aimed at all investigators from the IISGM and from other centers. All users must have appropriate certification for the handling of experimental animals; therefore, they must have the appropriate professional credentials (Royal Decree 53/2013 and Order ECC/566/2015).

The RSU Animal Facility of IISGM is part of the Experimental Medicine and Surgery Unit (UMCE).

### Services provided

Breeding, housing, and supply of different races and strains of rats, mice, and pigs under different housing conditions. Various options are available for experimental procedures in the animal facility with(out) the participation of inhouse personnel. The rates include accessory services such as administration of treatment, performance of procedures, and animal transport. Other experimental techniques can be requested (embryo transfer, freezing/thawing of embryos, etc).

### Facilities

The Animal Facility is located on the ground floor of the Experimental Medicine and Surgery Unit (UMCE). It covers a 170 m<sup>2</sup> area divided into communal areas and animal housing areas.

The facility comprises 2 clearly differentiated areas: one for work with animals under standard conditions and another barrier area for work with animals under specific-pathogen-free conditions.

In the first area, animals can be housed in quarantine. The area is used for animals in transit or animals that, given the particular characteristics of a study, must leave the barrier area. This area also has a special containment room for biological risk 2 animals, as well as rooms to house pigs and for postoperative care.

Rodents are bred, housed, and undergo experimental procedures in the barrier area.

Hospital General Universitario Gregorio Marañón (HGUGM) figures on the Registry of Facilities for the Breeders, Suppliers, and Users of Animals for Experimentation and Other Scientific Purposes (Registro de Establecimientos de Cría, Suministradores y Usuarios de Animales para la Experimentación u otros fines científicos) of the Autonomous Community of Madrid as a User Center (code: ES280790000087).

### Structure and distribution

- Standard animal facility:
  - Store.
  - Cleaning area.
  - Mouse quarantine room.
  - Rat quarantine room.
  - Pig quarantine room.
  - Postoperative room: pigs.
  - Room for housing biologic risk 2 rodents (infected animals).
- Barrier area:
  - Rat room.
  - Mouse room.
  - Sterile material store.
  - Clean store.
  - Procedure room 1.
  - Procedure room 2.



# ANIMAL PLATFORM ANIMAL FACILITY

## Technology

The animal facility is equipped with the following:

- Ventilated isolation cabinets with HEPA-ULPA filters for housing rodents.
- Laminar flow cabinets for animal transfer.
- Storage cabinet for rodents used in metabolic studies.
- 2 type II biosafety cabinets.
- Double-door sterilizer with a liquid program.
- Miniclave sterilizer with liquid program.
- Tray washer.
- Stretcher for animal transfer.
- Scale for large animals.
- Scales for rodents.
- Vaporized hydrogen peroxide sterilization equipment.
- Hydrocleaner.
- "Safety Access System" – SAS with a window format.
- Type 1000 and type 500 standard cages, with dividing grill.
- Feeding bottles: 1000 and 300 ml.
- Cages with grills and filters for mice and rats.
- Equipment, devices, and diverse material for experimental procedures, including induction chambers, respirators, and accessories for anesthesia and analgesia of rodents.

## Staff

### Clinicians

- **Fernando Asensio**, Doctor of Veterinary Medicine, Head of the Animal Facility.
- **Pedro Llontop**, Doctor of Veterinary Medicine.
- **Marta García**, Graduate in Nursing.

### Technicians

- **Francisco Sánchez Cobos**, Animal Experimentation Technician.
- **Lidia Albadalejo Navarro**, Animal Experimentation Technician.
- **Alba Alises Zamora**, Animal Experimentation Technician.
- **Katia Ruth Baca**, Animal Experimentation Technician.

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## EXPERIMENTAL SMALL-ANIMAL IMAGING LABORATORY

### Mission

The main objectives of the Small Experimental Animal Imaging Laboratory are to research on advanced biomedical imaging technologies and to provide imaging services to researchers from the hospital and from other centers.

The Laboratory participates in several research networks, such as "Red Madrileña de Nanomedicina en Imagen Molecular" (S2022/BMD-7403 RENIM-CM) and "Modelos animales e imagen biomédica" (Plataformas ISCIII, PT20/00044 and PT23/00027). It has recently obtained funds from the Instituto de Salud Carlos III (IFEQ21/00045 and IFEQ22/00108) for the renovation of the imaging equipment.

### Description

The Laboratory has an instrument platform for molecular imaging of small animals. Its clearly multidisciplinary character enables it to address problems from different perspectives, thus facilitating rapid translation of research results to clinical practice and industry.

### Services provided

The types of study that can be performed cover a range of possibilities:

- Magnetic resonance: high-resolution "standard" anatomic imaging, spectroscopy (1-H, 31-P, 13-C), angiography (MRA), tissue perfusion, diffusion imaging (DWI, DTI), magnetization transfer, functional magnetic resonance imaging (fMRI), dynamic cardiac studies, cell tracking, etc.
- Nuclear imaging (PET and SPECT): cell metabolism studies based on glucose (18F-FDG) or palmitic acid (18F-FTHA), with applications in oncology, neurology, cardiology, and inflammatory and infectious diseases. In vivo follow-up of biomolecules (antibodies/peptides) and cells, etc.

- Computed tomography imaging: studies of bone and biomaterials, morphometric studies, pulmonary studies, etc.
- Molecular probes: synthesis of nanoparticles, optic and/or radioactive labeling of biomolecules (antibodies, peptides, microvesicles, etc.)
- In vivo optic imaging: candida bacteremia (genetically modified strains), tumor metabolism (genetically modified strains), cell tracking, etc.
- SPIM: 3D immunohistochemical studies of whole or semiwhole organs.
- Animal procedures: the technical team of the laboratory has wide experience on basic methods (administration of substances, blood sampling, perfusions, necropsy, etc.) and advanced methods (stroke, stereotactic surgery, cardiac infarction, etc.)
- Other services provided by the laboratory include consultancy on the optimal techniques for specific problems and postprocessing of data (including quantification, coregistration of modalities, statistical parametric mapping (SPM), etc.).

Rates can be obtained from [www.iisgm.com](http://www.iisgm.com) (Research Support Services).

### Facilities

The laboratory covers some 500 m<sup>2</sup> in the hospital. Slightly less than half of this space houses offices for staff; the remainder houses working laboratories (magnetic resonance room, radiopharmacy, nuclear imaging, hot laboratory for cell culture, optical imaging room).

### Technology

- High-resolution PET/CT (SuperArgus, Sedecal).
- High-resolution SPECT (Molecubes).
- High-resolution CT (Molecubes).
- Small animal magnetic resonance scanner (7 Tesla) (Bruker Biospec 70/20 USR).
- Sistema IVIS Lumina Serie III (PerkinElmer) 3D Single plane illumination microscopy (SPIM) with 5 lasers (405, 488, 532, 590, 649).



ANIMAL PLATFORM  
EXPERIMENTAL SMALL-ANIMAL IMAGING LABORATORY

- X-ray irradiator for samples and small animals (Sedecal).
- Laboratory animal monitoring systems (temperature, respiration, heart rate, etc.): SA (models 1025 and 1030) compatible with the resonance system and RGB compatible with PET.
- Radiopharmacy unit for in situ production of radiotracers.

**Contact****Lorena Cussó**

Head of Small Experimental Animal Imaging Laboratory

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Photography: Katia Ruth Baca Cornejo





## ADVANCED THERAPY MEDICINAL PRODUCTS (ATMPs)

### Mission

The Advanced Therapy Medicinal Products Production Unit is a Research Support Service that supports basic-clinical research in the field of Advanced Therapies and Regenerative Medicine. The RSS is integrated within the IISGM's Cell Platform.

### Description

The Unit is a Research Support Service aimed at researchers in our and other hospitals who wish to carry out preclinical and clinical studies in the field of regenerative medicine. The Unit comprises the following:

- **Cell Therapy Laboratory:** Laboratory whose environment is controlled (D Class) for the clinical production of ATMPs in closed systems. Also produces cells for preclinical trials in vitro in human. For example, trials have been developed in fields such as cardiology, gynecology, maxillofacial surgery, orthopedic surgery, dermatology, and general surgery.
- **ATMPs Production Unit:** Infrastructure that provides support to clinical research in regenerative medicine and advanced therapies. The Unit has been certified by the Spanish Agency for Medicine and Health Products (AEMPS) since February 2009, re-accredited re-accredited for the fifth time in November 2022 (ES/037/21) for the production of 10 ATMPs and 1 medicament: bone marrow mononuclear cells, bone marrow mesenchymal cells, vascular Stromal Fraction of fat (VSF), mesenchymal cells from fat tissue, periodontal ligament cells, NK cells and autologous Treg cells, and decellularized human donor corneal laminas /LChD), which are part of fifteen Investigational Products (IMPs) authorised and applied in 25 clinical trials in our hospital and in other hospitals both in and outside the Community of Madrid.

### Services provided

- Preclinical studies in cell therapy and regenerative medicine.
- Production of various cell types used in clinical trials under an infrastructure certified according to Good Manufacturing Practice

and investigational products approved by the AEMPS for the production of various types of cell, with the following authorizations for investigational products (IP) approved by the AEMPS:

- Mononuclear bone marrow cells (IMP Nos. 05-042 and 13-037).
- Stromal vascular fraction (fresh fat cells) (IMP No. 11-027).
- Autologous bone marrow mesenchymal stromal cells (IMP No. 09-065 and 10-148).
- Allogenic bone marrow mesenchymal stromal cells (IMP No.12-088 and 14/094).
- Autologous adipose tissue mesenchymal stromal cells (IMP No. 09-019 and 11-164).
- Autologous adipose tissue quiescent mesenchymal stromal cells (IMP No: 21/113).
- Allogenic adipose tissue mesenchymal stromal cells (IMP No. 15-103 and 22-031).
- Periodontal ligament cells (IMP No. 13-143).
- Stimulated and nonexpanded NK cells (IMP No: 17-025).
- Treg lymphocytic cells, differentiated, autologous, thymic tissue, expanded and stimulated with IL-2 (thyTreg) (IMP No. 19-083).
- Decellularized human donor corneal laminas (LChD) (IMP No: 21/114).
- Preparation of Investigational Medicinal Product Dossiers (IMPD) and standardized operating procedures (SOPs). Validation and reporting of new cellular products, to request their approval by the AEMPS.
- Histology, immunohistochemistry, and immunofluorescence of organs and tissues.
- All work is carried out within the framework of Good Laboratory Practice, Good Clinical Practice, and Good Manufacturing Practice, ie, a rigid quality assurance system ensures robust results that can be easily transferred to clinical practice.

### Facility

The Advanced Therapy Medicines Production Unit has a facility that complies with the guidelines of the Good Manufacturing Practice (GMP). It is located on floor -1 of the Clinical Building.



## Technology

- **Therapy Laboratory (D class):**
  - BIO II-A de TELSTAR laminar flow cabinet.
  - Thermo CO<sub>2</sub> incubator.
  - AXIOVER40 fluorescence microscope.
  - SEPAX system. EPPENDORF 5810R Biosafe for cell separation and refrigerated centrifuge.
  - Barnstead MAXQ Mini 4450 shaker.
- **Production Unit (A, B, C and D class):**
  - TELSTAR BIO II-A and II-A-P laminar flow cabinet equipped with continuous particle counters.
  - Thermo 371 and STERI-CULT CO<sub>2</sub> incubators, with sterilization routine MODEL 3308 S/N THERMO.
  - AXIOVER40 CFL microscope.
  - EPPENDORF 5810R refrigerated centrifuge.
  - Portable particle counter.
  - Mechanical tissue digester.
  - Automatic lyophilization vial capper and bag sealer.
  - Barnstead MAXQ Mini 4450 orbital shaker.
  - Bag thawing unit.
  - Freezers with temperature ramp
- **Quality Control:**
  - MacsQuant flow cytometer.
  - BioRad thermocycler.
  - PCR gel analyzer. Gel Logic.
  - Luminometer.
  - Safefast ELITE isolation box.
  - Microbiological culture oven (37°C and 22°C).
  - Endosafe® nexgen-PTS™.

## Staff

### Dra. M<sup>a</sup> Eugenia Fernández Santos

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FIBHGM staff  
Euraxess: R3

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### Virginia Plasencia Martín

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## Documentation

Quality guarantee system, GMP formal guidelines with certification from the AEMPS. Last valid certificate no. ES/0371/21, last audit 23-25 November 2023.

## Contact

### M<sup>a</sup> Eugenia Fernández Santos

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## FLOW CYTOMETRY AND CELL SORTER UNIT

### Mission

The Flow Cytometry and Sorter Unit is a Research Support Service (RRS) of the IISGM. The Unit's mission is to provide flow cytometry support to researchers, both from the IISGM and external or private companies. The Unit offers scientific-technical support to researchers ranging from experimental design advice, data interpretation, to the use of computer software for multiparametric analysis. This will allow the discovery, identification and tracking of cell markers, also facilitating the separation of different identified cell populations.

### Description

Flow cytometry is an analytical/quantitative technique by which multiple characteristics can be measured in cells or particles of interest contained in a fluid, through marking with antibodies or fluorescent probes. The interaction with a laser will result in a scattering of light and fluorescence that will translate into obtaining detailed information on the structural and functional characteristics of the cells or particles under study. The application of the Cell Separator (Sorter) allows to separate cell populations in sterile conditions according to the characteristics analysed by flow cytometry.

With this technique, multiple applications can be realized at the same time in a reduced sample volume. It is important to emphasize that this technique performs measurements particle by particle, beyond the descriptive population measures. The identification of cellular markers is of application in the investigation, diagnosis, follow-up and treatment of very diverse pathologies, reason why the Flow Cytometry and Cell Separation is a technology implied in the translational investigation.

The Flow Cytometry Unit has been certified since 2016 according to the guidelines of the Quality Management System (ISO 9001:2008) and since 2019 meets the requirements of the updating of the standard (ISO 9001:2015).

### Services provided

#### *Flow cytometry analyser*

- Phenotyping different lymphocyte markers on surface or intracellular.
- Analysis of cell viability through propidium iodide, annexin V or 7-AAD marking.
- Cell cycle analysis by propidium iodide.
- Transfection efficiency analysis.
- Quantification of cytokines soluble in plasma, serum, or culture supernatants through a multiplex assay (up to 11 cytokines in 25ul sample).
- Intracellular cytokine analysis.
- Analysis of intracellular calcium movement by Fluo-4 marking.
- Analysis of apoptosis activation through several markers. Ex: Caspasa-3.
- Analysis of DNA fragmentation by TUNEL technique.
- Detection of microparticles and exosomes in the supernatant of cultures, plasma, serums.

#### *Cell separator by flow cytometry*

- Cloning.
- Separation of cell populations of interest.
- Separation of living cells for cell culture.
- Separation of fixed cells for later genetic analysis.

#### *Support to the researcher*

- Advice and optimization of study protocols or design of experiments.
- On-demand training and study of researchers' needs.
- Personalised advice on experimental approach, fluorochromes, markers available.
- Standardized procedures for the best possible processing of samples.
- Analysis by means of various computer applications.



### Technology

- FLOW CITOMETER 13 COLOURS, 15 parameters. Cytoflex S Model (Beckman Coulter):
  - The CytoFLEX S model configured with three lasers (out of six options (488 nm, 638 nm, 405 nm, 561 nm, 808 nm, 375 nm). The different configurations support from four up to 13 colours.
  - Program mixing and backflush duration for each well within Plate Loader mode
  - The CytoFLEX Flow Cytometer has the resolution to detect particles smaller than 200 nm using violet side scatter.
  - Fluorescence and side scatter light delivered by fiber optics to Avalanche Photo Diode detector arrays. Proprietary design ensures high performance, high efficiency, low-noise signal detection. Emission profiles are collected using reflective optics and single transmission band pass filters.
  - Fixed Flow Rates: 10, 30 and 60  $\mu\text{L}/\text{min}$
  - Custom Flow Rate Control mode from 10 to 240  $\mu\text{L}/\text{min}$  in 1  $\mu\text{L}$  increments.
  - Maximum acquisition rate: 30,000 events per second.
  - Software capability to modify window extension parameter and to control abort rate during high event rate signal processing.
- 14 COLOUR FLOW CITOMETER, 16 PARAMETERS. Model MAQS-quant 16 (Miltenyi Biotec):
  - Detection of 14 colours, 16 parameters. Three lasers: blue-488nm (6 detectors), red-640nm (3 detectors) and violet-405nm (5 detectors).
  - Possibility of selecting the FSC with the violet laser to increase the resolution against small particles.
  - Sample acquisition in several containers: tubes, eppendorf and 96-well plates (possibility of refrigeration).
  - Acquisition of small volumes.
- FLOW CITOMETER 10 COLOURS, 12 parameters. Gallios Model (Beckman Coulter):
  - Detection of 10 colours, 12 parameters. Three lasers (blue-488 nm, red-638 nm and violet-405 nm), controlled from the computer, with ignition system and quick stabilization.
  - State-of-the-art photomultiplier tubes, with high sensitivity for the red range and excellent linearity throughout the range.
  - Possibility of analysis of rare events due to the high speed of acquisition as well as the possibility of volume of acquired sample.
- FLOW CITOMETER SEPARATOR model MoFlo Astrios, (Beckman-Coulter)
  - Integration in type II biological safety cabin.
  - Aerosol evacuation and sample agitation system.
  - Controlled temperature of the sample (cooling or heating).
  - Possibility of up to 6 solid state lasers (640 nm, 592 nm, 561 nm, 532 nm, 488 nm, 405 nm) and 7 pinholes. It currently has 2 lasers (488 nm and 640 nm).
  - Depending on the application, the acquisition speed can be up to 100,000cel/sec; self-recognition by photomultipliers (PMT) and PODs that allows different configurations depending on the target.
  - Various collection systems: multiwell plates, propylene tubes, etc.
- FLUORESCENCE MICROSCOPE model Eclipse 50i with Nikon CFI60 optical system.

### Facility

The Flow Cytometry and Cell Sorter RSU is located in the Experimental Medicine and Surgery Unit. The room has its own electricity supply, air conditioning, and temperature regulation and fulfils the necessary quality requirements for the services provided.

### Staff

Laura Díaz Muñoz, Head of Unit and Head Technician



CELL PLATFORM  
FLOW CYTOMETRY AND CELL SORTER UNIT**Contact****Laura Díaz Muñoz**

Head Technician

Tel: 91 426 92 58

E-mail: [laura.diaz@iisgm.com](mailto:laura.diaz@iisgm.com)*Experimental Medicine and Surgery Unit (prefabricated building). Floor***FLUORESCENCE MICROSCOPE model Eclipse 50i with Nikon CFI60 optical system.**





## CELL CULTURE UNIT

### Mission

The cell culture facility is a research support service aimed at providing scientific, technical, and instrumental support in activities related to cell culture to the center's research groups and other public and private institutions.

The development of in vitro cell cultures is an essential tool for the study of the molecular and cellular mechanisms that occur in any biological process.

Cell cultures consist of the growth and maintenance in vitro of cells from normal or tumour organs or tissues. For this, it's essential to preserve the metabolic functions that cells have in vivo using culture media of defined chemical composition and controlled conditions of temperature, pH, CO<sub>2</sub> concentration and humidity.

### Description

The Cell Culture facility is an essential base for the implementation and development of research projects that use cell cultures as an experimental tool in the field of Biomedical Research.

The facility integrates infrastructures, laboratories, equipment, and highly qualified personnel, with the aim of providing advice and scientific-technical support to the users of the Unit.

It's made up of the Cell Culture Laboratory (BSL-2), the Microbiology Laboratory (BSL-2) and the cryogenic facility.

The Cell Culture Unit has been certified since 2016 according to the guidelines of the Quality Management System (ISO 9001:2008) and since 2019 meets the requirements of the updating of the standard (ISO 9001:2015).

### Services provided

- Management of the facility and maintenance of documentation.
- Control of users' access (record of authorized users).
- Preparation, supervision, and maintenance of the mandatory documentation, with special attention to waste management and biosafety.

- Scientific and technical advice to the users who require.
- Elaboration and updating of work protocols, cleaning/ sanitization programs and the guidelines for working in cell culture laboratories.
- Supervision of the fulfillment of work and cleaning standards.
- Training for users of the facility and dissemination of topics of interest.
- Mycoplasma screening.
- Cell thawing.
- Implementation and continuous improvement of the Laboratory Quality Management system according to ISO 9001:2015.

### Facility

The Cell Culture Facility is placed on the first floor of the Experimental Medicine and Surgery Pavilion of the IISGM. It has 50 m<sup>2</sup> distributed in three rooms equipped with all the necessary equipment for performance experimental procedures with cell culture such as isolation, subculturing and maintenance.

The facility meets all biosecurity requirements to ensure the quality of services offered.

### Technology

#### *Cell culture laboratory*

- 4 Class II Biological Safety cabinet (BSC); Bio II Advance, Telstar.
- 1 Class II BSC; BiOptima Cyto, Telstar.
- 2 Water jacket CO<sub>2</sub> Incubators with temperature control; Model 3100 Series, Forma Series II water jacket CO<sub>2</sub> Incubator, Thermo Scientific.
- 1 aspiration station; Vacusafe Confort Eco Brand, Bioscience.
- 1 Thermostatic bath; IsoTemp FisherBrand analogue (10 litres), Fisherbrand.
- 1 Sorvall ST40R series refrigerated centrifuge, Thermo Scientific.



### CELL PLATFORM CELL CULTURE UNIT

- 1 centrifuge Sorvall ST16 series, Thermo Scientific.
- 1 refrigerated mini-flute Sorvall legend 21R, Thermo Scientific.
- 3 devices to freeze the cells at Coolcell® LX viability.

#### *Microbiology laboratory*

- 1 Class II BSC; Gelaire BSB-3.
- 1 Class II BSC; Bio II Advance, Telstar.
- 3 bacteriological stoves; 2 of Haraeus brand and 1 Selecta Incudigit.
- 1 centrifuge; Model: Digitor 21, Orthoaresa.
- 1 CO<sub>2</sub> Incubators with temperature control; INCO<sub>2</sub> 153, Memmert.

#### *Cryogenic plant*

- 1 "Taylor Wharton" Liquid Nitrogen Container LS 4800, Liquid Nitrogen Capacity: 130 liters.
- 1 nitrogen extractor system (50 L).

#### **Staff**

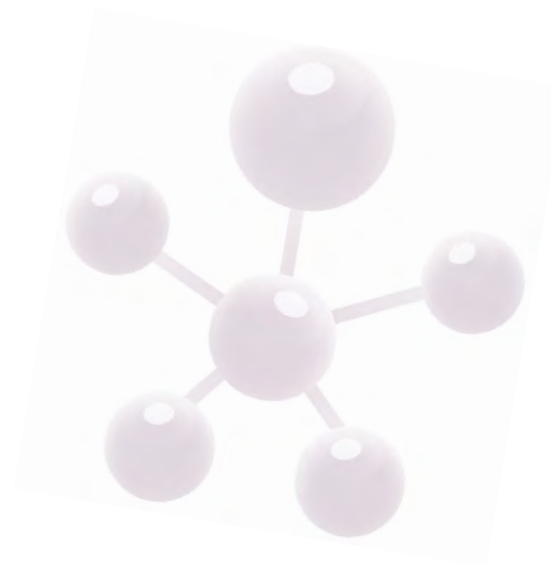
Responsible of cell culture facility: Maribel Clemente Mayoral, PhD.

#### **Contact**

**Maribel Clemente Mayoral, PhD**

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Tel.: (+34) 91 426 92 06





## CONFOCAL MICROSCOPY

### Mission

The Confocal Microscopy Unit is a research support service that assists researchers who require confocal fluorescence microscopy or video microscopy.

### Description

The unit has a confocal microscope and a digital camera at its disposal. This makes it possible to acquire fluorescence images of fixed and live samples. The confocal microscope takes optical sections of a fluorescence-labeled sample without the need to invade it, thus providing information on the expression and location of molecules both in 3D (xyz) and in 4D (3D+time).

The most commonly used applications are as follows: 3D reconstruction of subcellular structures, cells, or tissues; marker colocalization studies; quantification of parameters of interest (eg, intensity of fluorescence, area, morphology, cell density, etc).

The Confocal Microscopy Unit has its own financed lines of research focusing on the design and development of experimental approaches, image processing, and data analysis. In recent years, the unit has specialized in in vivo cell phenotyping using either paraffin or crio-preserved tissue sections. This service is aimed at research groups from the Institute and from other institutions that request it. Thus, the unit has contributed in different ways to 76 research articles (8 of them as self-research) and over 80 Doctoral Thesis or Masters, in the last 10 years.

### Services provided

- Spectral confocal microscopy of samples: cells, tissues, and organs.
- Video microscopy (time-lapse) of live samples in a CO<sub>2</sub> –and temperature-controlled environment using a digital camera.

Rates can be obtained from [www.iisgm.com](http://www.iisgm.com) (Research Support Services).

## Technology

### 1. SPECTRAL CONFOCAL FLUORESCENCE-INVERTED MICROSCOPE (LEICA-SPE, INSTALLED IN 2015)

#### *Spectral confocal model*

- AOTF.
- Internal fluorescence detector (PMT) and detector for clear fields.
- Digitalization of images: 2048 x 2048 pixels, 8 and 12 bits per channel.
- Sweep rate of 400, 600, and 800 Hz (bidirectional optional); K-scanner.

*Laser module:* 4 solid-state lasers: 405, 488, 561, and 635 nm.

#### *Inverted motorized microscope (DMi8)*

- APO chromatic lenses:
  - ACS APO 10x/numerical aperture of 0.30 (dry).
  - ACS APO 20x/0.60 for immersion in water, glycerol, and oil; corrected for 405 nm.
  - ACS APO 40x/1.30 oil immersion.
  - ACS APO 63x/1.30 oil immersion.

Illumination with EL6000 (halide lamp) and white LED for transmitted light Galvanometric stage.

Four fluorescence filter blocks: DAPI, FITC, Rhodamine, and Cy5.

Environmental monitoring (temperature and CO<sub>2</sub>) for experiments with cells and live tissue.

#### *Computer equipment*

Computer running Windows 7 Software: LAS-X with quantification tools and an additional LAS-AF 3D model (reconstructions, projections, and 3D rendering).

### 2. DIGITAL CAMERA

sCMOS Orca Flash 4.0 LT coupled to the DMi8 microscope.



### Facility

The Confocal Microscopy Unit is located in the Experimental Medicine and Surgery Unit. It covers 19.2 m<sup>2</sup> and has its own electricity supply and air conditioning to fulfil the necessary quality requirements for the services provided.

### Contact

Head of Unit: **Rafa Samaniego**

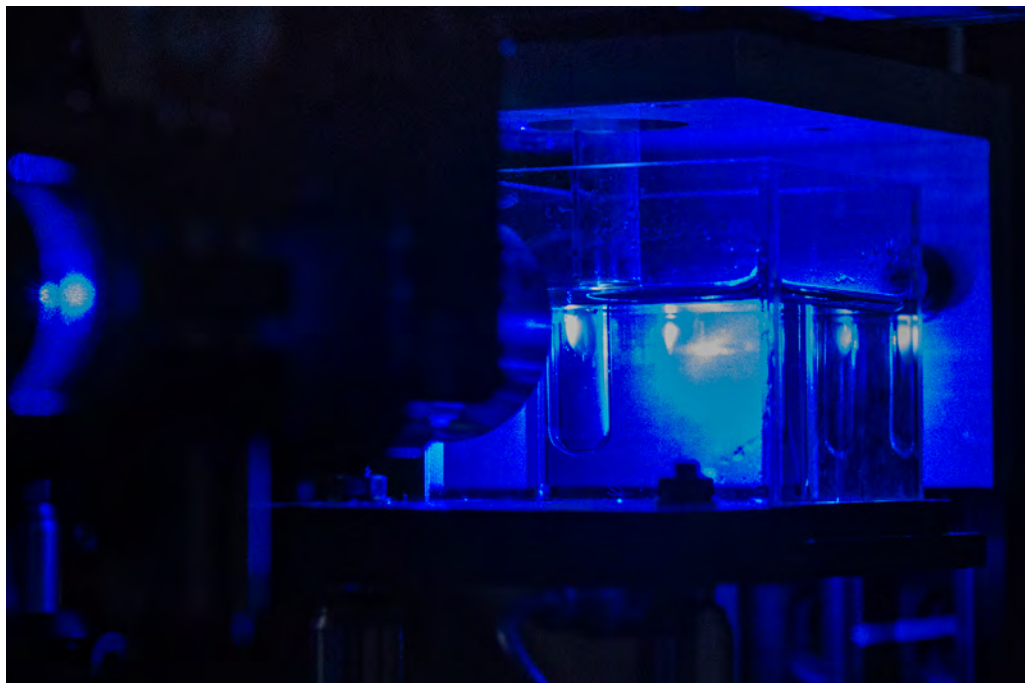
Tel. 91 426 92 56 (office)

E-mail: [confocal@hggm.es](mailto:confocal@hggm.es)

Pabellón de Medicina y Cirugía Experimental (first floor)

Hospital General Universitario Gregorio Marañón

c/ Doctor Esquerdo, 46; Madrid 28007





## PATHOLOGICAL ANATOMY

### Mission

The Anatomic Pathology Service is a central facility of the HGUGM. In its archives there is tissue material from studies of biopsies, surgical resections and autopsies since 1987 and also material from cytological studies (PAAF and other types of samples) since 2000. In the context of Personalized Medicine and therapeutic targets, tissue and cytological material it has become an important source that allows immunohistochemical studies to identify the location and expression of proteins and also to extract nucleic acids (DNA and RNA) for the analysis of predictive and prognostic factors in different pathologies, especially cancer. In addition, the Pathological Anatomy service has an information management program (LIS), in which patient reports have been collected since 1997. On this basis, the Pathological Anatomy Service faces the mission of providing scientific and technical support to research groups inside and outside the Gregorio Marañón Health Research Institute (IiSGM) in the area of conventional histological, immunohistochemical and genetic studies. molecular.

### Description of the facilities

The Anatomic Pathology service occupies a separate building, which shared with Immunology and Occupational Health, which is accessed from Doctor Castelo street. Distributed over four floors and a basement where the sample archive is located, the service has suitable material for:

- Perform automated inclusion of tissue material from experimental studies (creation of paraffin blocks).
- Section and staining with hematoxylin-eosin of the blocks made or those provided by the researchers in an automated way.
- Automated performance of different histochemical techniques (PAS, alcian blue, Masson's trichrome, reticulin, Warthin-Starry, methenamine silver, Grocott, colloidal iron, Congo red, elastic).
- Inclusion, sectioning and interpretation of transmission electron microscopy (EM) studies.

- Automated sectioning and staining of immunohistochemical techniques (both with the own catalog and with the antibodies provided by the researchers).
- Tissue block DNA extraction.
- Tissue block RNA extraction.
- Molecular studies to determine RAS, RAF, EGFR and IMS mutations, genomic fusions, methylation in urothelial lesions and HPV determination.

### Services offered

- *Case selection*: locating cases that meet the criteria required for a study.
- *Case transfer management*: selection of the most appropriate and representative blocks for the proposed study.
- *Paraffin embedding*: automated inclusion in paraffin block of material provided by the researchers.
- *Histologic section*: making sections in paraffin for conventional studies (H&E and histochemistry).
- *HE stain*: automated staining with H-E.
- *Histochemical staining*: automated staining with histochemical techniques according to catalog.
- *Histological cutting IHC*: making paraffin sections on treated slides for IHC studies.
- *Histological sections 10 mm*: histological sections in Eppendorf for molecular studies.
- *HE staining*: automated H-E staining of sections made or provided by investigators.
- *Histochemical staining*: automated staining with the chosen histochemical technique of the sections made or provided by the investigators.
- *IHQ staining*: automated staining with the chosen IHC technique of the sections made or provided by the researchers.
- *IHC interpretation*: reading by a pathologist of the results of the IHC performed EM.



- *Embedding and cut*: inclusion and cutting of material for EM studies.
- *EM interpretation*: interpretation and reporting of ME results.
- *Block RNA extraction*: extraction of RNA from tissue or cytological block.
- *Block DNA extraction*: extraction of DNA from tissue or cytological block.
- *Single gene mutation studies*: (RAS, RAF, EGFR).
- *Microsatellite instability*: (IHC, Molecular Biology).
- *Genomic fusions*: (Molecular biology).
- *Methylation in urothelial lesions*: (Molecular biology).
- *HPV determination*: (Molecular Biology, fluids and paraffin).

### Technology

The service has sample inclusion systems and microtomes for tissue cutting, as well as centrifuges and other precise devices for cytological studies. In addition, it is endowed by competition with all the automated systems that allow the described techniques to be carried out. At this time and pending the next tender, the equipment for conventional staining, histochemistry and IHC, is awarded to Agilent and the molecular techniques are carried out through VitroPath and Idylla (Biocartis).

### Application procedure for a particular service

The form will be used Order Form IM-SPE-06OIM-SPE-07 of the IISGM.

The Order Sheet consists of 5 parts:

1. UPS Identification
2. Applicant Identification\*
3. Data of the required service and budget\*\*
4. Observations: Indicate if it is self-invoice or not\*\*\*
5. Signatures

### Contact

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#### Mrs. Sagrario Pérez Cuenca and Mr. Juan Carlos Ruiz Tello

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\*Identification of the applicant, in the case in which the researcher to allocate the charge for the service is a new user, he must complete and attach the signed billing data form with the first order sheet.

\*\*Data of the services provided: Selection of cases. Number; Management of the transfer of samples. Number; Paraffin embedding; Conventional histological section. Number; Histological section on treated slides (IHC). Number; Paraffin section in Eppendorf. Number; HE staining; Histochemical staining; IHC staining; Interpretation of IHC result; Embedding and cutting electron microscopy; Interpretation of ME results; AND extraction; RNA extraction; Single gene mutation studies (RAS, RAF, EGFR); Microsatellite instability (IHC, Molecular Biology); Genomic fusions (Molecular Biology); Methylation in urothelial lesions (Molecular Biology); HPV determination (Molecular Biology, fluids and paraffin).

\*\*\*In case of having to justify in public projects, the procedure will be applied PNT Autofacturación PR-SPE-06 of the IISGM.

**IMPORTANT:** the expense must have been approved by the financing agency, either because it was contemplated in the budget of the initial application (ideal situation), or because the expense was subsequently approved after a formal written request

The procedure to follow is the following: - Request for the study to be carried out. - Approach of a schedule to carry it out according to difficulty or volume of samples





CELL PLATFORM  
PATHOLOGICAL ANATOMY

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### **Dr. Francisco Javier Díaz Crespo**

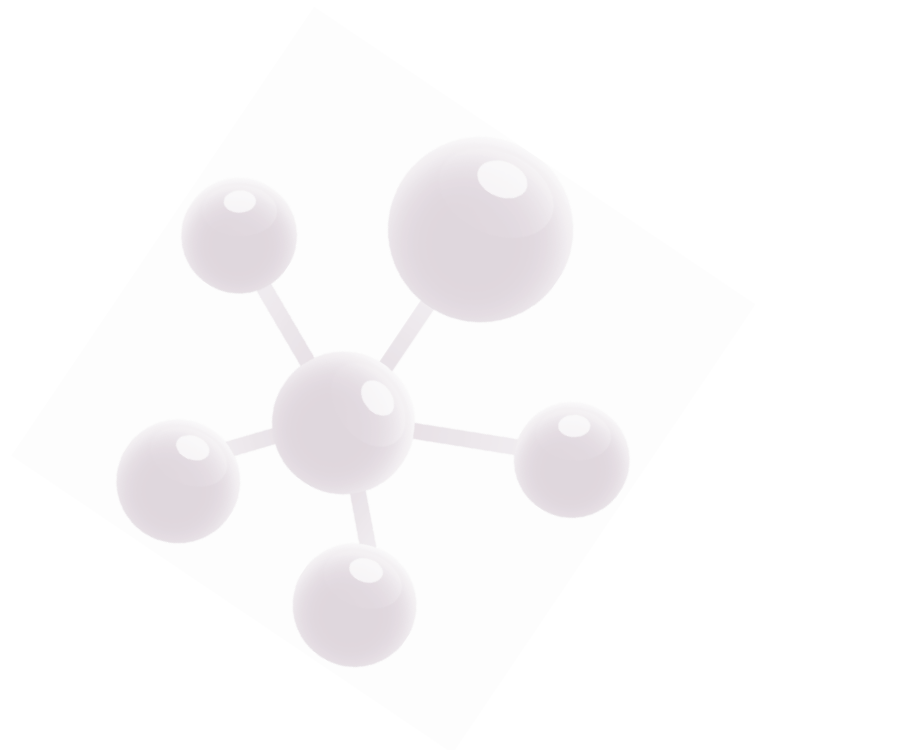
Consultant in Anatomic Pathology  
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### **Rocío López Vacas**

Coordinator of AP technicians  
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### **José Manuel Lara Martínez**

TEAP  
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Tel: 91 586 81 63





## GENOMICS UNIT

### Mission

To provide support to research studies based on the study of the genome and or expression products with the aim of contributing to diagnosis, risk assessment, follow-up, prevention, and therapy in genetic diseases.

### Description

The Genomics Unit is a Research Support Unit (RSU) that performs sequencing of DNA from PCR products, measurement of fluorescence-labeled fragments, analysis of copy number variations, preparation of libraries, massive sequencing of gene panels, primer design, and design of gene panels for massive sequencing.

Similarly, it provides methodological support for sample preparation, depending on the application of interest, and personalized assessment in the preparation of projects.

The Genomics Unit also provides on-site services as part of the hospital medical services. The service is aimed at all Institute research services and research centers, companies, and other institutions that request it.

### Services provided

#### *Sample quantification*

Fluorescence and spectrophotometric-based quantification of nucleic acid samples.

#### *Analysis of DNA by capillary electrophoresis*

1. **Sanger sequencing** of DNA from purified PCR products and DNA cloned in vectors using capillary electrophoresis and BigDye Terminator v3.1 chemistry. Resolution of up to 600 bp. All samples are purified in order to avoid background noise and the remaining terminators. The primers used for the sequencing reaction are specific to the region to be studied.

2. Analysis of the **size** and **quantity** of fluorescence-labeled DNA fragments using an in-house or commercial kit and analysis of fragments of a single nucleotide polymorphism (SNP) using capillary electrophoresis. Software: GeneMapper. Filters: D, F, E5, G5. Size: Up to 500, 600, and 1200 bp.
3. **Multiplex ligation probe amplification (MLPA)**. Ligation-binding reaction using probes with the homologous area of interest and subsequent amplification by PCR to study copy number variations (CNVs). Fragment analysis by capillary electrophoresis.
4. **Methylation status-Multiplex ligation probe amplification (MS-MLPA)**. Ligation-binding reaction using probes with the homologous area of interest and subsequent amplification by PCR for the study of the methylation status of certain genomic regions. Fragment analysis by capillary electrophoresis.

#### *Analysis of DNA by massive sequencing*

Sequencing by synthesis. Platforms: MiSeq, NextSeq and NovaSeq (Illumina).

#### *Researcher support*

1. **Design of primers:** Advice on the design of primers and probes for PCR studies.
2. **Design of gene panels** for massive sequencing analysis: Design of gene panels for the study of one or more genotypes.
3. **Personalized assessment** of the experimental approach.
4. **Analysis of researcher's needs.**

### Facilities

The Genomics Unit is situated on the first floor of the HGUGM Maternity Hospital. It occupies 85 m<sup>2</sup> and has a high-capacity filing and data processing computer system.



# MOLECULAR PLATFORM GENOMICS UNIT

## Technology

For sequencing studies, the Unit has 6 high-end systems for clinical practice and research studies, which were acquired by IISGM: four massive sequencers (MiSeq, NextSeq(x2), Novaseq (Illumina)) and two genetic analyzer (ABI 3130xl- 16 capillary tubes- and ABI3730xl -96 capillary- Applied Biosystem). The Genomics Unit also has 4 conventional thermocyclers with a 96-well block (Veriti, Two SimplyAmp, and Touch ThermoCycler C1000), a Qubit fluorimeter (Invitrogen, Thermo Fisher Scientific), refrigerated plate centrifuge, refrigerated Eppendorf centrifuge, Eppendorf Thermal shaker (Thermomixer C), speed-vac concentrator Savant DNA 120 (Thermo Fisher Scientific), fragment size analyser LabChip (Perkim-Elmer), vortex, mini-spin and ice machine

## Staff

**Ismael Buño:** Scientific Head.

**Julia Suárez González:** Technical Head.

**Ainhoa Simón Zárate:** Laboratory technician.

**Marta Sánchez Carrillo:** Laboratory technician.

## Contact

**Dra. Julia Suárez González**

Technical Head

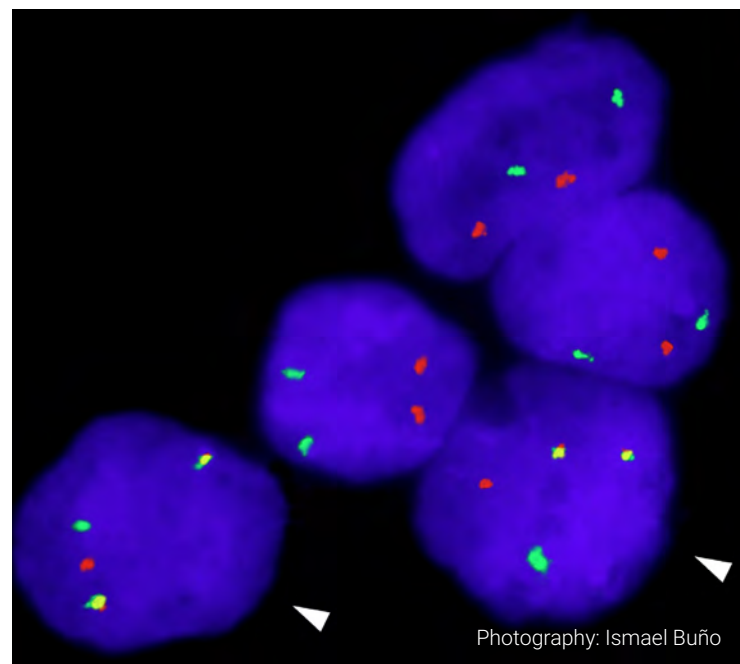
Instituto de Investigación Sanitaria Gregorio Marañón

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Photography: Ismael Buño



## PROTEOMICS UNIT

### Mission

The principal objective of the Proteomics Unit is to promote scientific research and technological development in the field of proteomics by offering research groups, hospitals, and companies a range of proteomics services, advice on projects, and training courses and seminars.

### Description

The Proteomics Unit provides services other than identification of specific proteins. The techniques offered enable large-scale identification of the proteins that make up the proteome and the option of quantitative proteomics studies for comparison of the relative abundance of proteins in various samples. It is also possible to perform studies of protein-protein interactions and studies of post-translational modifications such as phosphorylation.

In addition, the unit provides targeted proteomics services that make it possible to identify and validate biomarkers in biological and clinical samples.

### Services provided

#### Mass spectrometry

- Determination of protein molecular mass.
- 2D electrophoresis (2D-PAGE).
- Reporative liquid phase isoelectric focusing.
- Protein complex separation (Blue-Native).
- Immunoproteomic analysis.

#### Peptide separation

- Reverse phase chromatography.
- Isotope labeling, SILAC metabolic labeling.
- Label-free quantitative proteomics (label free).

#### Study of post-translational modifications

- Phosphoproteomics.
- Other modifications: acetylation, ubiquitination...

#### Targeted proteomics studies

- MRM analysis.

#### Other

- Transfer to PVDF membranes.
- Mass spectrometry.
- Ionic exchange chromatography.
- Preparative liquid phase isoelectric focusing.

#### Differential expression study

- Gel-based quantitative proteomics: DIGE fluorochrome labeling.
- Gel-free quantitative proteomics: iTRAQ.
- Identification of proteins using peptide fingerprinting (MS).
- Identification of proteins using peptide fragmentation (MS/MS).
- Peptide sequencing.

#### Liquid chromatography-mass spectrometry

- Analysis of highly complex samples.

#### Subproteome analysis

- Analysis of cell surface proteins (surform).

#### Protein separation

- Monodimensional electrophoresis, SDS-PAGE.

### Facilities

The proteomics unit is part of the Centro de Asistencia a la Investigación (CAI) de Genómica y Proteómica (Center for Aid to Research in Genomics and Proteomics) of Universidad Complutense de Madrid. It is located at the Faculty of Pharmacy, Universidad



Complutense de Madrid (UCM) and belongs to the network of Laboratories of the Autonomous Community of Madrid (LAB.185).

### Technology

- Q-exactive HF mass spectrometer (Thermo Finnigan).
- QTRAP 5500 mass spectrometer (AB SCIEX).
- 4800 Proteomics Analyzer mass spectrometer with TOF/TOF (AB SCIEX).
- LTQ Segmented linear ion trap mass spectrometer (Thermo Finnigan).
- Capillary liquid nano-chromatography system ETTAN LC (GE).
- Typhoon 9400 fluorescences scanner (GE).
- EttanTM system for 2D electrophoresis (GE).
- Liquid isoelectric focus fractionator, OFFGEL (Agilent).

### Staff

Professor of Microbiology, Universidad Complutense de Madrid.  
Researcher, Department of Microbiology, and Scientific Director of the Proteomics Unit, UCM-Parque Científico, Madrid.

Vice-President, Spanish Proteomics Society.

Technical staff:

- **María Luisa Hernández Sánchez.** Graduate in Pharmacy, Universidad Complutense de Madrid, Master's in Biotechnology, Universidad Complutense de Madrid, and Technical Director, Proteomics Unit.
- **Lola Gutiérrez Blázquez.** Graduate in Biological Sciences, Universidad Complutense de Madrid, Master's in Biotechnology, Universidad Complutense de Madrid.

- **Felipe Clemente Velarde.** Doctor of Biochemistry, Universidad Autónoma de Madrid.
- **Inés Zapico.** Graduate in Chemical Sciences, Universidad de Oviedo.
- **Enrique Pérez.** Master of Bioinformatics, Universidad de Murcia.

### Unit documentation

The unit has all the procedures, technical instructions, and registers in line with ISO UNE-EN ISO 9001:2008, awarded in 2010.

### Contact

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Scientific Director

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#### María Luisa Hernández Sánchez

Tecnitian Head

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Proteomics Unit

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## BIOINFORMATICS UNIT

### Mission

The mission of the Bioinformatics Research Support Service (SAI) is to support the analysis of data from research studies based on the study of genome and/or expression products through high-throughput and multiplexed platforms, to contribute to the diagnosis, risk assessment, monitoring, prevention and targeted therapy of genetically based diseases.

### Description

The Bioinformatics SAI of the Instituto de Investigación Sanitaria Gregorio Marañón (IiSGM) provides experimental design services and bioinformatics analysis of data from genomic studies to researchers of the institution and external academic and commercial entities.

The Bioinformatics SAI was constituted in 2017 and started its operation in January 2018, achieving ISO 9001:2015 certification for the PR-BNF procedure in May of that year. At present, the Bioinformatics SAI works in collaboration with other IiSGM research units, providing advice on experimental planning and design, along with subsequent data analysis in funded projects. Moreover, the IiSGM, through the Bioinformatics SAI, has been part of the Translational Bioinformatics Network (TransBioNet) since its constitution in 2018.

The members of the Bioinformatics SAI have specialized training in Translational Medicine, which is reflected in their focus on experimental designs in which the search for biomarkers from Next Generation Sequencing (NGS) studies associated with survival and response to treatment have relevance, together with the predictive models generated. In addition, they have participated in initiatives to evaluate new laboratory platforms by means of correlation and concordance analyses in which they evaluate the suitability of new platforms when compared with those in common use in the facilities of the Hospital General Universitario Gregorio Marañón (HGUGM).

The Bioinformatics SAI has a strong translational character with the aim of providing services to the IiSGM Units and the HGUGM so that they can carry out their healthcare tasks.

In addition, the Bioinformatics SAI actively contributes to the guidelines relating to the framework for the development and implementation of the activities defined by the Centro Madrileño de Análisis Genómico (CMAG). On the other hand, it participates in the actions developed within the framework of the current precision medicine infrastructure project associated with science and technology (IMPACT-Data).

### Services

#### *High Throughput and Omics*

- Data pre-processing.
- Microarray analysis (volume-dependent pricing).
- Variant analysis (volume-dependent pricing).
- RNA-Seq (volume-dependent prices).
- NanoString (volume dependent pricing).
- Other NGS.

#### *Methodology and data analysis*

- Study design, sample size and defining variables.
- Differential expression analysis.
- Descriptive analysis and/or correlation between variables.
- Functional analysis (e. g., pathways).
- Integrative data analysis -omics.
- Other statistical and bioinformatics analyses.

#### *Scientific communications*

- Generation of tables and graphs
- Methods/Results Writing
- Review of published analyses
- Responses to reviewers





### *Bioinformatics tool development/maintenance*

- Database design.
- Installation and maintenance of bioinformatics applications.

### *Training*

- IiSGM courses (non SAI organization, consult IiSGM training).
- Customized courses.

### **Facility**

The main core of the Bioinformatics Unit is located on the first floor of the Experimental Medicine and Surgery Building of the Hospital General Universitario Gregorio Marañón. The HPC server and NAS were installed in the Hospital's Data Processing Center. The most resource-demanding analyses, such as NGS tasks or advanced statistical modelling, are performed there.

#### *Server 01*

- Model: HP PROLIANT DL380 G9.
- CPU: 2 Intel Xeon processors E5-2690 v3.
- Memory: 224 GB RAM.
- Operating System: Proxmox Hypervisor, based on GNU/Linux Debian.
- Multiple virtual machines are run on demand by the various research groups of the IiSGM that may need these services on an ad hoc basis.
- Some infrastructure instances deployed in virtual machines or LXC containers.

#### *Nas01*

- Model: QNAP TS-EC2480U R2
- Disk: 144TB of raw storage before being configured in RAID6.

- CPU: Intel Xeon E3-1246 v3 processor.
- Memory: 32GB RAM.
- Connected to servers via 10Gb/s fiber optic link.

#### *Nas02*

- Model: QNAP TS-832PXU-RP.
- Disk: 60TB raw storage before being configured in RAID6.
- CPU: Intel Xeon E3-1246 v3 processor.
- Memory: 4GB RAM.
- Connected to servers via 10Gb/s fiber optic link.

#### *Workstation01*

- Model: DELL Precision 5820 Workstation.
- CPU: Dual Intel Xeon processor W2133.
- Memory: 32GB RAM.
- Disk: 4TB storage.
- The Bioinformatics Unit uses it as a local computing machine.

#### *Workstation02*

- Model: DELL Precision 5820 Workstation.
- CPU: Intel Core i9-10900X Processor.
- Memory: 128GB RAM.
- Disk: 24TB storage.
- The Bioinformatics Unit uses it as a local computing machine.

### **Technology**

All bioinformatics analyses and data storage are carried out on the mentioned infrastructures and equipment, under GNU/Linux operating system or FreeBSD derivatives.

The main work of the Bioinformatics SAI is the development and implementation of analysis pipelines intended for use on data from



NGS platforms. At all times the aim is to standardize and facilitate the maintenance of the use of these pipelines using the Git version controller, the use of containers based on Docker or Singularity and the use of Nextflow as a framework when developing analysis pipelines.

The analysis pipelines are developed from the Bioinformatics SAI itself when it is essential or are implemented with the necessary modifications from the pipelines available in the nf-core community.

### Staff

#### Antonio Clemente Picornell Company

Position: Head of SAI

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Telephone: (+34) 915 290 724

#### Perceval Velloso González

Position: Bioinformatics technician

Email: perceval.vellosillo@iisgm.com

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### Unit Documentation Guide

The Bioinformatics SAI centralizes its documentation and procedures in the wiki located at <http://wiki.bioinfo.lan>.

### Contact

Physical location: Experimental Medicine and Surgery Building.  
First floor. Office 17.

Email: [sai.bioinformatica@iisgm.com](mailto:sai.bioinformatica@iisgm.com)

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## Innovation, knowledge transfer and translation to practice

### INNOVATION SUPPORT UNIT 2023

#### Intellectual Property KPIs

liSGM activity in innovation during 2023 is summarized in the following:

- Copyright (computer software, database, scientific publications, etc.):
  - 7 copyright applications filed in 2023.
  - 6 copyright registered in 2023.
  - Portfolio of 55 copyrights at 31st December 2023.
- Patents (it includes utility models):
  - 6 patents applications.
  - 5 patents granted.
  - Portfolio of 79 patents (53 granted and 26 applications) at 31st December 2023.
  - 45 patents licensed (30 granted y 15 applications) at 31st December 2023.

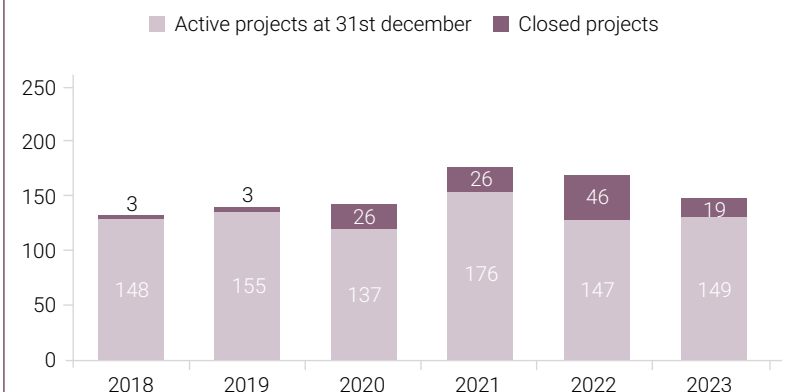
#### Technology Transfer KPIs

- Collaboration agreements:
  - 11 agreements.
- Others research & innovation agreements (assignment of rights, NDA, co-ownership agreement, etc.):
  - 8 agreements.

#### Innovation projects KPIs

During 2023, 22 new innovation projects were supported in the unit. The UAI managed a portfolio of 149 innovation projects at 31st December 2023.

#### Total Number of Projects



#### Phases of active projects





## INDUSTRIAL PROPERTY REGISTRARIONS

| Area | Group                                                                                                                                                      | Title                                                                                                             | Reference of patent family (Priority number) | Owner                                                         | Inventors                                                                                                                                                                            |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Group 1.01 Advanced technological applications and human health                                                                                            | Aparato de tomografía multimodal                                                                                  | P 2005 02612 8 patents                       | FIBHGM - Sociedad Española de Electromedicina y Calidad, S.A. | Juan José Vaquero, Manuel Desco                                                                                                                                                      |
| 1    | Group 1.01 Advanced technological applications and human health                                                                                            | Ciclotrón clásico superconductor compacto                                                                         | P 2013 30626                                 | UC3M - CIEMAT                                                 | Luis García-Tabarés, Concepción Oliver, Fernando Toral, Daniel Gavela, Diego Obradors, Cristina Vázquez, Iván Podadera, Javier Munilla, Jesús Calero, José M. Pérez, Friederich Haug |
| 1    | Group 1.01 Advanced technological applications and human health                                                                                            | Equipo y método de generación de tomografías                                                                      | P 2017 30341 (2 patents)                     | FIBHGM - UC3M                                                 | Manuel Desco, Mónica Abella                                                                                                                                                          |
| 1    | Group 1.01 Advanced technological applications and human health                                                                                            | Light Sheet Microscope and procedure for extended samples                                                         | P 2018 30912                                 | UC3M                                                          | Jorge Ripoll Lorenzo                                                                                                                                                                 |
| 1    | Group 1.01 Advanced technological applications and human health                                                                                            | Mobile 3D imaging system based on light sheet microscopy                                                          | P 2018 30913                                 | UC3M                                                          | Jorge Ripoll Lorenzo                                                                                                                                                                 |
| 1    | 1.01 Advanced technological applications and human health<br>1.06 Biomedical engineering applications<br>6.01 Interdisciplinary oncology and biotechnology | Sistema de planificación para radioterapia intraoperatoria y procedimiento para llevar a cabo dicha planificación | US12/937568                                  | GMV                                                           | Manuel Desco Menéndez, Javier Pascual González-Garzón, Felipe Calvo Manuel, Juan José Vaquero López, Manlio Fabio Valdivieso Cacique, Carlos Guillermo Illana Alejandro              |

| Area | Group                                                                                                                                                | Title                                                                                                                     | Reference of patent family (Priority number) | Owner                                                                | Inventors                                                                                                     |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 1    | Group 1.01 Advanced technological applications and human health<br>Group 7.16B. Pathophysiology of the cardiovascular system and circulatory support | Equipo y simulación para control de hemorragias                                                                           | P 2017 30568                                 | FIBHGM - Medical Simulator                                           | Manuel Desco, Juan Francisco del Cañizo                                                                       |
| 1    | Group 1.01 Advanced technological applications and human health<br>Group 4.01 Clinical microbiology and infectious diseases                          | Compuestos radiactivos basados en proteínas selectivas de bacteriemias para la detección no invasiva de focos infecciosos | P 202030838 (2 patents)                      | FIBHGM - UC3M                                                        | Beatriz Salinas, Manuel Desco, Patricia Muñoz, Emilio Bouza                                                   |
| 1    | 1.01 Advanced technological applications and human health                                                                                            | Tapón antirreflujo                                                                                                        | EP22382591.0 (2 patents)                     | FIBHGM - UC3M - Ownmed - FIISFJD                                     | Manuel Desco, Ana Ye, Jesús García-Foncillas                                                                  |
| 1    | Group 1.02: Signal processing<br>Group 2.01 Natural history of heart disease                                                                         | Sistema y método para la detección automática de patrones electrofisiológicos anómalos                                    | P 2017 31161                                 | FIBHGM - UC3M                                                        | Gonzalo Ricardo Ríos Muñoz, Antonio Artés Rodríguez, Ángel Arenal Maiz, Francisco Jesús Fernández-Avilés Díaz |
| 2    | Group 2.01 Natural history of heart disease                                                                                                          | Catéter y método para la detección de actividad eléctrica en un órgano                                                    | P 2014 31315                                 | FIBHGM- Universidad Politécnica de Valencia- Universidad de Michigan | Andreu Martínez, Felipe Atienza, Miguel Rodrigo, M <sup>a</sup> Salud Guillem, Omer Berenfeld                 |
| 2    | Group 2.01 Natural history of heart disease                                                                                                          | Dispositivo de localización de arritmias cardíacas                                                                        | P 2014 31597 (3 patents)                     | FIBHGM- Universidad Politécnica de Valencia                          | Andreu Martínez, Felipe Atienza, Ángel Arenal, Francisco Fernández-Avilés, M <sup>a</sup> Salud Guillem       |

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| Area | Group                                                                             | Title                                                                                                                                                              | Reference of patent family (Priority number) | Owner                             | Inventors                                                                                                  |
|------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| 2    | Group 2.01 Natural history of heart disease                                       | Mapping and quantifying blood status and thrombus risk in the heart                                                                                                | US 62259494 (3 patents)                      | FIBHGM – University of California | Juan Carlos del Álamo, Andrew Kahn, Lorenzo Rossini, Javier Bermejo, Pablo Martínez- Legazpi, Raquel Yotti |
| 3    | Group 3.03B Neurological diseases                                                 | Control method for a neuroprosthetic device for the reduction of pathological tremors                                                                              | EP20382416.4                                 | FIBHGM - CSIC - ICL               | Francisco Grandas, José Luis Pons, Filipe André Oliveira, Alejandro Pascual Valdunciel, Darío Farina       |
| 4    | Group 4.01 Clinical microbiology and infectious diseases                          | Dispositivo para prevenir la neumonía asociada a ventilación mecánica                                                                                              | U 2014 30814                                 | FIBHGM                            | Juan Francisco del Cañizo, Emilio Bouza, M <sup>a</sup> Jesús Pérez                                        |
| 7    | Group 7.16B. Pathophysiology of the cardiovascular system and circulatory support |                                                                                                                                                                    |                                              |                                   |                                                                                                            |
| 5    | 5.06 Immune regulation and homeostasis in diseases of the immune system           | Procedimiento de obtención de células T reguladoras derivadas de tejido tímico y uso de dichas células como inmunoterapia celular en trastornos del sistema inmune | P201830197 (7 patents)                       | FIBHGM                            | Rafael Correa, Marjorie Pion, Esther Bernaldo de Quirós                                                    |

| Area | Group                                     | Title                                                                                | Reference of patent family (Priority number) | Owner                                                            | Inventors                                                                                                                                                                                                                                                                              |
|------|-------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5    | Group 5.02 Molecular biology of HIV       | Nanopartículas metálicas estabilizadas con dendrones carbosilano y sus usos          | P 2015 00669                                 | Universidad de Alcalá de Henares- FIBHGM                         | Francisco Javier de la Mata, Rafael Gómez, Javier Sánchez-Nieves, Cornelia Peña, José Luis Copa, Juan Soliveri, Jorge Pérez, M <sup>a</sup> Ángeles Muñoz, José Luis Jiménez, Pilar García                                                                                             |
| 5    | Group 5.02 Molecular biology of HIV       | Dendrones carbosilano funcionalizados con ácidos grasos: formación de micelas y usos | P 2016 00726                                 | Universidad de Alcalá de Henares -FIBHGM                         | M <sup>a</sup> Ángeles Muñoz, José Luis Jiménez, Carlos Guerrero, Daniel Sepúlveda, Rafael Ceña, Francisco Javier de la Mata, Rafael Gómez, Javier Sánchez- Nieves, Gabriel Mencía, Jesús Cano, José Luis Copa, Juan Soliveri, Jorge Pérez, Mercedes Valiente, Carlos Emilio Gutiérrez |
| 5    | Group 5.02 Group Molecular biology of HIV | Dendrones carbosilano funcionalizados con ácidos grasos: formación de micelas y usos | P 2016 00726                                 | FIBHGM- Universidad de Alcalá de Henares- Universidad de Navarra | Francisco Javier de la Mata, Rafael Gómez, Eduardo Arnaiz, Sandra García, José Luis Copa, Juan Soliveri, José Manuel Hernández, M <sup>a</sup> Ángeles Muñoz-Fernández, Verónica Briz, M <sup>a</sup> Jesús Serramia, Conchita Tros                                                    |

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| Area | Group                                                                   | Title                                                                         | Reference of patent family (Priority number) | Owner                                     | Inventors                                                                                                                                                                                                                                                             |
|------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5    | Group 5.02<br>Molecular biology of HIV                                  | Dendrimeros carbosilanos con un núcleo polifenólico y su uso como antivirales | P 20103 0450                                 | Universidad de Alcalá de Henares- HGUGM   | Francisco Javier de la Mata, Rafael Gómez, Javier Sánchez- Nieves, Paula Ortega, M <sup>a</sup> Ángeles Muñoz-Fernández, Louis Chonco, M <sup>a</sup> Jesús Serramia                                                                                                  |
| 5    | Group 5.02<br>Molecular biology of HIV                                  | Dendrimeros carbosilanos y su uso como antivirales                            | P 20103 0233                                 | Universidad de Alcalá de Henares - HGUGM  | Francisco Javier de la Mata, Rafael Gómez, M <sup>a</sup> Ángeles Muñoz-Fernández, Javier Sánchez-Nieves, Beatriz Rasines, Louis Chonco, Eduardo Arnaiz, M <sup>a</sup> Jesús Serramia                                                                                |
| 5    | Group 5.02<br>Molecular biology of HIV                                  | Compuestos dendríticos carbosilanos homo y hetero-funcionalizados             | P 2012 31187                                 | Universidad de Alcalá de Henares - FIBHGM | Francisco Javier de la Mata, Rafael Gómez, M <sup>a</sup> Ángeles Muñoz-Fernández, Javier Sánchez-Nieves, José Luis Jiménez, Silvia Fernández, Marta Galán, Raquel Lorente, Elena Fuentes, Javier Sánchez, Cornelia Peña, M <sup>a</sup> Jesús Serramia, Rosa Reguera |
| 5    | 5.06 Immune regulation and homeostasis in diseases of the immune system | CAR-ThyTreg cells, compositions and uses thereof in immunotherapy             | EP23382478. 8                                | FIBHGM                                    | Marjorie Pion, Rafael Correa Rocha, Jorge Gallego Valle                                                                                                                                                                                                               |

| Area | Group                                                                                                                      | Title                                                                                           | Reference of patent family (Priority number) | Owner                                               | Inventors                                                                                                                                                               |
|------|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6    | Group 6.02<br>Translational medical oncology and personalized cancer therapy                                               | Cancer associated venous thromboembolic events                                                  | EP3631016                                    | FIBHGM IIB Sant Pau                                 | Andrés Muñoz, Eduardo Salas, José Manuel Soria                                                                                                                          |
| 7    | Group 7.01<br>Infamación y daño vascular en la enfermedad renal crónica, diálisis y trasplante renal. Fisiopatología renal | Uso de la Cilastatina para reducir la nefrotoxicidad en distintos compuestos                    | PCT/ES 2008 070137 (9 patents)               | FIBHGM                                              | Alberto Tejedor, Alberto Lázaro, Sonia Camaño, Ana María Torres, José Antonio Lázaro, Manuela Castilla, María del Carmen de Lucas                                       |
| 7    | Group 7.01<br>Infamación y daño vascular en la Enfermedad Renal Crónica, Diálisis y Trasplante Renal. Fisiopatología renal | Cilastatin for use in the treatment of sepsis                                                   | EP 16382299.2 (13 patents)                   | FIBHGM                                              | Alberto Tejedor, Alberto Lázaro, Blanca Humanes, M <sup>a</sup> Ángeles González-Nicolás                                                                                |
| 7    | Group 7.01<br>Infamación y daño vascular en la Enfermedad Renal Crónica, Diálisis y Trasplante Renal. Fisiopatología renal | DHP-I inhibitors for use as neuroprotectants and in the treatment of neuroinflammatory diseases | EP23383314.4                                 | Telara Pharma, FIBHGM, UCM                          | Alberto Lázaro, Meritxell López, María Ángeles González-Nicolás, Eva María Marco, Beatriz Martín, Diego San Felipe, Ricardo Llorente, Miguel Ángel Martínez, Sara Rubio |
| 7    | Group 7.02<br>Fisiopatología e historia natural de las enfermedades hepáticas y gastroenterológicas                        | Method for predicting response to beta blockers                                                 | EP 19382971.0                                | FIBHGM, IDIBAPS, CIBIOGUNE, FIBioHRC, UAH, CIBERHED | Rafael Bañares, Jorge Gracia, Juan Manuel Falcón, Agustín Albillos                                                                                                      |

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| Area | Group                                                                                                        | Title                                                                                                                                                                                                                   | Reference of patent family (Priority number) | Owner                                                   | Inventors                                                                                                                 |
|------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 7    | Group 7.04 Diseases of the critically ill child                                                              | Dispositivo, sistema y procedimiento simulador para entrenamiento de profesionales sanitarios en el manejo de pacientes críticamente enfermos que precisen procedimientos de depuración extrarrenal venovenosa continua | P 2013 30340                                 | FIBHGM - Universidad de Santiago de Compostela - SERGAS | Jesús López-Herce, Santiago Mencía, Antonio Rodríguez                                                                     |
| 7    | Group 7.06 Regenerative medicine in plastic surgery                                                          | Matriz artificial de gel de fibrina endotelizada superproductora de factores proangiogénicos                                                                                                                            | P 2005 01182                                 | FIBHGM                                                  | José María Lasso, Paola Nava                                                                                              |
| 7    | 7.07 Experimental kidney transplantation                                                                     | Molde 3D Hemostático                                                                                                                                                                                                    | EP22382407.9                                 | FIBHGM                                                  | David Subirá                                                                                                              |
| 7    | 7.10 Regeneration and biomaterials in musculoskeletal disease<br>7.27 Hospital pharmacy and pharmacogenomics | Implantes personalizados con actividad antimicrobiana para prevenir y tratar infecciones óseas (2 patents)                                                                                                              | P202230220                                   | FIBHGM - UCM                                            | Pablo Sanz, Almudena Ribed, Dolores Remedios, María Paloma Ballesteros, Elena María González, Luciano de León, Iván Yuste |
| 7    | Group 7.16 Regenerative medicine and system development: cardiovascular and osteochondral                    | Dispositivo protector bucal con depresor lingual                                                                                                                                                                        | P 2015 31508                                 | FIBHGM                                                  | Guillermo Juan Rodríguez, Javier Casanova                                                                                 |

| Area | Group                                                                 | Title                                                                | Reference of patent family (Priority number) | Owner    | Inventors                                                                                   |
|------|-----------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------|----------|---------------------------------------------------------------------------------------------|
| 7    | Group 7.31 Pathophysiology in women, pregnancy, labor, and puerperium | Maqueta didáctica armable                                            | U 2015 30218                                 | FIBHGM   | Juan Antonio León                                                                           |
|      | Animal Facility                                                       | Conjunto de retención y anestesia para el acceso venoso de roedores  | U202031736                                   | FIBHGM   | Pedro Rolando Llontop                                                                       |
|      | Animal Facility                                                       | Conjunto de retención y anestesia para el acceso venoso de roedores  | U202230047                                   | F FIBHGM | Pedro Rolando Llontop                                                                       |
|      | 3D Medical Printing Unit                                              | Dispositivo transportador de fenestraciones                          | U202200057                                   | FIBHGM   | Javier Río, Rubén Pérez, José Antonio Calvo, Diego Traperó                                  |
|      | Animal Facility                                                       | Espéculo con iluminación para la intubación endotraqueal de roedores | U202200366                                   | FIBHGM   | Pedro Llontop                                                                               |
|      | Animal Facility                                                       | Mini hisopo para citología vaginal directa en ratones                | U2022331656                                  | FIBHGM   | Pedro Rolando Llontop, Lidia Albadalejo, Alba María Alises, Francisco Sánchez, Alicia Relea |

 Transferred Industrial Property 31/12/2023.

Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trade Mark).



## COPYRIGHT

| Area | Group                                                                                                                                         | Title                                                         | Reference                          | Owner        | Inventors                                                                                                           |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------|
| 1    | Group 1.01<br>Advanced technological applications and human health                                                                            | MANGOOSE                                                      | Nº Asiento Registral: 02/2010/4412 | FIBHGM       | Javier Pascau, Manuel Desco, Mónica Abellá, Alejandro Sisniega, Juan José Vaquero                                   |
| 1    | Group 1.01<br>Advanced technological applications and human health                                                                            | CUSQ: CARDIO US/Quantification                                | Nº Asiento Registral: 16/2010/303  | FIBHGM - UPM | Manuel Desco, María Jesús Ledesma, Andrés de Santos                                                                 |
| 1    | Group 1.01<br>Advanced technological applications and human health                                                                            | FIRST (Fast Iterative Reconstruction Software for Tomography) | Nº Depósito Notarial: 3806         | FIBHGM       | José Manuel Udiás, Joaquín López, Samuel España, Manuel Desco, Juan José Vaquero                                    |
| 1    | Group 1.01<br>Advanced technological applications and human health<br>Group 1.03<br>Computer architecture, communications, and systems: ARCOS | RapTor                                                        | Nº Asiento Registral: 16/2017/7104 | FIBHGM-UC3M  | Manuel Desco, Mónica Abella, Claudia de Molina, Estefanía Serrano, Fco. Javier García, Jesús Carretero              |
| 1    | Group 1.01<br>Advanced technological applications and human health                                                                            | XAP-LAB                                                       | Nº Asiento Registral: 16/2017/7106 | FIBHGM-UC3M  | Manuel Desco, Mónica Abella, Álvaro Martínez, Alba García                                                           |
| 1    | Group 1.01<br>Advanced technological applications and human health                                                                            | FUX-SIM                                                       | Nº Asiento Registral: 16/2017/7105 | FIBHGM-UC3M  | Manuel Desco, Mónica Abella, Inés García, Claudia de Molina, Estefanía Serrano, Fco. Javier García, Jesús Carretero |
| 1    | Group 1.01<br>Advanced technological applications and human health                                                                            | STRAY - Plataforma de simulación para sistemas de radiología  | Nº Asiento Registral: 16/2021/8485 | FIBHGM-UC3M  | Manuel Desco, Mónica Abella, Francisco Javier García Blas, Jesús Carretero                                          |

| Area | Group                                                                                                                       | Title                                                                                                                                | Reference                          | Owner         | Inventors                                                                                        |
|------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------|--------------------------------------------------------------------------------------------------|
| 1    | Group 1.01<br>Advanced technological applications and human health                                                          | REXCT: Algoritmo rápido de reconstrucción de imagen tomográfica                                                                      | Nº Asiento Registral: 16/2021/8486 | FIBHGM-UC3M   | Manuel Desco, Mónica Abella, Francisco Javier García Blas, Jesús Carretero                       |
| 1    | 1.01 Advanced technological applications and human health                                                                   | CIBERSAMXnat: Plataforma de almacenado de datos de Neuroimagen en entorno Cloud                                                      | Nº Asiento Registral: 16/2021/5024 | CIBER, FIBHGM | Manuel Desco, Susana Carmona, Daniel Martín de Blas, David García, Alberto Fernández             |
| 1    | 1.01 Advanced technological applications and human health<br>1.03 Computer architecture, communications, and systems: ARCOS | Radboost-Software de realce automático de imagen radiográfica                                                                        | M-002342/2024                      | FIBHGM, UC3M  | Manuel Desco, Mónica Abella, Fco. Javier García Blas, Jesús Carretero Pérez                      |
| 3    | 3.01<br>Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment                          | Programa de mejora de la convivencia y prevención del acoso escolar LINKlusive                                                       | Nº Asiento Registral: 16/2022/1850 | FIBHGM, UCM   | Covadonga Martínez, Javier Martín, Celso Arango                                                  |
| 4    | Group 4.01<br>Infectious diseases                                                                                           | Estudio de impacto clínico de un plan docente de formación continuada sobre las infecciones asociadas a dispositivos intravasculares | Nº Asiento Registral: 16/2013/4798 | FIBHGM        | Emilio Bouza, María Gumbre, Patricia Muñoz, Mª Jesús Pérez, Mª del Mar San Segundo               |
| 4    | Group 4.01<br>Infectious diseases                                                                                           | Material docente para el diagnóstico de la bacteriemia/fungemia relacionada con el catéter                                           | 2308145061169                      | FIBHGM        | Mª Jesús Pérez Granda, María Gumbre Ramírez, Pablo Martín Rabadán, Patricia Muñoz García Paredes |

Continued on next page



| Area | Group                                  | Title                                                                                                                                                   | Reference                          | Owner  | Inventors                                                                                     |
|------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------|-----------------------------------------------------------------------------------------------|
| 4    | Group 4.01 Infectious diseases         | Recomendaciones sobre el manejo de Infecciones Fúngicas Invasoras (IFIs)                                                                                | Nº Asiento Registral: 16/2014/5265 | FIBHGM | Patricia Muñoz, Emilio Bouza, María Sanjurjo, Carmen Rodríguez, Maricela Valerio              |
| 7    | Hospital pharmacy and pharmacogenomics |                                                                                                                                                         |                                    |        |                                                                                               |
| 4    | Group 4.01 Infectious diseases         | Material docente para la infección relacionada con el catéter                                                                                           | Nº Asiento Registral: 16/2014/6113 | FIBHGM | María Guembe, Emilio Bouza, María Jesús Pérez                                                 |
| 4    | Group 4.01 Infectious diseases         | Optimización en el Diagnóstico Microbiológico de los Reservorios Totalmente Implantables                                                                | Nº Asiento Registral: 16/2015/2094 | FIBHGM | María Guembe, Pablo Martín-Rabadán, Emilio Bouza, M <sup>a</sup> Luisa Rivera, Teresa Vicente |
| 4    | Group 4.01 Infectious diseases         | Tolerancia cero a la bacteriemia relacionada con el catéter: optimización de la prevención con nuevos sistemas de vigilancia de las vías endovasculares | Nº Asiento Registral: 16/2015/2983 | FIBHGM | María Guembe, Emilio Bouza, M <sup>a</sup> Jesús Pérez Granda                                 |
| 4    | Group 4.01 Infectious diseases         | Documento de registro para vigilancia durante la inserción y el mantenimiento de los catéteres intravasculares                                          | Nº Asiento Registral: 16/2015/2984 | FIBHGM | María Guembe, Emilio Bouza, M <sup>a</sup> Jesús Pérez Granda                                 |
| 4    | Group 4.01 Infectious diseases         | Cultivo de conectores cerrados. Nueva alternativa de diagnóstico conservador de infección relacionada con el catéter                                    | Nº Asiento Registral: 16/2017/517  | FIBHGM | Emilio Bouza, María Guembe, M <sup>a</sup> Jesús Pérez, Pablo Martín-Rabadán                  |

| Area | Group                                 | Title                                                                                                                                                                                       | Reference                          | Owner       | Inventors                                                                                                                            |
|------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 4    | Group 4.01 Infectious diseases        | Base de datos de perfiles de proteínas correspondientes a distintas especies de hongos filamentosos para mejorar su identificación mediante la técnica de espectrometría de masas MALDI-TOF | Nº Asiento Registral: 16/2019/6180 | FIBHGM      | Belén Rodríguez, Margarita Zvezdanova, Pilar Escribano, Patricia Muñoz                                                               |
| 4    | Group 4.01 Infectious diseases        | Preparación de muestras de hongos filamentosos para identificación mediante MALDI-TOF. Vídeo con instrucciones                                                                              | Nº Asiento Registral: 16/2021/2779 | FIBHGM      | Belén Rodríguez, Estreya Zvezdanova, Patricia Muñoz                                                                                  |
| 4    | Group 4.01 Infectious diseases        | Cultivo intraluminal de tapones conectores de catéter. Nueva alternativa de diagnóstico conservador de colonización de catéter                                                              | 16/2022/6628                       | FIBHGM      | María Guembe, M <sup>a</sup> Jesús Pérez, Emilio Bouza, Pablo Martín-Rabadán                                                         |
| 4    | 4.01 Infectious diseases              | App para la clasificación de la etiología de la gastroenteritis aguda (GEA) en pacientes pediátricos                                                                                        | M-5349-23                          | FIBHGM, UPM | Rosa Rodríguez Fernández, Felipe González Martínez, Carolina Silvia García Martos, José Manuel Mira McWilliams, Gonzalo Aris Jiménez |
| 5    | 5.07 Infections in pediatric patients |                                                                                                                                                                                             |                                    |             |                                                                                                                                      |

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| Area | Group                                                                                                               | Title                                                                                                       | Reference                          | Owner              | Inventors                                                                                                             |
|------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------|
| 5    | Group 5.03<br>Systemic autoimmune diseases                                                                          | Taller práctico de Técnicas de Laboratorio de Inmunología e interpretación clínica para médicos             | Nº Asiento Registral: 16/2014/6111 | FIBHGM             | Larissa Valor, Luis Carreño, Diana Hernández                                                                          |
| 5    | Group 5.03<br>Systemic autoimmune diseases                                                                          | Taller práctico de Técnicas de Laboratorio de Inmunofluorescencia indirecta (IFI «Live») para médicos       | Nº Asiento Registral: 16/2014/6112 | FIBHGM             | Larissa Valor, Fco. Javier López, Diana Hernández                                                                     |
| 5    | Group 5.03<br>Systemic autoimmune diseases                                                                          | Infiltraciones guiadas por ecografía en reumatología                                                        | Nº Asiento Registral: 16/2018/7393 | FIBHGM             | Juan Carlos Nieto González                                                                                            |
| 5    | 5.05 Pathogenesis of the immunoallergic response                                                                    | Protocolo de alergia a medicamentos                                                                         | 2308115023081                      | FIBHGM             | José Manuel Zubeldia Ortuño, María Luisa Baeza Ochoa de Ocariz, Patricia Rojas Pérez-Ezquerro, Blanca Noguera Mellado |
| 6    | Group 6.02<br>Translational medical oncology and personalized cancer therapy                                        | SMART, application for cancer genetic counseling                                                            | Nº Asiento Registral: 16/2015/5724 | FIBHGM, UNED, URJC | Iván Márquez, Juan Martínez Romo, Cristina Rodríguez, Susana Borromeo                                                 |
| 6    | Group 6.03<br>Genetics and clinical aspects of hematologic malignancies and hematopoietic stem cell transplantation | Herramienta informática para la Gestión Electrónica de la Agenda de Trasplante Hematopoyético «gesThrónica» | Nº Asiento Registral: 16/2008/7735 | FIBHGM             | Pascual Balsalobre, Ismael Buño, José Luis Díez                                                                       |

| Area | Group                                                                                                                                                                                                                                            | Title                                                                                                                                                                                                                                                   | Reference                          | Owner  | Inventors                                                                                                                                                                                |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6    | Group 6.03<br>Genetics and clinical aspects of hematologic malignancies and hematopoietic stem cell transplantation                                                                                                                              | Panel alloGENOMICS v1.13 – Panel de genes y regiones de interés para su aplicación en el estudio de la influencia de los polimorfismos genéticos en el desarrollo de complicaciones post-trasplante alogénico de progenitores hematopoyéticos (alo-TPH) | Nº Asiento Registral: 16/2014/7306 | FIBHGM | Ismael Buño, Milagros González, José Luis Díez, Jorge Gayoso, Carolina Martínez, Elena Buces, David Serrano, Pascual Balsalobre, Mi Kwon                                                 |
| 7    | Group 7.04<br>Diseases of the critically ill child<br>Group 7.27<br>Hospital pharmacy and pharmacogenomics                                                                                                                                       | Biblioteca de fármacos para bombas de infusión inteligentes en las unidades de cuidados intensivos pediátricos                                                                                                                                          | Nº Asiento Registral: 16/2011/7360 | FIBHGM | Amelia Caridad Sánchez y Silvia Manrique Rodríguez                                                                                                                                       |
| 7    | 7.35 Translational dermatology: Research and innovation<br>7.02<br>Pathophysiology and natural history of liver and digestive diseases<br>7.27 Hospital pharmacy and pharmacogenomics<br>7.35 Translational dermatology: Research and innovation | Unidad Innovadora de Tratamiento de enfermedades inflamatorias de base inmunológica - CEIMI                                                                                                                                                             | Nº Asiento Registral: 16/2023/2717 | FIBHGM | Ofelia Baniandrés, Rafael Bañares, Sonia García, Carlos González, Ana María Herranz, María Carmen Lobo, Luis Alberto Menchén, Indalecio Monteagudo, María Sanjurjo, Ricardo María Suárez |

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| Area | Group                                                                                                                                                                                                 | Title                                                                                                                                             | Reference                         | Owner  | Inventors                                                                                                                    |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------|
| 7    | Group 7.27<br>Hospital pharmacy and pharmacogenomics                                                                                                                                                  | Curso sobre el manejo seguro de los sistemas automatizados de dispensación por el personal de enfermería de planta y evaluación de su competencia | Nº Asiento Registral: 16/2015/503 | FIBHGM | Elena Lobato, María Sanjurjo, Ana Herranz, Carmen Rodríguez                                                                  |
| 7    | Group 7.27<br>Hospital pharmacy and pharmacogenomics                                                                                                                                                  | E-OncoSalud: Programa de Telemedicina aplicado al tratamiento ambulatorio del paciente onco-hematológico                                          | Nº Asiento Registral: 16/2016/987 | FIBHGM | María Sanjurjo, Ana Mª Herranz, Vicente Escudero, Almudena Ribed, Roberto Collado, Sara Ibáñez                               |
| 7    | Group 7.27<br>Hospital pharmacy and pharmacogenomics<br>Group 7.01<br>Vascular damage and inflammation in chronic kidney disease, dialysis, and kidney transplantation. Pathophysiology of the kidney | NefroRules: Reglas clínicas para aumentar la seguridad del tratamiento en pacientes con insuficiencia renal                                       | Nº Asiento Registral: 16/2016/989 | FIBHGM | Sara Ibáñez, María Sanjurjo, Ana Herranz, Carmen Rodríguez, Mª Luisa Martín, Mª Ángeles Goicoechea, Eduardo Verde, José Luño |
| 7    | Group 7.27<br>Hospital pharmacy and pharmacogenomics                                                                                                                                                  | Thromborules: reglas clínicas para aumentar la seguridad del tratamiento en pacientes anticoagulantes o/antiagregados                             | Nº Asiento Registral: 16/2017/507 | FIBHGM | Sara Ibáñez, Ana de Lorenzo, Ana Herranz, María Sanjurjo, Ana María Rodríguez                                                |

| Area | Group                                                                                                                                                 | Title                                                                                                                                        | Reference                          | Owner  | Inventors                                                                                                                                     |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 7    | Group 7.27<br>Hospital pharmacy and pharmacogenomics                                                                                                  | Control-Sugar24: calculadora para la insulinización subcutánea del paciente diabético durante las primeras 24 horas de atención hospitalaria | Nº Asiento Registral: 16/2017/6705 | FIBHGM | Ana de Lorenzo, María Sanjurjo, Raquel García, Rogelio García                                                                                 |
| 7    | Group 7.27<br>Hospital pharmacy and pharmacogenomics<br>Group 7.05B<br>Physiological and therapeutic medical-surgical aspects of respiratory diseases | PK-GUIDE: Guía para monitorización clínica de fármacos                                                                                       | Nº Asiento Registral: 16/2017/6956 | FIBHGM | Xandra García, Sara Ibáñez, Ana Herranz, Gema Sánchez, Gabriela Rodríguez, Mª Luisa Galiano, Margarita Ganzo, María Sanjurjo, Mª Teresa Vidán |
| 7    | Group 7.27<br>Hospital pharmacy and pharmacogenomics<br>Group 7.05B<br>Physiological and therapeutic medical-surgical aspects of respiratory diseases | PK-RULES: Reglas clínicas para aumentar la seguridad y eficacia de los tratamientos mediante monitorización farmacocinética                  | Nº Asiento Registral: 16/2017/6957 | FIBHGM | Xandra García, Sara Ibáñez, Ana Herranz, Gema Sánchez, Gabriela Rodríguez, Mª Luisa Galiano, Margarita Ganzo, María Sanjurjo, Mª Teresa Vidán |
| 7    | Group 7.27<br>Hospital pharmacy and pharmacogenomics                                                                                                  | Guía del paciente intervenido de trasplante cardíaco                                                                                         | Nº Asiento Registral: 16/2023/3213 | FIBHGM | Carmen Román, Leticia Benito, Mª Carmen Hassen, Eva María de Frutos, Sara Ibáñez, Xandra García                                               |
| 7    | 7.31<br>Pathophysiology in women, pregnancy, labor, and puerperium                                                                                    | Parto vaginal en 3d                                                                                                                          | Nº Asiento Registral: 16/2019/2823 | FIBHGM | Juan Antonio de León                                                                                                                          |

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| Area | Group                                       | Title                                                                                                                                                    | Reference                          | Owner  | Inventors                                                                                                                                                                                             |
|------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7    | 7.27 Hospital pharmacy and pharmacogenomics | Rentaensayos: Herramientas para analizar los costes evitados en medicamentos con los ensayos clínicos oncológicos                                        | 16/2022/2482                       | FIBHGM | Vicente Damián Escudero, María Sanjurjo, Ana Herranz, Eva González-Haba, Norberta Sánchez, Roberto Collado, José Luis Revuelta, Miguel Martín, Sebastián García, Ana Mur, María Sánchez, Belén Marzal |
| 7    | 7.27 Hospital pharmacy and pharmacogenomics | Manual de Atención farmacéutica al paciente oncohematológico                                                                                             | Nº Asiento Registral: 16/2021/7894 | FIBHGM | José Luis Revuelta, Belén Marzal, Irene Taladriz, Eva González-Haba, Roberto Collado, Vicente Escudero, María Norberta Sánchez, Ana Herranz, María Sanjurjo                                           |
| 7    | 7.27 Hospital pharmacy and pharmacogenomics | e-MIDCARE: aplicación de la e-Salud en la comunicación y seguimiento de los pacientes diagnosticados de enfermedades inflamatorias inmunomediadas (IMID) | Nº Asiento Registral: 16/2022/660  | FIBHGM | Vicente Damián Escudero, Rosa María Romero, Eshter Chamorro, María Aranzazu Ais, María Elena Lobato, Ana María Herranz, María Sanjurjo                                                                |
| 7    | 7.27 Hospital pharmacy and pharmacogenomics | Programa de Humanización 2020 - 2023 del Servicio de Farmacia del Hospital General Universitario Gregorio Marañón                                        | Nº Asiento Registral: 16/2022/7358 | FIBHGM | María Sanjurjo, Ana Herranz, Camino Sarobe, Carmen Guadalupe Rodríguez, Belén Marzal, Eva González-Haba, Nuria García                                                                                 |

| Area | Group                                                                           | Title                                                                               | Reference                           | Owner  | Inventors                                                                                                                                             |
|------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7    | 7.31 Pathophysiology in women, pregnancy, labor, and puerperium                 | Pelvitainer anatómico                                                               | Nº Asiento Registral: 16/2022/3186  | FIBHGM | Juan Antonio León, Coral Bravo                                                                                                                        |
| 8    | Group 8 Research in nursing & Pediatric Emergency Department & Press Department | Nos vamos de excursión a las Urgencias del Gregorio Marañón                         | Nº Asiento Registral: 16/2016/3799  | FIBHGM | Laura Cervantes, Paula Vázquez, David García                                                                                                          |
| 8    | Group 8 Research in nursing                                                     | App para la gestión eficiente del gasto sanitario                                   | Nº Asiento Registral: 16/2021 /1641 | FIBHGM | Mª del Pilar Álvaro, Mª de las Nieves Moro                                                                                                            |
|      | liSGM Technical Unit                                                            | GESTEO                                                                              | Nº Asiento Registral: 16/2014/3806  | FIBHGM | Rafal Bañares, Mª Carmen Olmedo, José Mª Bellón, Miriam Arriaga, Luis Fernández, Mª Isabel Ballesteros, Maite Fontans, Xoan Barreiro, Alejandro López |
|      | Innovation Support Unit<br>liSGM Technical Unit                                 | Herramienta de Gestión y Cuadro de Mando de Innovación                              | Nº Asiento Registral: 16/2015/3255  | FIBHGM | Anna Riera, Manuel Desco, Eva Carravilla, Eva Talve, Marco Rivas, Isabel Ballesteros, Thierry Bardinot, Rafael Bañares, Carmen Olmedo                 |
|      | Pediatric Emergency Department                                                  | Sistema de triage del paciente pediátrico en Urgencias-Gregorio Marañón (TRIPED-GM) | Nº Asiento Registral: 16/2015/5530  | FIBHGM | María Concepción Míguez Gloria Margarita Guerrero, María del Carmen Ignacio Cerro                                                                     |
|      |                                                                                 | Guía para pacientes sometidos a cirugía cardíaca                                    | Nº Asiento Registral: 16/2023/3205  | FIBHGM | Carmen Román, Leticia Benito, Dominique Valencia                                                                                                      |

Transferred Industrial Property 31/12/2023.





## Interventional and non interventional clinical studies

During the year **2023**, a total of **1784** clinical trials were active in our hospital. A total of 225 new studies were implemented.

Approximately 89 % of the clinical trials with medicines started during 2023 were Phase I, II, and III studies

As for the distribution by research areas, almost **47 %** of the clinical trials were led by the Translational Oncology Area (Area 6).

| ACTIVE CLINICAL TRIALS |             |
|------------------------|-------------|
| 2019                   | 1115        |
| 2020                   | 1038        |
| 2021                   | 1145        |
| 2022                   | 1135        |
| <b>2023</b>            | <b>1784</b> |

| NEW CLINICAL STUDIES |                 |                            |            |
|----------------------|-----------------|----------------------------|------------|
|                      | Clinical Trials | Non-interventional studies | Total      |
| 2019                 | 140             | 68                         | 208        |
| 2020                 | 162             | 81                         | 251        |
| 2021                 | 176             | 47                         | 223        |
| 2022                 | 151             | 60                         | 211        |
| <b>2023</b>          | <b>170</b>      | <b>55</b>                  | <b>255</b> |

| DISTRIBUTION OF CLINICAL TRIALS SIGNED BY PHASE (%) |      |       |       |       |             |
|-----------------------------------------------------|------|-------|-------|-------|-------------|
|                                                     | 2019 | 2020  | 2021  | 2022  | 2023        |
| Phase I                                             | 7.28 | 5.29  | 20.7  | 25.1  | <b>15.9</b> |
| Phase II                                            | 37.1 | 40    | 33.9  | 29.8  | <b>28.2</b> |
| Phase III                                           | 43.7 | 45.88 | 42.55 | 42.43 | <b>44.7</b> |
| Phase IV                                            | 4.6  | 4.11  | 2.3   | 2.65  | <b>2.9</b>  |
| Others (Medical device, etc)                        | 7.29 | 4.70  | 0.57  | 0     | <b>8.2</b>  |

DISTRIBUTION OF CLINICAL STUDIES SIGNED IN 2023  
(National/International)

|               | Nº  | %  |
|---------------|-----|----|
| National      | 72  | 32 |
| International | 153 | 68 |

DISTRIBUTION OF CLINICAL STUDIES SIGNED IN 2023  
BY RESEARCH AREA OF IiSGM

|                       | Nº  | %     |
|-----------------------|-----|-------|
| Area 1                | 0   | 0     |
| Area 2                | 12  | 5.33  |
| Area 3                | 10  | 4.44  |
| Area 4                | 12  | 5.33  |
| Area 5                | 14  | 6.22  |
| Area 6                | 105 | 46.67 |
| Area 7                | 51  | 22.67 |
| Nursing group         | 2   | 0.89  |
| Associated clinicians | 19  | 8.44  |



## Funding of IISGM

The global analysis of Institute funding was performed by collecting all income obtained by research groups both from competitive/non-competitive projects and from clinical trials, agreements with various entities, and donations.

The objective of this methodology is to be able to provide information on the capacity of IISGM groups to generate income.

The total income generated by IISGM researchers own activity in 2023 came to 22.204.190€. To these revenues we must add, for the 5th year in a row, the nominative subsidy of 679.606€ granted to this foundation by the Consejería de Health of the Community of Madrid, which would raise total revenues of the Foundation to **22.883.796€**.

The revenues generated by researchers in 2023 is 9,4% higher than in 2022.

As in previous years, this income is earmarked for the support and development of research activities in the groups.

|                                       | 2018         | 2019         | 2020                  | 2021         | 2022         | 2023         |
|---------------------------------------|--------------|--------------|-----------------------|--------------|--------------|--------------|
| Total income generated by researchers | 15,503,687 € | 16,476,182 € | 19,183,609 €          | 17,699,418 € | 18,684,150 € | 22,204,190 € |
| Nominative subsidy Madrid Community   | 612,220 €    | 622,220 €    | 622,220 € + 850,000 € | 622,220 €    | 756,020€     | 679,606 €    |

## EVOLUTION OF INCOME GENERATED BY RESEARCHERS BY CATEGORY

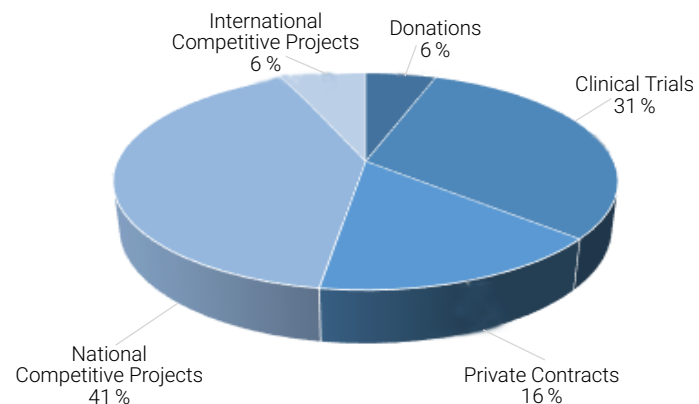




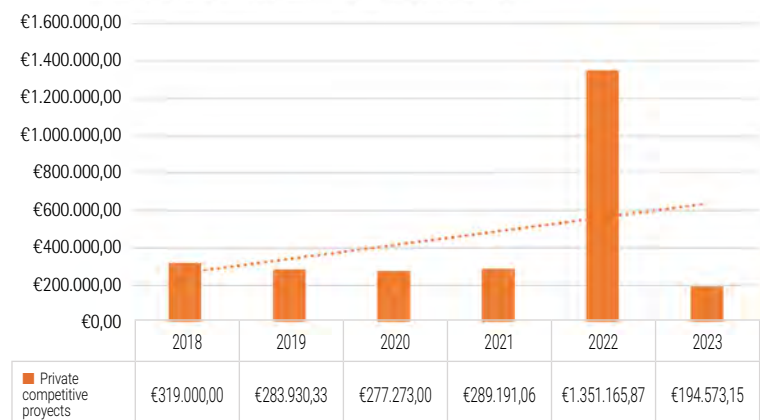
## No competitive projects



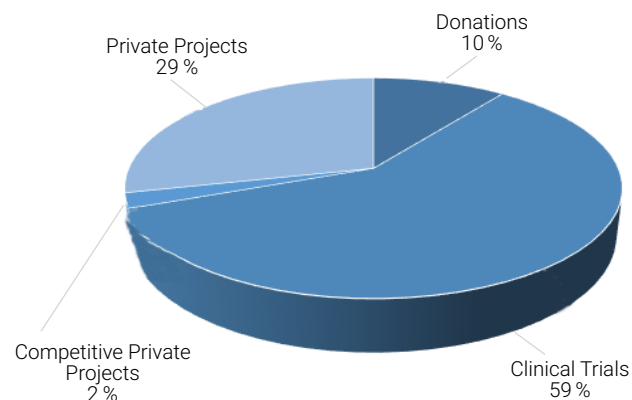
## Distribution of total funding (2023)



## Private competitive projects



## Distribution of Private funding (2023)





## List of active competitive projects in 2023 by area of research

### AREA 1: BIOMEDICAL ENGINEERING

#### GROUP 1.01: Advanced technology applications and human health

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 2                       |            |                    |            |
| National      | 12                      | 6          | 2                  | 2          |
| Regional      | 1                       |            | 4                  | 4          |

- Title: **BIOMET4D: Smart 4D biodegradable metallic shape-shifting implants for dynamic tissue restoration.** HE BIOMET4D 101047008.  
Director: Desco Menéndez, Manuel  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/07/2022  
End date: 30/06/2026
- Title: **Becoming a mother. An integrative model of adaptations for motherhood during pregnancy and the postpartum period.** H2020 BEMOTHER  
Director: Carmona Cañabate, Susana  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/10/2020  
End date: 30/09/2025
- Title: **Desarrollo de un Biomarcador de neuroimagen para detectar el estado procoagulante en la enfermedad de Alzheimer.** AC20/00091  
Director: Desco Menéndez, Manuel  
Project type: ACC. Complementarias  
Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 30/06/2025

- Title: **Inteligencia Artificial en nuevos sistemas de diagnóstico radiológico (AIRad).** PMPTA22/00118  
Director: Desco Menéndez, Manuel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2024
- Title: **Imagen 3D de Plano de Luz con Campo de Vision Extendido.** DTS22/00030  
Director: Ripoll Lorenzo, Jorge  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2024
- Title: **Efectos a largo plazo del embarazo en el cerebro humano.** PI22/01365  
Director: Carmona Cañabate, Susana  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Monitorización de tratamiento y respuesta a infecciones estafilocócicas mediante imagen inmunoPET empleando trazadores específicos.** PI20/01632  
Director: Salinas Rodríguez, Beatriz  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2024
- Title: **Contribución funcional de los microquimerismos maternos a la respuesta al daño cardíaco.** PI18/00462  
Director: Gómez Gavira, María Victoria



Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2019

End date: 30/06/2023

- Title: **Cannabidiol, COVID-19, cannabis, resonancia, CT pulmonar, microbiota**. EXP2022/008917

Director: Soto Montenegro, María Luisa

Project type: Research project

Funding body: Ministerio de Sanidad, SS Sociales e Igualdad

Start date: 12/07/2023

End date: 12/01/2025

- Title: **Mecanometabolismo de la insuficiencia cardiaca asociada a la edad - CardioAging (Mechanometabolism of age-associated heart failure)**. PLEC2022-009235.

Director: Gómez Gavero, María Victoria

Project type: Research project

Funding body: MICINN/MINECO

Start date: 03/10/2022

End date: 02/10/2025

- Title: **Nuevas herramientas nanotecnológicas en el tratamiento de patología neuroinflamatoria y su interacción con el eje intestino-cerebro (ExoCUR)**. PID2021-128862OB-I00

Director: Soto Montenegro, María Luisa

Project type: Research project

Funding body: MICINN/MINECO

Start date: 01/09/2022

End date: 31/08/2025

- Title: **Microictus cerebrales: nuevo modelo y oportunidades de tratamiento (Nanostroke)**. PID2022-141080OB-C21

Director: Gómez Gavero, María Victoria

Project type: Research project

Funding body: Agencia Estatal de Investigación

Start date: 01/09/2023

End date: 31/08/2026

- Title: **Imagen molecular de la infección por Clostridium Difficile**. FRA20/02

Director: Salinas Rodríguez, Beatriz

Project type: Research project

Funding body: Fundación Ramón Areces

Start date: 12/05/2021

End date: 11/05/2025

- Title: **Dynamics of the neural, metabolomic and neuropsychological signatures underlying the adaptations for motherhood during pregnancy**. LCF/PR/HR19/52160001

Director: Carmona Cañabate, Susana

Project type: Research project

Funding body: "La Caixa" Banking Foundation

Start date: 15/09/2019

End date: 15/09/2023

- Title: **Red Madrileña de Nanomedicina en Imagen Molecular (RENIM-CM)**. S2022/BMD-7403

Director: Desco Menéndez, Manuel

Project type: Research project

Funding body: Comunidad Autónoma de Madrid

Start date: 01/01/2023

End date: 31/12/2026

- Title: **Miguel Servet II contract**. CPII21/00016

Director: Carmona Cañabate, Susana

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 01/06/2022

End date: 31/05/2025

- Title: **PFIS Predoctoral contract**. FI18/00255

Director: Martínez García, Magdalena

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2019

End date: 31/01/2023



- Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-19331  
Director: Desco Menéndez, Manuel (Felipe Maestre, María de la Jara)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 28/02/2023
  - Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-19418  
Director: Gómez Gaviro, María Victoria (Fernández Cortés-Navia, Elena)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 09/02/2023
  - Title: **Young employment contract. Research Assistant.** PEJ-2021-AI/BMD-23350  
Director: Desco Menéndez, Manuel (Abella Larraz, Jaime)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/11/2022  
End date: 31/07/2023
  - Title: **Young employment contract. Research Assistant.** PEJ-2021-AI/BMD-23350  
Director: Desco Menéndez, Manuel (Margüello Molina, Adrián)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/09/2023  
End date: 30/11/2024
- Not managed by the FIBHGM**
- Title: **Inteligencia Artificial en nuevos sistemas de diagnóstico radiológico (AIrad).** PMPTA22/00121  
Director: Abella García, Mónica  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2024
  - Title: **Hormesis inducida por radiación en oncología (RADHOR).** PID2019-110369RB-I00  
Director: Desco Menéndez, Manuel / Cussó Mula, Lorena  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/06/2020  
End date: 29/02/2024
  - Title: **Clustering Automático de Comportamientos de invertebrados en libertad mediante imagen 3D.** PID2020-115088RB-I00  
Director: Ripoll Lorenzo, Jorge / Moscoso Castro, Miguel  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/09/2021  
End date: 31/08/2025
  - Title: **Nuevo sistema radiológico multifunción de baja dosis (MULTI-RAD).** PDC2021-121656-I00  
Director: Abella García, Mónica  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/12/2021  
End date: 30/11/2023
  - Title: **Sistema Microfluídico para Aplicaciones en Tejido en un Chip.** CPP2021-008396  
Director: Velasco Bayón, Diego  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/09/2022  
End date: 31/08/2025
  - Title: **Development of a dynamic, functional and personalized 3D melanoma model-on-a-CHIP.** PID2021-126523OB-I00  
Director: Velasco Bayón, Diego / Gago, Nuria  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/09/2022  
End date: 31/08/2025



- Title: **Grants for pre-doctoral contracts for the training of doctors.** PRE2020-095268  
Director: Desco Menéndez, Manuel/Cussó Mula, Lorena  
Project Type: Human resources  
Funding Body: MICINN  
Start date: 01/08/2021  
End date: 31/07/2025
- Title: **Grants for technical support staff.** PTA2020-019246-I  
Director: Desco Menéndez, Manuel  
Project Type: Human resources  
Funding Body: MICINN  
Start date: 01/12/2021  
End date: 15/04/2023
- Title: **Programme for Predoctoral Research Staff in Training (PIPF UC3M).**  
Director: Abella García, Mónica  
Project Type: Human resources  
Funding Body: UC3M  
Start date: 01/02/2019  
End date: 27/07/2023
- Title: **Programme for Predoctoral Research Staff in Training (PIPF UC3M).**  
Director: Abella García, Mónica  
Project Type: Human resources  
Funding Body: UC3M  
Start date: 01/09/2022  
End date: 31/08/2026
- Title: **Programme for Predoctoral Research Staff in Training (PIPF UC3M).**  
Director: Desco Menéndez, Manuel  
Project Type: Human resources  
Funding Body: UC3M  
Start date: 05/09/2022  
End date: 04/09/2026
- Title: **Young employment contract. Laboratory Technician.** PEJ-2021-TL/BMD-23097  
Director: Velasco Bayón, Diego  
Project Type: Human resources

Funding Body: Comunidad Autónoma de Madrid  
Start date: 01/11/2022  
End date: 31/10/2024

#### GROUP 1.02: Signal processing

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         | 2          |                    |            |
| European      |                         |            |                    | 1          |
| National      |                         | 7          |                    |            |
| Regional      |                         | 1          |                    | 4          |

#### Not managed by the FIBHGM

- Title: **Space-time sequential schemes and Bayesian inference methods for continuous-time stochastic systems.** N00014-22-1-2647  
Director: Míguez Arenas, Joaquín  
Project type: Research project  
Funding body: Office of Naval Research (ONR)  
Start date: 01/10/2022  
End date: 30/09/2025
- Title: **Advanced detection algorithms for passive radar.** N62909-23-1-2002  
Director: Ramírez, David  
Project type: Research project  
Funding body: Office of Naval Research (ONR)  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Integración longitudinal de datos generados por paciente y determinaciones multi-ómicas para una oncología de precisión integral en cáncer de la mujer.** PMP22/00032  
Director: Artés Rodríguez, Antonio  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025





- Title: **Medicina Personalizada (MedPer) en la detección precoz del deterioro cognitivo (DC) preclínico. Desarrollo de un modelo predictivo de riesgo.** PMP22/00084  
Director: Martínez Olmos, Pablo  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 02/01/2023  
End date: 01/01/2026
- Title: **Modelos profundos y explicables basados en variables latentes para salud mental.** PID2021-1231820B-I00  
Director: Martínez Olmos, Pablo / Ramírez García, David  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/09/2022  
End date: 31/08/2025
- Title: **Cuantificación de Incertidumbre en Modelos Físicos Estocásticos: Filtros Profundos y Metodos de Monte Carlo Espacio-Temporales.** PID2021-125159NB-I00  
Director: Míguez Arenas, Joaquín / Vázquez, Manuel A.  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/09/2022  
End date: 31/08/2025
- Title: **Expansiones asintóticas generalizadas y refinadas para teoría de la información en longitud finita: Comunicaciones inalámbricas y comunicaciones por canales clásico-cuánticos.** PID2020-116683GB-C21  
Director: Koch, Tobias / Vázquez Vilar, Gonzalo  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/09/2021  
End date: 31/08/2025
- Title: **Almacenaje y Transmisión de Información sobre Redes Autónomas y Distribuidas -ADICT-Net.** PID2022-142506NA-I00  
Director: Peleato Iñarra, Borja  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/09/2023  
End date: 31/08/2026
- Title: **Prevención de reCAídas en tRastornos dE conducta.** – PreCARE. CPP2022-009537  
Director: Artés Rodríguez, Antonio  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 30/11/2023  
End date: 29/11/2026
- Title: **Sistema de monitorización de estado para detección de fisuras en ejes ferroviarios (SMEPDFFEF-CM-UC3M).** PIUC3M2021\_09  
Director: Martínez Olmos, Pablo / Gómez García, María Jesús  
Project type: Research project  
Funding body: UC3M  
Start date: 01/01/2022  
End date: 31/12/2023
- Title: **Marie Skłodowska-Curie Individual Fellowships.** UE-H2020-MSCA-IF  
Director: Koch, Tobias  
Project type: Human resources  
Funding body: European Union  
Start date: 01/10/2021  
End date: 30/09/2024
- Title: **Industrial Doctorates.** IND2020/TIC-17539  
Director: Míguez Arenas, Joaquín  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 31/12/2024
- Title: **Industrial Doctorates.** IND2022/TIC-23550  
Director: Martínez Olmos, Pablo  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid



Start date: 18/11/2022

End date: 17/11/2025

- Title: **Contract Grants For Laboratory Technicians.** AI/TIC-17888  
Director: Artes Rodríguez, Antonio  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/03/2021  
End date: 28/02/2023
- Title: **CM Research Talent Attraction Program.** 2020-T1/TIC-20698  
Director: Peleato, Borja  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 27/12/2021  
End date: 26/12/2026

#### GROUP 1.03: Computer architecture, communications, and systems: ARCOS

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 1.04: Nonparametric statistical and intensive computing techniques

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 1.05: Structural and Functional Medical Imaging

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 1.06: Biomedical applications of engineering

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         | 5          |                    | 1          |
| National      |                         | 6          |                    | 1          |
| Regional      |                         | 1          |                    |            |

#### Not managed by the FIBHGM

- Title: **A4LIFE - Artificial intelligence for image data analysis in the life sciences.** GA - 101057970  
Director: Muñoz Barrutia, María Arrate  
Project type: European research project  
Funding body: European Commission  
Start date: 01/09/2022  
End date: 31/08/2025
- Title: **PRO-ORATICA - PRedictive mOdeling Of RAdiaTion-Induced CArdiotoxicity after breast cancer radiotherapy.** GA - 101026865  
Director: Pascau González Garzón, Javier  
Project type: European research project  
Funding body: European Commission  
Start date: 01/09/2022  
End date: 31/08/2024



- Title: **Cust-MeDD - Custom Medical Device Development. 2020-2023. CONEX-PLUS.** 2019/0097 (H2020-MSCA-COFUND-2017-UE)  
 Director: Pascau González Garzón, Javier / González Álvarez, Alba  
 Project type: European research project  
 Funding body: European Commission  
 Start date: 23/11/2020  
 End date: 22/11/2023
- Title: **ERA4TB - European Regimen Accelerator for Tuberculosis.** GA - 853989  
 Director: Vaquero López, Juan José  
 Project type: European research project  
 Funding body: European Commission  
 Start date: 01/01/2020  
 End date: 31/12/2025
- Title: **Real time molecular imager with unsurpassed resolution.** GA - 101099096  
 Director: Vaquero López, Juan José  
 Project type: European research project  
 Funding body: European Commission  
 Start date: 01/09/2023  
 End date: 28/02/2027
- Title: **Tratamiento personalizado en radioterapia mediante modelado integrado de nuevas restricciones y efectos dosimétricos locales.** AC20/00102  
 Director: Pascau González Garzón, Javier  
 Project type: ACC. Complementarias  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 31/12/2023
- Title: **IPADAP - Plataforma de imagen multi-escala para acelerar el desarrollo de fármacos contra infecciones pulmonares.** PID2019-109820RB-I00  
 Director: Muñoz Barrutia, María Arrate / Vaquero López, Juan José  
 Project type: Research project  
 Funding body: Agencia Estatal de Investigación

Start date: 01/06/2020  
 End date: 29/02/2024
- Title: **DigiMatMed-Acelerando la transformación digital en salud materno-fetal mediante herramientas de simulación y entrenamiento. Accelerating digital transformation in maternal-fetal health through simulation and training tools.** TED2021-129392B-I00  
 Director: Pascau González Garzón, Javier / De León Luis, Juan  
 Project type: Research project  
 Funding body: Agencia Estatal de Investigación  
 Start date: 01/12/2022  
 End date: 30/11/2024
- Title: **IN-DEPTH - INtelligent modular DEtector for PET.** PDC2021-121788-I00  
 Director: Vaquero López, Juan José  
 Project type: Research project  
 Funding body: Agencia Estatal de Investigación  
 Start date: 01/12/2021  
 End date: 31/08/2024
- Title: **Desarrollo de contrastes de TAC específicos de micobacterias para el diagnóstico y seguimiento de la tuberculosis. - TAIN-TB.** PID2022-142343OB-I00  
 Director: Mendoza Losana, Alfonso / López Expósito, Patricio Roberto  
 Project type: Research project  
 Funding body: Agencia Estatal de Investigación  
 Start date: 01/09/2023  
 End date: 31/08/2027
- Title: **Personalized Planning in Radio Therapy Through Integrative Modeling of Local Dose Effect and New Dosimetric Constraints.** PERME20731PASC  
 Director: Pascau González Garzón, Javier  
 Project type: Research project  
 Funding body: Asociación Española Contra el Cáncer  
 Start date: 01/12/2020  
 End date: 31/12/2024
- Title: **EPUC3M03 Departamento de Bioingeniería e Ingeniería Aeroespacial.** 2020/00385/001



Director: Muñoz Barrutia, María Arrate  
 Project type: Research project  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/01/2020  
 End date: 31/12/2024

- Title: **Marie Skłodowska-Curie Actions. 2019/0097** (H2020-MSCA-COFUND-2017-UE)  
 Director: Pascau Gonzalez Garzón, Javier  
 Project type: Human resources  
 Funding body: European Commission Research Executive Agency  
 End date:
- Title: **Formación Profesorado Universitario. FPU19/02854**  
 Director: Muñoz Barrutia, María Arrate  
 Project type: Human resources  
 Funding body: MICINN  
 End date:

## AREA 2: CARDIOVASCULAR DISEASES

### GROUP 2.01: Natural history of heart disease

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 4                       |            |                    |            |
| National      | 15                      |            | 3                  |            |
| Regional      |                         |            |                    |            |

- Title: **CARDIATEAM-IMI2-821508**. H2020 CARDIATEAM  
 Director: Bermejo Thomas, Javier  
 Project type: European research project  
 Funding body: EU/DG SANCO  
 Start date: 01/03/2019  
 End date: 28/02/2026

- Title: **H2020 BRAV3 “Regenerative medicine: from new insights to new applications. 874827**. H2020 BRAV3  
 Director: Fernández-Avilés Díaz, Francisco Jesús  
 Project type: European research project  
 Funding body: EU/DG SANCO  
 Start date: 01/01/2020  
 End date: 31/12/2024
- Title: **SAVE-COR Stratification of Atrial and Ventricular Arrhythmias based on Electrocardiographic Imaging**. 220385 SAVE-COR  
 Director: Atienza Fernández, Felipe  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/06/2022  
 End date: 31/12/2024
- Title: **AI Scalable Solution for ST Myocardial Infarction (ASSIST)**. ASSIST 230193  
 Director: Martínez-Selles D’oliveira Soares, Manuel  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/07/2023  
 End date: 01/07/2025
- Title: **Desarrollo y caracterización de vesículas extracelulares con potencia terapéutica en la insuficiencia cardíaca con función sistólica preservada en modelos animales de cerdo y de ratón**. PI22/00792  
 Director: Fernández-Avilés Díaz, Francisco Jesús  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
- Title: **Identificación del sustrato de fibrilación auricular en ritmo sinusal basada en co-localización de mapas auriculares electroanatómicos y de intensidad de señal (MRI). Diferencias de género**. PI22/01619  
 Director: Arenal Maíz, Ángel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III



Start date: 01/01/2023

End date: 31/12/2025

- Title: **Evaluación personalizada del riesgo cardiovascular - 1 (PACER1).** PI21/00274  
Director: Bermejo Thomas, Javier  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: **Rigorous Atrial Analysis in Advanced Interatrial Block (ARABIA).** PI21/01501  
Director: Martínez-Selles D'oliveira Soares, Manuel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: **Caracterización del sustrato electrofisiológico en pacientes con fibrilación auricular persistente y paroxística. Estudio PAPER AF.** PI20/01618  
Director: Atienza Fernández, Felipe  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2024
- Title: **Inteligencia artificial para la caracterización hemodinámica no invasiva. AI4NHEM.** PI20/00587  
Director: Martínez-Legazpi Aguilo, Pablo  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2023
- Title: **Reparación cardíaca inducida por vesículas extracelulares cardíacas integradas en hidrogeles de matriz mioárdica descellularizada en un modelo de infarto porcino crónico.** PI19/00161

Director: Fernández-Avilés Díaz, Francisco Jesús

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2020

End date: 31/12/2023

- Title: **Caracterización de la fisiología cardiovascular con el Ejercicio en pacientes adultos con circulación de Fontan.** PI19/01604  
Director: Prieto Arevalo, Raquel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 31/12/2023
- Title: **Ablación radial para control de la Fibrilación auricular persistente (Artist Trial).** PI18/01895  
Director: Arenal Maíz, Ángel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023
- Title: **Efectos de la inhibición del cotransportador sodio-glucosa-2 sobre los mecanismos de la insuficiencia cardíaca con fracción de eyección preservada del paciente diabético.** PI18/01595  
Director: Bermejo Thomas, Javier  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023
- Title: **Plataforma integrada para la interpretación de señales de FA en tiempo-real.** DTS21/00064  
Director: Arenal Maíz, Ángel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024



- Title: **Estudio prospectivo, multicéntrico y abierto para evaluar la eficacia del esmolol en la identificación precoz de las alteraciones cardiovasculares inducidas por la cirrosis, la diabetes mellitus y los tratamientos cardiotóxicos.** ICI20/00011  
Director: Bermejo Thomas, Javier  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2024
- Title: **Safety and Efficacy of the Intracoronary administration of Allogeneic human Cardiac Stem Cells in Patients with Ischemic Chronic Heart Failure at High Risk for Sudden Cardiac Death (CaSeC-HF).** PIC18/00024  
Director: Fernández-Avilés Díaz, Francisco Jesús  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 31/12/2023
- Title: **CARE-ECGI - Terapia de resincronización cardíaca basada en imagen electrocardiográfica.** CPP2021-008562  
Director: Atienza Fernández, Felipe  
Project type: Research project  
Funding body: MICINN/MINECO  
Start date: 01/11/2022  
End date: 31/10/2025
- Title: **Advanced multifunction 3D biofabrication for the generation of computationally modelled human-scale therapeutic cardiac tissues – CARDIOPRINT.** PLEC2021-008127  
Director: Fernández-Avilés Díaz, Francisco Jesús / Bermejo Thomas, Javier  
Project type: Research project  
Funding body: Ministerio de Economía y Hacienda  
Start date: 01/12/2021  
End date: 30/11/2024
- Title: **Río Hortega contract.** CM20/00054  
Director: Tamargo Delpón, María Amalia  
Funding body: Instituto de Salud Carlos III

Project type: Human resources  
Start date: 04/01/2021  
End date: 04/01/2023

- Title: **Intensification contract.** INT22/00025  
Director: Bermejo Thomas, Javier  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2024
- Title: **PFIS Predoctoral contract.** FI22/00165  
Director: Martínez Solano, Jorge  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 21/03/2023  
End date: 31/12/2026

#### GROUP 2.02: Cardiovascular pathophysiology

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 2.03: Cardiac cellular electrophysiology

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      |                         |            |                    | 1          |
| Regional      |                         | 1          |                    |            |



### Not managed by the FIBHGM

- Title: **Investigación Traslacional de Arritmias Cardiacas hereditarias (ITACA)**. B2017/BMD-3738  
Director: Delpón Mosquera, Eva  
Project type: Research project  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2018  
End date: 31/12/2026
- Title: **Pre-doctoral contracts for the training of PhDs**. PRE2021-098033  
Director: Delpón Mosquera, Eva/Caballero Collado, Ricardo  
Project Type: Human Resources  
Funding Body: Micinn  
End Date

### GROUP 2.05: Cardiology and heart transplantation in children

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

### GROUP 2.06: Blood lipids and cardiovascular risk

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Predicción de complicaciones precoces en pacientes con embolia pulmonar aguda sintomática mediante mención de selectina-P plasmática y otros biomarcadores inflamatorios y cardiacos en sangre**. FER21/01

Director: Álvarez-Sala Walther, Luis Antonio

Project type: Research project

Funding body: Fundación Eugenio Rodríguez Pascual

Start date: 01/01/2022

End date: 31/12/2023

### GROUP 2.07: Acute cerebral ischemia. Stroke

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## AREA 3: NEUROSCIENCE AND MENTAL HEALTH

### GROUP 3.01: Neurobiological and psychological bases of mental disorders. Neurodevelopmental disorders

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | 3                       |            |                    |            |
| European      | 6                       |            |                    |            |
| National      | 14                      |            | 9                  | 1          |
| Regional      |                         |            |                    |            |

- Title: **Laboratory for Early Psychosis Research (LEAP)**. NIH-2021/FEP-CAUSAL  
Director: Arango López, Celso  
Project type: Research project  
Funding body: National Institutes of Health (NIH)  
Start date: 01/11/2021  
End date: 30/06/2023
- Title: **ProNET: Psychosis-Risk Outcomes Network**. NIH-2020/ProNet





Director: Arango López, Celso  
 Project type: Research project  
 Funding body: National Institutes of Health (NIH)  
 Start date: 08/09/2020  
 End date: 30/06/2025

- Title: **The impact of social isolation on aging health in schizophrenia.** NIH-2022/Aging  
 Director: Arango López, Celso  
 Project type: Research project  
 Funding body: National Institutes of Health (NIH)  
 Start date: 15/08/2022  
 End date: 31/05/2027
- Title: **BOOTSTRAP. Boosting Societal Adaptation and Mental Health in a Rapidly Digitalising, Post-Pandemic. Europe.** HE BOOTSTRAP 101080238-1  
 Director: Moreno Ruiz, Carmen  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/07/2023  
 End date: 30/06/2028
- Title: **COLlaborative Network for European Clinical Trials For Children ("c4c").** H2020 c4c-777389  
 Director: Moreno Ruiz, Carmen  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/05/2019  
 End date: 30/04/2025
- Title: **FAMILY: Running in the FAMILY - Understanding and predicting the intergenerational transmission of mental illness.** HE FAMILY 101057529  
 Director: Moreno Ruiz, Carmen  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/10/2022  
 End date: 30/09/2027

- Title: **H2020 Autism Innovative Medicine Studies – 2 – Trials. The overall goal of this project is to improve patient outcomes. To do this we will create a pipeline for developing, testing and implementing new treatments for ASD with stakeholder involvement at each stage.** H2020 AIMS-2-TRIALS  
 Director: Arango López, Celso  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/05/2018  
 End date: 31/05/2025
- Title: **Psych-STRATA: Stratified Treatment Algorithm in Psychiatry: A program on stratified pharmacogenomics in severe mental illness.** HE Psych-STRATA 101057454  
 Director: Moreno Ruiz, Carmen  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/10/2022  
 End date: 30/09/2027
- Title: **Youth-GEMs: Gene Environment interactions in Mental health trajectories of Youth.** HE Youth-GEMs 101057182  
 Director: Martínez Díaz-Caneja, María Covadonga / Arango López, Celso  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/06/2022  
 End date: 31/05/2027
- Title: **Interacciones genes-ambiente en las trayectorias de salud mental de los jóvenes.** PI22/01824  
 Director: Arango López, Celso  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
- Title: **Utilizando modelado normativo longitudinal para el análisis de subgrupos de pacientes con primero episodio psicosis.** PI22/01621  
 Director: Janssen Jeucken, Joost



Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2023

End date: 31/12/2025

- Title: **Bases etiopatológicas de la disregulación emocional en adolescentes con depresión.** PI21/01929

Director: Moreno Ruiz, Carmen

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2022

End date: 31/12/2024

- Title: **Identificando los correlatos de neuroimagen de la función ejecutiva a lo largo del continuum de la psicosis: Un estudio en adolescentes y adultos jóvenes.** PI21/00701

Director: Rapado Castro, Marta

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2022

End date: 31/12/2024

- Title: **Interacción Gen x ambiente en hijos de pacientes con esquizofrenia o trastorno bipolar.** PI21/01694

Director: Moreno Pardillo, María Dolores

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2022

End date: 31/12/2024

- Title: **Estudio longitudinal de una cohorte representativa: superando la heterogeneidad clínica y biológica en primeros episodios psicóticos.** PI20/00721

Director: Martínez Díaz-Caneja, María Covadonga

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 30/06/2025

- Title: **Mecanismos epigénicos implicados en la génesis y curso de trastornos del neurodesarrollo en prematuros extremos: estudio de seguimiento a 4 años.** PI20/01342

Director: Pina Camacho, Laura

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 30/06/2025

- Title: **Bases neurobiológicas de las trayectorias diferenciales de los Trastornos del Espectro Autista.** PI20/01382

Director: Parellada Redondo, María José

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 30/06/2025

- Title: **Enfoque integral y traslacional para el diagnóstico genético de TEA. Caracterización clínica.** PI19/01024

Director: Arango López, Celso

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2020

End date: 30/06/2024

- Title: **Estudio longitudinal de marcadores oxidativos y neuroinflamatorios de la función cognitiva en primeros episodios de psicosis adolescente.** PI18/00753

Director: Rapado Castro, Marta

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2019

End date: 30/06/2023

- Title: **Características comunes y diferenciales en hijos de pacientes con esquizofrenia diagnosticados de TDAH, hijos de padres sanos diagnosticados de TDAH y controles.** PI18/01119

Director: Moreno Pardillo, María Dolores

Project type: Research project



Funding body: Instituto de Salud Carlos III

Start date: 01/01/2019

End date: 30/06/2023

- Title: **Estudio de seguimiento de niños y adolescentes con diabetes mellitus tipo 1: mecanismos epigenéticos y comorbilidad afectiva.** PI18/01819

Director: Carballo Belloso, Juan José

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2019

End date: 30/06/2023

- Title: **Estudio integral de variación genética y molecular de una cohorte española de trastornos del espectro autista y diseño de algoritmos de diagnóstico genético y de biotipos terapéuticos. Cohorte ESTEA.** PMP21/00051

Director: Parellada Redondo, María José

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2022

End date: 31/12/2025

- Title: **Impacto de las alteraciones del sueño en el patrón de disregulación emocional de los adolescentes con depresión, y su posible asociación con el riesgo de autolesiones.** AEPNYA22/01

Director: Sevilla Cermeño, Laura María

Project type: Research project

Funding body: Asociación Española de Psiquiatría de la Infancia y la Adolescencia (Aepnya)

Start date: 01/02/2023

End date: 31/01/2025

- Title: **Sara Borrell contract.** CD20/00118

Director: González Peñas, Javier

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 31/12/2023

- Title: **Río Hortega contract.** CM20/00114

Director: Andreu Bernabéu, Álvaro

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 29/01/2021

End date: 28/01/2023

- Title: **Juan Rodés contract.** JR19/00024

Director: Martínez Díaz-Caneja, María Covadonga

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 29/01/2020

End date: 28/01/2024

- Title: **PFIS Predoctoral contract.** FI18/00233

Director: Burdeus Olavarrieta, Mónica

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2019

End date: 31/05/2023

- Title: **Intensification contract.** INT22/00063

Director: Moreno Ruiz, Carmen

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2023

End date: 31/12/2024

- Title: **Formación Profesorado Universitario.** FPU17/06467

Director: Colomar Molla, Laura

Project type: Human resources

Funding body: Ministerio de Economía y Hacienda

Start date: 26/10/2018

End date: 25/03/2023

- Title: **Formación Profesorado Universitario.** FPU19/06752

Director: Panadero Gómez, Rocío

Project type: Human resources

Funding body: Ministerio de Economía y Hacienda



Start date: 01/12/2021

End date: 30/11/2025

- Title: **Formación Profesorado Universitario**. FPU20/07486  
Director: Abrokwa Acheampong, Hayford  
Project type: Human resources  
Funding body: Ministerio de Economía y Hacienda  
Start date: 13/12/2021  
End date: 12/12/2025

- Title: **Formación Profesorado Universitario**. FPU19/06877  
Director: Martín Martínez, Nuria  
Project type: Human resources  
Funding body: Ministerio de Economía y Hacienda  
Start date: 31/10/2020  
End date: 31/10/2024

**Not managed by the FIBHGM**

- Title: **Ramón y Cajal Contract**.  
Director: Rapado Castro, Marta  
Project Type: Human Resources  
Funding Body: Micinn  
End Date

#### GROUP 3.03B: Neurological diseases

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 2                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **BRinging Artificial INTElligence home for a better cAre of amyotrophic lateral sclerosis and multiple SclERosis (BRAINTEASER)**. H2020 BRAINTEASER 101017598  
Director: Muñoz Blanco, José Luis

Project type: European research project

Funding body: EU/PRG. MARCO

Start date: 01/01/2021

End date: 31/12/2024

- Title: **Biomarcadores de la fase prodrómica de la enfermedad de Parkinson: un abordaje multimodal**. PI21/00771  
Director: Grandas Pérez, Francisco Javier  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: **Amantadina y estimulación magnética transcraneal para fatiga en la EM: ensayo Fase III, controlado, randomizado, cruzado y doble ciego (FETEM)**. ICI20/00074  
Director: Martínez Ginés, María Luisa  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2024

#### AREA 4: CLINICAL MICROBIOLOGY: INFECTIOUS DISEASES AND AIDS

##### GROUP 4.01: Clinical microbiology and infectious diseases

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 3                       |            |                    |            |
| National      | 16                      |            | 16                 |            |
| Regional      |                         |            | 7                  |            |

- Title: **Consolidation of WGS and RT-PCR activities for SARS-CoV-2 in Spain towards sustainable use and integration of enhanced infrastructure and processes in the RELECOV network**. EU4H RELECOV 2.0 101113109



Director: Muñoz García-Paredes, Patricia  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 16/03/2023  
 End date: 15/09/2024

- Title: **Combacte-Net Combatting Bacterial Resistance in Europe.** 7PM12/COMBACTE-NET  
 Director: Bouza Santiago, Emilio  
 Project type: Research project  
 Funding body: COMISION EUROPEA  
 Start date: 01/01/2013  
 End date: 31/12/2023
- Title: **Improved Identification of Fungal Species by MALDI-TOF and Application of Machine Learning for Detection of Antifungal Resistance Mechanisms.** ESCMID23/01  
 Director: Rodríguez Temporal, David  
 Project type: Research project  
 Funding body: ESCMID  
 Start date: 01/04/2023  
 End date: 31/03/2025
- Title: **Aplicación de la genómica en Candida para responder problemas clínicos relacionados con la candidiasis invasora: transmisión intra-hospitalaria, pronóstico del paciente, y estudio del foco.** PI22/00005  
 Director: Escribano Martos, Pilar  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
- Title: **Estudio de la epidemiología y resistencia a triazoles en cepas clínicas de Aspergillus spp. (estudio ASPEIN II): situación en 82 hospitales españoles.** PI21/00450  
 Director: Guinea Ortega, Jesús Vicente  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024

- Title: **La Nanobiotecnología como Herramienta para la Optimización de la Terapia de Sellado con Etanol en el Tratamiento de la Bacteriemia Relacionada con el Catéter.** PI21/00344  
 Director: Guembe Ramírez, María  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: **Plataforma genómica para una vigilancia optimizada de patógenos relevantes: Tuberculosis y COVID-19 como modelos de intervención.** PI21/01823  
 Director: García de Viedma del Álamo, Dario  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: **Nuevos métodos diagnósticos para identificar la candidemia relacionada a catéter en pacientes con catéter in situ. ¿Es posible personalizar el manejo de la candidemia? Estudio CANDICATH.** PI20/00575  
 Director: Muñoz García-Paredes, Patricia  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 30/06/2025
- Title: **Proyecto de Alerta en Neumonía Grave (PANG). Impacto de un bundle multidisciplinar de intervención diagnóstica y terapéutica.** PI20/01350  
 Director: Galar Recalde, Alicia  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 30/06/2025
- Title: **SINTESIS (eStudio del Impacto de las Nuevas TEcnologías y técnicas rápidas en la sepSIS de origen urinario).** PI20/01201  
 Director: Burillo Albizua, Almudena



Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 30/06/2025

- Title: **The role of the microbiome as a diagnostic, prognostic and therapeutic tool in C. difficile infection and other diseases.** PI20/01381  
Director: Reigadas Ramírez, Elena Manuela  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025
- Title: **El papel de la nueva tecnología de diagnóstico microbiológico e imagen en el diagnóstico de la infección de dispositivos electro-cardíacos. Proyecto mirada.** PI20/01438  
Director: Valerio Minero, Maricela  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 08/03/2024
- Title: **La cavidad abdominal como reservorio de cepas de Candida spp causantes de candidemia: aplicación del genotipado como herramienta de detección de genotipos capaces de alcanzar el torrente circulatorio.** PI19/00074  
Director: Escribano Martos, Pilar  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 31/12/2023
- Title: **Aplicación de estrategias basadas en tecnologías de secuenciación de nueva generación para solucionar problemas derivados de la globalización de la tuberculosis.** PI19/00331  
Director: Pérez García, Laura  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 30/06/2024

- Title: **Impacto del uso de 3 apósitos en la prevención de infección de herida quirúrgica en pacientes de Cirugía Cardíaca: estudio clínico, prospectivo y randomizado.** PI18/01741  
Director: Pérez Granda, María Jesús  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023
- Title: **Plataforma avanzada para optimizar el diagnóstico y vigilancia epidemiológica de la tuberculosis.** PI18/00599  
Director: García de Viedma del Álamo, Dario  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023
- Title: **Estudio CANDIMAD, una perspectiva microbiológica de la candidiasis invasora diagnosticada en Madrid: etiología causal, sensibilidad a antifúngicos y clones circulantes.** PI18/01155  
Director: Guinea Ortega, Jesús Vicente  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023
- Title: **Tratamiento preventivo del CMV en pacientes inmunocompetentes de alto riesgo con cirugía cardíaca mayor. Un ensayo clínico multicéntrico, doble ciego, aleatorizado, fase III (GAN-CAR).** ICI19/00079  
Director: Muñoz García-Paredes, Patricia  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 31/12/2025
- Title: **Dalbavancina como tratamiento local para las complicaciones infecciosas tras fracturas de alta energía ¿fake o esperanza?** FMM21/01  
Director: Guembe Ramírez, María  
Project type: Research project



Funding body: Fundación Mutua Madrileña  
Start date: 01/07/2021  
End date: 10/02/2025

- Title: **Miguel Servet II contract.** CPII18/00008  
Director: Guembe Ramírez, María  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 16/12/2023
- Title: **Miguel Servet II contract.** CPII19/00002  
Director: Rodríguez Sánchez, María Belén  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 31/05/2023
- Title: **Miguel Servet II contract.** CP20/00001  
Director: Pérez García, Laura  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2023
- Title: **Miguel Servet II contract.** CPII20/00015  
Director: Escribano Martos, Pilar  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2023
- Title: **Sara Borrell contract.** CD22/00014  
Director: Rodríguez Temporal, David  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Río Hortega contract.** CM21/00274  
Director: ALONSO MENCHEN, DAVID

Funding body: Instituto de Salud Carlos III  
Project type: Human resources  
Start date: 01/01/2022  
End date: 04/01/2024

- Title: **Río Hortega contract.** CM22/00130  
Director: Estevez Prieto, Agustín  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 31/01/2023  
End date: 30/01/2024
- Title: **Juan Rodés contract.** JR18/00030  
Director: Galar Recalde, Alicia  
Funding body: Instituto de Salud Carlos III  
Project type: Human resources  
Start date: 01/12/2018  
End date: 30/06/2023
- Title: **PFIS Predoctoral contract.** FI19/00021  
Director: Díaz García, Judith  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 31/12/2023
- Title: **PFIS Predoctoral contract.** FI20/00089  
Director: Mesquida Marcos, Aina Catalina  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2024
- Title: **PFIS Predoctoral contract.** FI20/00129  
Director: Rodríguez Grande, Cristina  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2024





- Title: **PFIS Predoctoral contract.** FI21/00310  
Director: Vázquez Cuesta, Silvia Noemí  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 04/02/2022  
End date: 31/12/2025
- Title: **PFIS Predoctoral contract.** FI21/00314  
Director: Soriano Martín-Nieto, Ana  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2025
- Title: **PFIS Predoctoral contract.** FI22/00145  
Director: Buenestado Serrano, Sergio  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2026
- Title: **PFIS Predoctoral contract.** FI22/00022  
Director: Díaz Navarro, Marta  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 14/02/2023  
End date: 13/02/2027
- Title: **Intensification contract.** INT22/00062  
Director: García de Viedma del Álamo, Dario  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/02/2023  
End date: 31/12/2024
- Title: **Young employment contract. Laboratory Technician.** PEJ-2021-TL/BMD-23377  
Director: Guinea Ortega, Jesús Vicente (González Leiva, Jose)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/10/2022  
End date: 30/09/2024
- Title: **Young employment contract. Research Assistant.** PEJ-2020-AI/BMD-17971  
Director: Guembe Ramírez, María (Díaz Navarro, Marta)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/02/2021  
End date: 31/01/2023
- Title: **Young employment contract. Research Assistant.** PEJ-2020-AI/BMD-19547  
Director: Muñoz García-Paredes, Patricia (Rodríguez Márquez, Belén)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 28/02/2023
- Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-18351  
Director: Pérez García, Laura (Molero Salinas, Andrea)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 28/02/2023
- Title: **Young employment contract. Research Assistant.** PEJ-2020-AI/BMD-18120  
Director: García de Viedma, Darío (Sanz Pérez, Amadeo)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 28/03/2023
- Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-19052  
Director: Escribano Martos, Pilar (Alonso Alegría, Nerea)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid



Start date: 01/01/2021

End date: 20/03/2023

- Title: **Young employment contract. Laboratory Technician.** PEJ-2021-TL/BMD-21113  
Director: Guembe Ramírez, María (Visedo García, Andrés)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/10/2022  
End date: 30/09/2024

#### GROUP 4.02: Clinical and epidemiological aspects of HIV and associated conditions

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 2                       |            | 1                  |            |
| Regional      |                         |            |                    |            |

- Title: **Infecciones agudas/recientes y reinfecciones por VHC en hombres que tienen sexo con hombres con y sin VIH.** PI20/00474  
Director: Ryan Murua, Pablo  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025
- Title: **Long Covid: análisis de la posible persistencia viral sistémica y de un reservorio intestinal de Sars-CoV-2 como mecanismo fisiopatogénico.** FMM22/01  
Director: Tejerina Picado, Francisco  
Project type: Research project  
Funding body: FUNDACIÓN MUTUA MADRILEÑA  
Start date: 15/09/2022  
End date: 30/06/2025

- Title: **Juan Rodés contract.** JR19/00021  
Director: Pérez Latorre, Leire  
Funding body: Instituto de Salud Carlos III  
Project type: Human resources  
Start date: 29/01/2020  
End date: 28/01/2023

#### AREA 5: DISEASES OF THE IMMUNE SYSTEM

##### GROUP 5.01: Pathophysiology and clinical investigation of chronic inflammatory and immune diseases

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 3                       |            |                    |            |
| Regional      |                         |            | 3                  |            |

- Title: **Local immunoradiotherapy (LIRT).** CCA001-2020 (C18915/A29362)  
Director: Sánchez-Mateos Rubio, Paloma  
Project type: Research project  
Funding body: Accelerator Award. Cancer Research Uk  
Start date: 01/12/2019  
End date: 30/11/2024
- Title: **Mecanismos de evasión de la inmunidad antitumoral y de resistencia a la inmunoterapia mediados por macrófagos.(mel-TAM).** PID2021-123507OB-I00  
Director: Sánchez-Mateos Rubio, Paloma  
Project type: Research project  
Funding body: MICINN/MINECO  
Start date: 01/09/2022  
End date: 31/08/2025
- Title: **Mecanismos moleculares de la inmunidad entrenada inducida por metotrexato.** PI20/00316



Director: Puig Kröger, Amaya Rocío  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 30/06/2025

- Title: **Variantes genéticas en HLA-G y niveles solubles de HLA-G asociados a los fallos reproductivos.** PI18/01695

Director: Fernández-Cruz Pérez, Eduardo  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2019  
 End date: 30/06/2023

- Title: **Young employment contract. Research Assistant.** PEJ-2020-AI/BMD-19682

Director: Carbone Campoverde, Javier Alberto (Alonso Armendariz, Rocío)  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/01/2021  
 End date: 31/01/2023

- Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-19098

Director: Rodríguez Sainz, Carmen (Cahuana Pérez, Mario Alberto)  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/01/2021  
 End date: 31/01/2023

- Title: **Young employment contract. Research Assistant.** PEJ-2021-AI/BMD-23327

Director: Samaniego García, Rafael (Nieto Valle, Alicia)  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/11/2022  
 End date: 31/10/2024

#### GROUP 5.02: Molecular biology of HIV

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 2                       |            | 2                  |            |
| Regional      |                         |            |                    |            |

- Title: **ESPID Small Grant Award: "The role of iron deficiency in the vaccine immune response of paediatric patients on immunosuppressive treatment (IronVac project)".** ESPID23/01

Director: Tarancon Díez, Laura  
 Project type: Research project  
 Funding body: ESPID  
 Start date: 09/10/2023  
 End date:

- Title: **Nanotecnología y microRNAs como terapia alternativa en la búsqueda de una posible erradicación de la infección por el VIH-1.** PI20/01314

Director: Muñoz Fernández, María Ángeles / Jiménez Fuentes, José Luis  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 31/12/2023

- Title: **Dendrímeros como candidatos a microbicidas para prevenir infecciones por VIH y/o VHS-2 en mujeres y hombres.** PI19/01638

Director: Muñoz Fernández, María Ángeles  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2020  
 End date: 30/06/2024

- Title: **Sara Borrell contract.** CD20/00025

Director: Tarancon Díez, Laura  
 Project type: Human resources  
 Funding body: Instituto de Salud Carlos III



Start date: 01/01/2021

End date: 31/12/2023

- Title: **Río Hortega contract.** CM20/00128  
Director: Hernanz Lobo, Alicia  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 11/01/2021  
End date: 30/06/2023

#### GROUP 5.03: Systemic autoimmune diseases

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 1                       |            | 1                  |            |
| Regional      |                         |            |                    |            |

- Title: **Stratification of Patients using advanced Integrative modeling of Data Routinely acquired for diagnosing Rheumatic complaints.** HE SPIDeRR 101080711  
Director: Castrejón Fernández, Isabel  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/05/2023  
End date: 30/04/2028
- Title: **Consulta de Alta Resolución en Reumatología (Reu-CAR): Una iniciativa coordinada entre Atención Primaria/Reumatología para el diagnóstico precoz y mejor manejo de los pacientes con artritis inflamatoria.** PI20/00847  
Director: Castrejón Fernández, Isabel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025

- Title: **Ayudas para Facultativos Investigadores FER 2021-2024.** FER-ACI01/2021  
Director: Molina Collada, Juan  
Project type: Human resources  
Funding body: Fundación Española de Reumatología (FER)  
Start date: 01/01/2022  
End date: 01/04/2026

#### GROUP 5.05: Pathogenesis of the immunoallergic response

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Caracterización de las alteraciones inmunológicas, específicamente en células Treg, implicadas en la desregulación inmune en pacientes pediátricos con errores innatos de inmunidad, hacia terapias dirigidas.** PI21/01325  
Director: Seoane Reula, María Elena  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024

#### GROUP 5.06: Immune regulation and homeostasis in diseases of the immune system

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 3                       |            | 1                  |            |
| Regional      | 1                       |            | 2                  |            |



- Title: Marie Curie-Development and implementation in clinical practice of the allogeneic use of thymus-derived regulatory T cells (thyTreg) as a cell therapy to suppress harmful immune responses.** MSCA-IF-2020/Allo\_THYTECH  
 Director: Martínez Bonet, Marta  
 Project type: Acciones Marie Curie  
 Funding body: EU/PRG. MARCO  
 Start date: 23/03/2022  
 End date: 12/07/2024
- Title: Uni-thyTreg: prueba de concepto preclínica para el uso de células T reguladoras obtenidas de tejido tímico (thyTreg) y modificadas genéticamente como terapia celular alogénica.** PI22/00473  
 Director: Pion, Marjorie  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
- Title: Desarrollo y validación preclínica del uso alogénico de células T reguladoras derivadas del timo (thyTreg) como terapia celular para suprimir las respuestas inmunitarias patológicas en humanos.** PI21/00189  
 Director: Correa Rocha, Rafael  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: PIC IDEPTE “Ensayo clínico para determinar la eficacia de una terapia con células thyTreg en la prevención de rechazo en niños trasplantados de corazón y de la enfermedad injerto contra receptor en adultos”.** ICI20/00063  
 Director: Correa Rocha, Rafael  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 31/12/2024
- Title: thyTreg, terapias celulares avanzadas, células Treg, tolerancia inmunológica, terapia alogénica, COVID19.** IND2022/BMD-23591  
 Director: Cozar Fernández, Beatriz  
 Project type: Research project  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/12/2022  
 End date: 30/11/2025
- Title: PFIS Predoctoral contract.** FI19/00120  
 Director: Fernández Castillo, Marta  
 Project type: Human resources  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2020  
 End date: 31/12/2023
- Title: Young employment contract. Research Assistant.** PEJ-2020-AI/BMD-17954  
 Director: Pion, Marjorie (Gil Manso, Sergio)  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/02/2021  
 End date: 31/01/2023
- Title: Young employment contract. Laboratory Technician.** PEJ-2021-TL/BMD-22703  
 Director: Correa Rocha, Rafael (Checa Fernández, Sergio)  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/11/2022  
 End date: 31/10/2024

#### GROUP 5.07: Infections in the paediatric population

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 2                       |            |                    |            |
| National      | 3                       |            |                    | 1          |
| Regional      |                         |            |                    |            |



- Title: **HE VERDI 101045989 SARS-coV2 variants Evaluation in pRegnancy and paeDiatrics cohorts.** HE VERDI 101045989  
Director: Aguilera Alonso, David  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/11/2021  
End date: 31/10/2025
- Title: **ESPID Small Grant Award: "The role of iron deficiency in the vaccine immune response of paediatric patients on immunosuppressive treatment (IronVac project)".** ESPID23/01  
Director: Tarancón Díez, Laura  
Project type: Research project  
Funding body: ESPID  
Start date: 09/10/2023  
End date:
- Title: **Infeccion por VRS y desarrollo de sibilancias persistentes: una cohorte de nacimiento. (Marañón RSV Birth cohort; MARCO Study.** PI21/00840  
Director: Rodríguez Fernández, Rosa María  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: **Child-TB-Omics: Aplicación de técnicas ómicas para el diagnóstico de tuberculosis en niños y adolescentes.** PI20/01607  
Director: Santiago García, Begoña  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025
- Title: **Caracterización de las nuevas infecciones VIH en adolescentes en España.** PI19/01530  
Director: Navarro Gómez, María Luisa  
Project type: Research project  
Funding body: Instituto de Salud Carlos III

Start date: 01/01/2020

End date: 31/12/2023

**Not managed by the FIBHGM**

- Title: **Juan de la Cierva Training.** Fjc2021-047271-I  
Director: Comella Del Barrio, Patricia  
Project Type: Human Resources  
Funding Body: Micinn  
Start Date: 01/01/2023  
End Date: 31/12/2024

## AREA 6: TRANSLATIONAL ONCOLOGY

### GROUP 6.01: Interdisciplinary oncology and biotechnology

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 2                       |            |                    |            |
| Regional      |                         |            | 1                  |            |

- Title: **Cirugía caneofacial personalizada y guiada por imagen.** PI22/00601  
Director: Ochandiano Caicoya, Santiago  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Elaboración de un protocolo nacional en dosimetría biológica (PRONADB).** 2023-094-1\_CSN\_MONTORO  
Director: Prieto Rodríguez, María Jesús  
Project type: Research project  
Funding body: Consejo De Seguridad Nuclear  
Start date: 16/05/2023  
End date: 15/05/2026



- Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-19427  
Director: Muñoz Fernández, Mercedes (Fernández Martín, Celia)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/03/2021  
End date: 28/02/2023

#### GROUP 6.02: Translational medical oncology and personalized cancer therapy

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 3                       | 1          |                    |            |
| Regional      |                         |            |                    |            |

- Title: **FAITH: Federated Artificial Intelligence solution for moniToring mental Health status after cancer treatment.** H2020 FAITH 875358  
Director: Martín Jiménez, Miguel  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/01/2020  
End date: 30/06/2024
- Title: **Detección de ctDNA y caracterización de subpoblaciones inmunes circulantes en pacientes con CMTN Tratadas con quimio (inmuno) terapia neoadyuvante.** PI22/01346  
Director: López-Tarruella Cobo, Sara  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Valor predictivo de la carga mutacional en tejido tumoral, plasma y CTCs en la respuesta a docetaxel-carboplatino neoadyuvante en pacientes con cáncer de mama triple negativo.** PI18/01775

Director: Martín Jiménez, Miguel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023

- Title: **Convenio colaboración científico-técnica para la realización conjunta del Programa de Ciencia de Datos “Infraestructura de datos para Medicina Personalizada” (IMPACT-Data).** IMP/00019  
Director: Picornell Company, Antonio Clemente  
Project type: Plataformas  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024

#### Not managed by the FIBHGM

- Title: **Desarrollo de modelos diagnósticos y pronósticos basados en la infección intratumoral por Fusobacterium y microbiota intestinal asociada en el cáncer colorectal localizado.** FUSOMAP  
Director: García Alfonso, Pilar  
Project type: Research project  
Funding body: Mutua Madrileña  
Start date: 26/02/2021  
End date: 26/02/2024

#### GROUP 6.03: Genetics and clinical aspects of hematologic malignancies and hematopoietic stem cell transplantation

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 4                       |            |                    |            |
| Regional      |                         |            | 1                  |            |





- Title: Remote Ischemic Conditioning in Lymphoma Patients Receiving Anthracyclines.' – 'RESILIENCE'.** H2020-RESILIENCE-945118  
 Director: Bastos Oreiro, Mariana Beatriz  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/06/2021  
 End date: 31/05/2026
- Title: Búsqueda de biomarcadores relacionados con genes del sistema inmune para predecir la eficacia y la toxicidad en pacientes con neoplasias hematológicas tratadas con inmunoterapia basada en el receptor de células T antigénicas quiméticas (CART9).** PI20/00521  
 Director: Buño Borde, Ismael  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 30/06/2025
- Title: Lentiviral-mediated gene therapy for Diamond Blackfan Anemia: Preclinical Safety and Efficacy Studies.** AC20/00110  
 Director: Beléndez Bieler, Cristina  
 Project type: ACC. Complementarias  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 15/05/2024
- Title: European randomised first line phase-3 trial, evaluating Cabozantinib against placebo as maintenance treatment after the end of standard treatment, in newly diagnosed osteosarcoma patients (FOSTER-CabOs).** ATTRA236786MATA  
 Director: Mata Fernández, Cristina  
 Project type: Research project  
 Funding body: AECC  
 Start date: 15/12/2023  
 End date: 14/12/2032
- Title: Dynamics of circulating tumor DNA and other biomarkers prior to infusion of CAR-T therapy as a prognostic marker of treatment failure in diffuse large B cell lymphoma.** GS22BMD/01

Director: Bastos Oreiro, Mariana Beatriz

Project type: Research project

Funding body: GILEAD SCIENCE

Start date: 19/02/2023

End date: 18/02/2025

- Title: Grants for predoctoral recruitment candidate.** PIPF-2022/SAL-GL-24713  
 Director: De la Iglesia San Sebastián, Ismael  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/12/2023  
 End date: 30/11/2027

#### GROUP 6.04: Surgical oncology

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | -                       | -          | -                  | -          |
| European      | -                       | -          | -                  | -          |
| National      | -                       | -          | -                  | -          |
| Regional      | -                       | -          | -                  | -          |

#### AREA 7: SYSTEMIC DISEASES AND ORGAN TRANSPLANTATION

##### GROUP 7.01: Inflammation and vascular damage in chronic kidney disease. Renal pathophysiology

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 5                       |            | 1                  |            |
| Regional      |                         |            |                    |            |



- Title: **Eficacia de la Colchicina en prevención secundaria de eventos vasculares y progresión renal en pacientes con enfermedad renal crónica moderada (estudio COLCHIREN).** ICI22/00006  
Director: Goicoechea Diezhandino, María de los Ángeles  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2026
- Title: **Ensayo clínico de nefroprotección con cilastatina en cirugía de citorreducción con quimioterapia intraperitoneal intraoperatoria hipertérmica con cisplatino.** ICI21/00111  
Director: Lázaro Fernández, Alberto  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2025
- Title: **El control de la apoptosis renal bloquea el inflammasoma y evita el daño orgánico a distancia.** PI20/01577  
Director: Lázaro Fernández, Alberto  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/04/2025
- Title: **Caracterización del mecanismo de acción de la cilastatina para actuar como tratamiento preventivo en indicaciones inflamatorias agudas y crónicas.** CPP2022-009633  
Director: Lázaro Fernández, Alberto  
Project type: Research project  
Funding body: MICINN/MINECO  
Start date: 01/09/2023  
End date: 31/08/2026
- Title: **Modulación farmacológica de la lesión por reperusión en injertos renales con isquemia normotérmica.** FMM23/02  
Director: Lázaro Fernández, Alberto  
Project type: Research project

Funding body: Fundación Mutua Madrileña  
Start date: 28/07/2023  
End date: 27/07/2026

- Title: **Sara Borrell contract.** CD22/00013  
Director: Valiño Rivas, Lara  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 31/03/2023  
End date: 30/03/2026

#### GROUP 7.02: Pathophysiology and natural history of liver and digestive diseases

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 5                       |            | 1                  |            |
| Regional      |                         |            |                    |            |

- Title: **Evaluación de la capacidad diagnóstica y pronóstica de la biopsia hepática en la insuficiencia hepática crónica agudizada (ACLF): unabordaje traslacional.** PI21/01957  
Director: Bañares Cañizares, Rafael  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: **Profundización en el diagnóstico y mecanismos de las alteraciones de las plaquetas y médula ósea en la enfermedad hepática crónica.** PI21/01749  
Director: Vaquero Martín, Javier  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: **Caracterización de la función cardiaca en la cirrosis: valor pronóstico e interrelación con la respuesta inflamatoria sistémica.** PI18/01901



Director: Bañares Cañizares, Rafael

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2019

End date: 30/06/2023

- Title: **Base racional para modular el estrés del retículo endoplásmico inducido por el microbioma como herramienta para evitar la evasión inmune en el carcinoma hepatocelular (RETO).** FAECC23/01

Director: Cubero Palero, Francisco Javier

Project type: Research project

Funding body: AECC

Start date: 01/12/2023

End date: 30/11/2028

- Title: **La perfusión normotérmica de órgano aislado como sistema de recuperación de órganos subóptimos para aumentar el pool de donantes. Biomarcadores de viabilidad y trasplantabilidad.** FMM21/02

Director: Bañares Cañizares, Rafael

Project type: Research project

Funding body: Fundación Mutua Madrileña

Start date: 16/06/2021

End date: 16/06/2024

- Title: **Juan Rodés contract.** JR22/00052

Director: Caballero Marcos, Aránzazu

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 31/01/2023

End date: 22/01/2027

- Title: **ASCEND (ARDS in Children and ECMO initiation strategies impact on Neuro-Development).** NIH-2020/PAF01099

Director: Butragueño Laiseca, Laura

Project type: Research project

Funding body: National Institutes of Health (NIH)

Start date: 05/09/2020

End date: 30/06/2023

- Title: **Influencia de la modalidad de ventilación y la inflamación sobre el pronóstico en un modelo de experimental animal pediátrico de parada cardíaca.** PI21/01149

Director: López-Herce Cid, Jesús

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2022

End date: 31/12/2024

- Title: **Comparación de la eficacia en sepsis de las técnicas de depuración sanguínea para niños críticos: estudio clínico y experimental.** PI20/01428

Director: Santiago Lozano, María José

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 30/06/2025

- Title: **Efectos de la resucitación con albumina hipertónica y nuevas drogas vasoactivas en un modelo animal infantil de shock hemorrágico.** PI20/01706

Director: Urbano Villaescusa, Javier

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 30/06/2025

- Title: **Ensayo clínico controlado aleatorizado sobre el tratamiento profiláctico del estreñimiento con polietilenglicol con electrolitos en el niño crítico.** PI20/01339

Director: López González, Jorge

#### GROUP 7.04: Diseases of the critically ill child

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | 1                       |            |                    |            |
| European      |                         |            |                    |            |
| National      | 7                       |            | 3                  |            |
| Regional      |                         |            |                    |            |



Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025

- Title: **Utilidad de las nuevas modalidades de imagen en ecografía y videomicroscopia para la evaluación microcirculatoria y tisular a pie de cama en niños sometidos a cirugía cardíaca.** PI20/01491

Director: González Cortés, Rafael  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025

- Title: **Estudio clínico y experimental de parada cardíaca y reanimación cardiopulmonar en pediatría.** PI18/01632

Director: López-Herce Cid, Jesús  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023

- Title: **Desarrollo de un sistema de simulación para la formación en técnicas de depuración extrarrenal continua.** DTS22/00022

Director: Mencía Bartolomé, Santiago  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025

- Title: **Río Hortega contract.** CM19/00203

Director: Manrique Martín, Gema  
Project type: Human Resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/12/2019  
End date: 13/01/2023

- Title: **Río Hortega contract.** CM21/00223

Director: Butragueño Laiseca, Laura  
Project type: Human resources

Funding body: Instituto de Salud Carlos III  
Start date: 25/01/2022  
End date: 15/09/2024

- Title: **Juan Rodés contract.** JR21/00023

Director: Fernández Lafever, Sarah Nicole  
Type of Project: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2025

#### GROUP 7.05B Physiological and therapeutic medical-surgical aspects of respiratory diseases

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 7.06. Regenerative medicine in plastic surgery

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |



#### GROUP 7.07. Experimental kidney transplantation

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 7.08: Paediatric endocrinology

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 7.10 Regeneration and biomaterials in musculoskeletal diseases

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Transformación digital en el tratamiento oncológico. Inteligencia artificial, impresión 3D y realidad aumentada para una medicina personalizada.**(IAR3D-ONC) TED2021-132200B-I00

Director: Calvo Haro, Jose Antonio

Project type: Research project

Funding body: MICINN/MINECO

Start date: 01/12/2022

End date: 30/11/2024

GROUP 7.12: Emergency medicine

#### GROUP 7.12: Emergency medicine

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 7.16B: Pathophysiology of the cardiovascular system and circulatory support

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      |                         |            |                    |            |
| Regional      |                         | 2          |                    |            |

#### Not managed by the FIBHGM

- Title: **Tres años después del estado de alarma por COVID-19: nueva propuesta metodológica internacional en la docencia universitaria.** PROYECTO INNOVA-DOCENCIA UCM 273



Director: Quintana Villamandos, María Begoña

Project type: Research project

Funding body: UCM

Start date: 01/09/2023

End date: 01/09/2024

- Title: **Barrera lingüística, otro frente para avanzar en la internacionalización de la docencia universitaria en Medicina.** INNOVA-DOCENCIA UCM 405

Director: Quintana Villamandos, María Begoña

Project type: Research project

Funding body: UCM

Start date: 01/09/2022

End date: 01/09/2023

#### GROUP 7.18: Peritransplant evaluation of the liver

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 7.19: Perianesthetic assessment

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 7.20: Anesthesia, toxins, and arrhythmias

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 7.21 Biopathology of aging

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Efecto de un programa personalizado de ejercicio físico sobre la capacidad funcional y la calidad de vida en personas mayores con cáncer colorectal.** PI21/01729

Director: Serra Rexach, José Antonio

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2022

End date: 30/06/2026

#### GROUP 7.22 Neonatal and developmental pathophysiology

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |



- Title: **Surfactante aerosolizado combinado con ventilación de alta frecuencia oscilatoria con volumen garantizado en la prevención del daño pulmonar inducido por ventilación en un modelo animal neonatal.** PI20/01331  
Director: Sánchez Luna, Manuel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025

#### GROUP 7.26: Evaluation of health services and clinical epidemiology

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### GROUP 7.27: Hospital pharmacy and pharmacogenomics

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 7                       |            |                    |            |
| Regional      |                         |            | 1                  |            |

- Title: **Desarrollo de una herramienta de predicción de respuesta a terapia biológica en niños con enfermedad inflamatoria intestinal.** PI22/00584  
Director: López Fernández, Luis Andrés  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025

- Title: **Marcadores genéticos, transcriptómicos y celulares de respuesta a terapia biológica en enfermedad inflamatoria intestinal pediátrica.** PI19/00792  
Director: López Fernández, Luis Andrés  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 31/12/2023
- Title: **Proyecto iPHARMGx: Estudio colaborativo nacional para evaluar la efectividad y eficiencia de la implementación de biomarcadores farmacogenéticos mediante una estrategia de genotipado anticipado en el SNS.** PMP22/00055  
Director: López Fernández, Luis Andrés  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 14/12/2023  
End date: 31/12/2025
- Title: **Medicina Personalizada de Precisión 2021 (Farmacia).** PMP21/00051-2  
Director: Herranz Alonso, Ana  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2025
- Title: **Instrumento automatizado para la evaluación del uso y la resistencia a los antimicrobianos (AI-AMS).** CPP2022-009977  
Director: Sanjurjo Saez, María  
Project type: Research project  
Funding body: MICINN/MINECO  
Start date: 01/05/2023  
End date: 30/04/2026
- Title: **Identificación de variantes genéticas asociadas a Trastorno por dolor, Trastorno por Uso de Opioides y otros Trastornos mentales (patología dual) y Evaluación de la implantación de un programa de atención integral.** DRO2021/057





Director: López Fernández, Luis Andrés

Project type: Research project

Funding body: Ministerio de Sanidad, SS Sociales e Igualdad

Start date: 01/01/2022

End date: 31/12/2024

- Title: **Salud Móvil: implementación y expansión de un modelo asistencial no presencial de atención farmacéutica.** SEFH21/01

Director: Herranz Alonso, Ana

Project type: Research project

Funding body: Sociedad Española de Farmacia Hospitalaria (SEFH)

Start date: 01/09/2022

End date: 31/08/2024

- Title: **Young employment contract. Research Assistant.** PEJ-2021-AI/BMD-21866

Director: López Fernández, Luis Andrés (Zapata Cobo, Paula)

Project type: Human resources

Funding body: Comunidad Autónoma de Madrid

Start date: 01/10/2022

End date: 30/09/2024

#### GROUP 7.28: Clinical nutrition

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Utilidad de la realidad virtual y uso de una app para la enseñanza y monitorización de los cuidados de catéter en pacientes con nutrición parenteral domiciliaria.** PI19/01275

Director: De la Cuerda Compés, María Cristina

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2020

End date: 30/06/2024

#### GROUP 7.29: Pharmacology and vascular pathophysiology

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 2                       | 3          |                    |            |
| Regional      |                         | 3          |                    | 4          |

- Title: **Papel del inflammasoma en la disfunción de células progenitoras endoteliales en pacientes con hipertensión arterial pulmonar asociada a cardiopatías congénitas.** PI22/01302

Director: Moreno Gutiérrez, Laura

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2023

End date: 31/12/2025

- Title: **Papel de la hipoxia y la inflamación en la disfunción de células endoteliales progenitoras en hipertensión pulmonar pediátrica.** PI19/01616

Director: Moreno Gutiérrez, Laura

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2020

End date: 30/06/2024

#### Not managed by the FIBHGM

- Title: **Papel fisiopatológico de la vitamina D y la microbiota en la hipertensión pulmonar y en la disfunción eréctil VIMIPHEd.** PID2019-107363RB-I00

Director: Pérez Vizcaíno, Francisco

Project type: Research project

Funding body: Plan Nacional de I+D (CICYT)

Start date: 01/01/2020

End date: 31/05/2024



- Title: **Canales Kv como dianas farmacológicas en la hipertensión arterial pulmonar y la disfunción eréctil.** PID2020-117939RB-I00  
Director: Cogolludo Torralba, Ángel  
Project type: Research project  
Funding body: Plan Nacional de I+D (CICYT)  
Start date: 01/09/2021  
End date:
- Title: **Consecuencias funcionales de mutaciones en el gen KCNA5 encontradas en pacientes españoles con Hipertensión Pulmonar.**  
Director: Cogolludo Torralba, Ángel  
Project type: Research project  
Funding body: Fundación Contra la Hipertensión Pulmonar (FCHP)  
Start date: 10/01/2021  
End date:
- Title: **Bioingeniería de células satélite de músculo esquelético como nueva estrategia de diferenciación a cardiomiocitos y regeneración cardíaca.** CARDIOBOOST-CM. S2022/BMD-7245  
Director: Torres, Miguel / Pérez Vizcaíno, Francisco  
Project type: Research project  
Funding body: Comunidad Autónoma de Madrid (CAM)  
Start date: 16/01/2023  
End date:
- Title: **Identificación de Mecanismos, Biomarcadores e Intervenciones en comorbilidad en Enfermedades Respiratorias Hipoxémicas mediante abordajes preclínicos, clínicos y computacionales.** INSPIRA. S2022/BMD-7224  
Director: Calzada, María Jose / Cogolludo, Ángel  
Project type: Research project  
Funding body: Comunidad Autónoma de Madrid (CAM)  
Start date: 16/01/2023  
End date:
- Title: **Vesículas extracelulares en la fisiopatología hepática: Relevancia mecanística, diagnóstica y terapéutica (EXOHEP2-CM).** S2022/BMD-7409  
Director: Vaquero, Javier / Moreno, Laura  
Project type: Research project  
Funding body: Comunidad Autónoma de Madrid (CAM)  
Start date: 16/01/2023  
End date:
- Title: **Pre-doctoral contracts for research staff in training.** CT63/19-CT64/19  
Director: Pérez Vizcaino, Francisco  
Project Type: Human Resources  
Funding Body: Ucm  
Start Date: 16/11/2020  
End Date: 05/05/2024
- Title: **Pre-doctoral contracts for research staff in training.** CT82/20-CT83/20  
Director: Cogolludo Torralba, Ángel  
Project Type: Human Resources  
Funding Body: Ucm  
Start Date: 01/11/2021  
End Date:
- Title: **Postdoctoral Contracts UNA4CAREER.** UNA4CAREER-2021-2  
Director: Perez Vizcaíno, Francisco  
Project Type: Human Resources  
Funding Body: Ucm  
Start Date: 01/10/2022  
End Date:
- Title: **Investigo Programme.** CT19/23-INV-M-137  
Director: Moreno Gutiérrez, Laura  
Project Type: Human Resources  
Funding Body: Comunidad Autónoma de Madrid  
Start Date: 01/06/2023  
End Date: 30/04/2024



### GROUP 7.31 Pathophysiology in women, pregnancy, labor, and puerperium

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 3                       |            |                    |            |
| Regional      |                         |            | 2                  |            |

- Title: Valor de los anticuerpos anti-espermatozoides como marcadores de daño testicular por SARS-CoV-2 en la post-pandemia y su efecto en enfermedades de transmisión sexual.** PI22/00035  
 Director: Relloso Cereceda, Miguel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
- Title: La respuesta inflamatoria anti-espermatozoide para evitar la diseminación de infecciones de transmisión sexual como causa de infertilidad.** PI19/00078  
 Director: Relloso Cereceda, Miguel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2020  
 End date: 30/06/2024
- Title: Estudio del impacto del factor de género en el pronóstico del melanoma cutáneo: análisis epidemiológico y búsqueda de patrones pronósticos.** FMM20/04  
 Director: Mercader Cidoncha, Enrique  
 Project type: Research project  
 Funding body: Fundación Mutua Madrileña  
 Start date: 19/10/2020  
 End date: 18/10/2023

- Title: Young employment contract. Laboratory Technician.** PEJ-2021-TL/BMD-22394  
 Director: Relloso Cereceda, Miguel (Herrero Rufo, Alicia)  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/10/2022  
 End date: 31/08/2023
- Title: Young employment contract. Laboratory Technician.** PEJ-2021-TL/BMD-22394  
 Director: Relloso Cereceda, Miguel (Baca Cornejo, Katia Ruth)  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/10/2022  
 End date: 30/09/2024

### GROUP 7.32: Physical medicine and rehabilitation

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: EXPLORER: Primer portfolio de dispositivos de uso doméstico destinado a la rehabilitación de pacientes afectados por trastornos de la marcha.** PMPTA22/00106  
 Director: Arroyo Riaño, Olga  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2024



### GROUP 7.33: Pathological Anatomy

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

### GROUP 7.34: Multimorbidity, chronic diseases and health services. Primary Care

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         | 5          |                    |            |
| National      | 2                       | 6          |                    |            |
| Regional      |                         |            |                    | 2          |

- Title: **Efectividad y coste efectividad de una comunidad de práctica virtual para la mejora del empoderamiento de personas de mediana edad con multimorbilidad: ECA.** PI22/01124  
Director: González González, Ana Isabel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Multimorbilidad en el Sistema Nacional de Salud: Caracterización poblacional e impacto de sus patrones y trayectorias en personas mayores (Proyecto MM-SNS).** PI22/00768  
Director: Del Cura González, Isabel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025

### Not managed by the FIBHGM

- Title: **Cancer prevention and early detection among the homeless population in Europe: Co-adapting and implementing the Health Navigator Model. CANCERLESS.** 965351. H2020-SC1-2020-Single-Stage-RTD  
COIP: Barrio Cortés, Jaime  
Project type: European research project  
Funding body: H2020  
Start date: 01/06/2021  
End date: 31/05/2024
- Title: **BEhavioral and Adherence Model for improving quality, health outcomes and cost-Effectiveness of healthcaRe. BEAMER.** 101034369. H2020-JTI-IMI2-2020-23-two-stage  
COIP: Barrio Cortés, Jaime  
Project type: European research project  
Funding body: H2020  
Start date: 01/09/2021  
End date: 31/08/2026
- Title: **Pre-Commercial Procurement of Innovative Triage Management Systems Strengthening Resilience and Interoperability of Emergency Medical Services. iProcureSecurity PCP.** 101022061. H2020-SU-SEC-2020  
COIP: Barrio Cortés, Jaime  
Project type: European research project  
Funding body: H2020  
Start date: 01/09/2021  
End date: 31/08/2024
- Title: **CO-CAPTAIN.** 101104784 HORIZON-MISS-2022-CANCER-01  
COIP: Polentinos Castro, Elena  
Project type: European research project  
Funding body: H2020  
Start date: 01/01/2023  
End date: 31/12/2026
- Title: **Stratification of Patients using advanced Integrative modeling of Data Routinely acquired for diagnosing Rheumatic complaints, SPIDDER.** 101080711-2 HORIZON-HLTH-2022-TOOL-12-two-stage



Director: Del Cura González, María Isabel  
 Project type: European research project  
 Funding body: H2020  
 Start date: 01/01/2023  
 End date: 31/12/2026

- Title: **Patrones temporales de multimorbilidad, adherencia a las recomendaciones de seguimiento y uso de servicios sanitarios en la cohorte de supervivientes de cáncer de mama utilizando datos del mundo real.** PI22/00020  
 COIP: Sanz Cuesta, María Teresa  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
- Title: **Estudio multicéntrico sobre el impacto de la pandemia por SARS-CoV-2 en los cuidados y estado de salud de las personas de 75 años o más y sus cuidadores (Proyecto CUIDAMOS+75).** PI21/00190  
 Director: Rico Blázquez, Milagros  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: **Infección del tracto urinario en adultos en atención primaria en España: incidencia, etiología, prescripción y resistencias antibióticas (2009-2018). ESTUDIO ITURA-AP.** PI19/00170  
 COIP: Rodríguez Barrientos, Ricardo  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2020  
 End date: 30/06/2024
- Title: **Medicina personalizada en la detección precoz del deterioro cognitivo preclínico. Desarrollo de un modelo predictivo de riesgo.** PMP22/00084  
 COIP: Rico Blázquez, Milagros

Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025

- Title: **Salud pública y Medicina preventiva de precisión combinando exploración física, hábitos de vida e información genómica: monitorización de la pandemia de obesidad a través de extensión de la Cohorte IMPaCT (Obes-IMPACT).** PMP22/00003  
 Director: Del Cura González, María Isabel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2026
- Title: **Programa de Medicina Predictiva - Infraestructura de Medicina de Precisión asociada a la Ciencia y Tecnología (IMPACT).** IMP/00021  
 Director: Del Cura González, María Isabel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 31/12/2023
- Title: **Investigo Programme.** E28-2023-0603023  
 Director: Del Cura González, Isabel  
 Project Type: Human Resources  
 Funding Body: Comunidad Autónoma de Madrid  
 Start Date: 07/04/2023  
 End Date: 07/04/2025
- Title: **Investigo Programme.** E-28-2023-1487627  
 Director: Rico Blázquez, Milagros  
 Project Type: Human Resources  
 Funding Body: Comunidad Autónoma de Madrid  
 Start Date: 01/09/2023  
 End Date: 01/09/2024



#### GROUP 7.35: Translational dermatology: Research and innovation

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

#### NURSING RESEARCH GROUP

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      |                         |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Earlydel - Design and usability of a wearable system for the early detection of delirium or agitation in patients over 65 years of age in the hospital setting (INNOBUYER).** IB23-2019610-36  
Director: Flores García, Rubén  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 21/06/2023  
End date: 25/08/2025

#### CLINICAL RESEARCHERS ASSOCIATED

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 2                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Subvención para incentivar la actividad de donación y trasplante realizada en los hospitales.** MSYPS20/02  
Director: Escalante Cobo, José Luis  
Project type: Research project  
Funding body: MICINN/MINECO  
Start date: 09/12/2020  
End date:
- Title: **Caracterización molecular de la nueva entidad clínica relacionada con la Hiperplasia suprarrenal congénita, Síndrome CAH-X.** FJLCSEQC22/01  
Director: Martínez Figueras, Laura  
Project type: Research project  
Funding body: Fundación José Luis Castaño-SEQC  
Start date: 04/07/2022  
End date: 03/07/2024



## Scientific publications

The list presented below shows all the referenced publications in which investigators from the IISGM participated in during 2023.

Publications with an impact factor greater than **10 points are highlighted**. In order to obtain the total impact factor, only information from publications indexed as original articles, reviews, editorials and letters in the main collection of the Web of Science (WOS) have been taken into account.

It is important to note that publications involving different groups or areas of the Institute are computed individually in each group and area, although only once for purposes of the calculation of the Institute's total impact factor.

| Journal                                                            | Nº | IF  | Amount IF |
|--------------------------------------------------------------------|----|-----|-----------|
| ACTA NEUROLOGICA BELGICA                                           | 1  | 2   | 2         |
| ACTA NEUROPATHOLOGICA                                              | 1  | 9,3 | 9,3       |
| ACTA NEUROPSYCHIATRICA                                             | 1  | 2,6 | 2,6       |
| ACTA PAEDIATRICA                                                   | 2  | 2,4 | 4,8       |
| ACTA PSYCHIATRICA SCANDINAVICA                                     | 1  | 5,3 | 5,3       |
| Actas Dermo-Sifiliograficas                                        | 2  | 3,8 | 7,6       |
| ACTAS ESPANOLAS DE PSIQUIATRIA                                     | 1  | 1   | 1         |
| Actas Urologicas Espanolas                                         | 3  | 1,2 | 3,6       |
| Advances in Data Analysis and Classification                       | 1  | 1,4 | 1,4       |
| Advances In Laboratory Medicine-Avances En Medicina De Laboratorio | 4  | 1,1 | 4,4       |
| Advances in Rheumatology                                           | 1  | 2   | 2         |
| ADVANCES IN THERAPY                                                | 1  | 3,4 | 3,4       |
| AGING & MENTAL HEALTH                                              | 1  | 2,8 | 2,8       |
| AIDS                                                               | 2  | 3,4 | 6,8       |
| ALIMENTARY PHARMACOLOGY & THERAPEUTICS                             | 1  | 6,6 | 6,6       |
| ALLERGOLOGIA ET IMMUNOPATHOLOGIA                                   | 1  | 2,5 | 2,5       |

| Journal                                                    | Nº | IF          | Amount IF   |
|------------------------------------------------------------|----|-------------|-------------|
| ALLERGY                                                    | 2  | <b>12,6</b> | <b>25,2</b> |
| Allergy Asthma and Clinical Immunology                     | 1  | 2,6         | 2,6         |
| Alzheimers Research & Therapy                              | 1  | 7,9         | 7,9         |
| AMERICAN JOURNAL OF CARDIOLOGY                             | 2  | 2,3         | 4,6         |
| AMERICAN JOURNAL OF EMERGENCY MEDICINE                     | 1  | 2,7         | 2,7         |
| AMERICAN JOURNAL OF GASTROENTEROLOGY                       | 3  | 8           | <b>24</b>   |
| AMERICAN JOURNAL OF HEMATOLOGY                             | 1  | <b>10,1</b> | <b>10,1</b> |
| AMERICAN JOURNAL OF PERINATOLOGY                           | 1  | 1,5         | 1,5         |
| AMERICAN JOURNAL OF PSYCHIATRY                             | 2  | <b>15,1</b> | <b>30,2</b> |
| AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY | 1  | 5,9         | 5,9         |
| AMERICAN JOURNAL OF TRANSPLANTATION                        | 2  | 8,9         | <b>17,8</b> |
| AMYLOID-JOURNAL OF PROTEIN FOLDING DISORDERS               | 1  | 5,2         | 5,2         |
| ANAIS BRASILEIROS DE DERMATOLOGIA                          | 1  | 2,6         | 2,6         |
| ANALES DE PEDIATRIA                                        | 26 | 1,5         | <b>39</b>   |
| ANALES DEL SISTEMA SANITARIO DE NAVARRA                    | 1  | 1           | 1           |
| Andes Pediatria                                            | 2  | 0,5         | 1           |
| Angiologia                                                 | 1  | 0,1         | 0,1         |
| ANNALS OF HEMATOLOGY                                       | 4  | 3           | <b>12</b>   |
| ANNALS OF ONCOLOGY                                         | 1  | <b>56,7</b> | <b>56,7</b> |
| Annals of Pediatric Surgery                                | 1  | 0,4         | 0,4         |
| ANNALS OF PHARMACOTHERAPY                                  | 1  | 2,3         | 2,3         |
| ANNALS OF SURGERY                                          | 1  | 7,5         | 7,5         |
| ANNALS OF SURGICAL ONCOLOGY                                | 2  | 3,4         | 6,8         |
| ANNALS OF THE RHEUMATIC DISEASES                           | 1  | <b>20,3</b> | <b>20,3</b> |
| Antibiotics-Basel                                          | 9  | 4,3         | 38,7        |
| ANTIMICROBIAL AGENTS AND CHEMOTHERAPY                      | 2  | 4,1         | 8,2         |
| Antimicrobial Resistance and Infection Control             | 1  | 4,8         | 4,8         |

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| Journal                                                  | Nº | IF  | Amount IF   |
|----------------------------------------------------------|----|-----|-------------|
| Antioxidants                                             | 5  | 6   | <b>30</b>   |
| Anuario de Psicologia Juridica                           | 1  | 0,9 | 0,9         |
| Applied Health Economics and Health Policy               | 1  | 3,1 | 3,1         |
| Applied Sciences-Basel                                   | 2  | 2,5 | 5           |
| ARCHIVES OF PATHOLOGY & LABORATORY MEDICINE              | 1  | 3,7 | 3,7         |
| ARCHIVOS DE BRONCONEUMOLOGIA                             | 6  | 8,7 | <b>52,2</b> |
| Archivos de Cardiologia de Mexico                        | 1  | 0,7 | 0,7         |
| ARCHIVOS ESPANOL DE UROLOGIA                             | 1  | 0,6 | 0,6         |
| ARTHRITIS CARE & RESEARCH                                | 3  | 3,7 | <b>11,1</b> |
| ARTHRITIS RESEARCH & THERAPY                             | 3  | 4,4 | <b>13,2</b> |
| ATENCION PRIMARIA                                        | 1  | 1,8 | 1,8         |
| AUSTRALIAN CRITICAL CARE                                 | 1  | 2,6 | 2,6         |
| AUTISM                                                   | 1  | 5,2 | 5,2         |
| AUTISM RESEARCH                                          | 1  | 5,3 | 5,3         |
| AUTOIMMUNITY REVIEWS                                     | 1  | 9,2 | 9,2         |
| BASIC & CLINICAL PHARMACOLOGY & TOXICOLOGY               | 1  | 2,7 | 2,7         |
| BIOCHIMICA ET BIOPHYSICA ACTA-MOLECULAR BASIS OF DISEASE | 2  | 4,2 | 8,4         |
| BIOCONJUGATE CHEMISTRY                                   | 1  | 4   | 4           |
| Biofilm                                                  | 1  | 5,9 | 5,9         |
| BIOMEDICAL PHYSICS & ENGINEERING EXPRESS                 | 1  | 1,3 | 1,3         |
| BIOMEDICINE & PHARMACOTHERAPY                            | 7  | 6,9 | <b>48,3</b> |
| Biomedicines                                             | 6  | 3,9 | <b>23,4</b> |
| Biomolecules                                             | 2  | 4,8 | 9,6         |
| BIOSTATISTICS                                            | 1  | 1,8 | 1,8         |
| BIPOLAR DISORDERS                                        | 1  | 5   | 5           |
| BIRTH-ISSUES IN PERINATAL CARE                           | 1  | 2,8 | 2,8         |
| BJU INTERNATIONAL                                        | 1  | 3,7 | 3,7         |

| Journal                                        | Nº | IF          | Amount IF   |
|------------------------------------------------|----|-------------|-------------|
| BLOOD                                          | 2  | <b>21</b>   | <b>42</b>   |
| Blood Advances                                 | 5  | 7,4         | <b>37</b>   |
| Blood Cancer Journal                           | 1  | <b>12,9</b> | <b>12,9</b> |
| BLOOD PURIFICATION                             | 1  | 2,2         | 2,2         |
| BMC GASTROENTEROLOGY                           | 1  | 2,5         | 2,5         |
| BMC GERIATRICS                                 | 3  | 3,4         | <b>10,2</b> |
| BMC INFECTIOUS DISEASES                        | 2  | 3,4         | 6,8         |
| BMC MICROBIOLOGY                               | 1  | 4           | 4           |
| BMC Nursing                                    | 1  | 3,1         | 3,1         |
| BMC Pregnancy and Childbirth                   | 1  | 2,8         | 2,8         |
| Bmc Primary Care                               | 2  | 2           | 4           |
| BMC Psychiatry                                 | 2  | 3,4         | 6,8         |
| BMC Pulmonary Medicine                         | 1  | 2,6         | 2,6         |
| BMC SPORTS SCIENCE MEDICINE AND REHABILITATION | 2  | 2,1         | 4,2         |
| BMJ Open                                       | 2  | 2,4         | 4,8         |
| BMJ Open Respiratory Research                  | 1  | 3,6         | 3,6         |
| Boletin De Pediatria                           | 1  | 0,1         | 0,1         |
| BONE MARROW TRANSPLANTATION                    | 6  | 4,5         | <b>27</b>   |
| Brain Sciences                                 | 1  | 2,7         | 2,7         |
| BRAZILIAN JOURNAL OF ANESTHESIOLOGY            | 1  | 1,7         | 1,7         |
| BREAST CANCER RESEARCH                         | 2  | 6,1         | <b>12,2</b> |
| BREAST CANCER RESEARCH AND TREATMENT           | 2  | 3           | 6           |
| BRITISH JOURNAL OF ANAESTHESIA                 | 1  | 9,1         | 9,1         |
| BRITISH JOURNAL OF DERMATOLOGY                 | 1  | <b>11</b>   | <b>11</b>   |
| BRITISH JOURNAL OF HAEMATOLOGY                 | 6  | 5,1         | <b>30,6</b> |
| BRITISH JOURNAL OF PHARMACOLOGY                | 2  | 6,8         | <b>13,6</b> |
| BRITISH JOURNAL OF PSYCHIATRY                  | 2  | 8,7         | <b>17,4</b> |

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| Journal                                           | Nº | IF          | Amount IF   |
|---------------------------------------------------|----|-------------|-------------|
| BRITISH JOURNAL OF SURGERY                        | 2  | 8,6         | <b>17,2</b> |
| Cancer Medicine                                   | 2  | 2,9         | 5,8         |
| Cancers                                           | 14 | 4,5         | <b>63</b>   |
| CARDIOLOGY                                        | 1  | 1,9         | 1,9         |
| CARDIOLOGY IN THE YOUNG                           | 1  | 0,9         | 0,9         |
| Cardiology Journal                                | 1  | 2,5         | 2,5         |
| CARDIOVASCULAR DIABETOLOGY                        | 1  | 8,5         | 8,5         |
| CARDIOVASCULAR PATHOLOGY                          | 1  | 2,3         | 2,3         |
| Cardiovascular Revascularization Medicine         | 1  | 1,6         | 1,6         |
| Case Reports in Oncology                          | 1  | 0,7         | 0,7         |
| Cell Death & Disease                              | 1  | 8,1         | 8,1         |
| Cell Genomics                                     | 1  | <b>11,1</b> | <b>11,1</b> |
| CELL PROLIFERATION                                | 1  | 5,9         | 5,9         |
| Cells                                             | 1  | 5,1         | 5,1         |
| CELLULAR AND MOLECULAR LIFE SCIENCES              | 1  | 6,2         | 6,2         |
| CEREBRAL CORTEX                                   | 1  | 2,9         | 2,9         |
| CHILD AND ADOLESCENT MENTAL HEALTH                | 2  | 6,8         | <b>13,6</b> |
| Child and Adolescent Psychiatry and Mental Health | 1  | 3,4         | 3,4         |
| Children-Basel                                    | 3  | 2           | 6           |
| CIRCULATION                                       | 1  | <b>35,5</b> | <b>35,5</b> |
| CIRCULATION-HEART FAILURE                         | 1  | 7,8         | 7,8         |
| Cirurgia Cardiovascular                           | 5  | 0,3         | 1,5         |
| CIRUGIA ESPANOLA                                  | 6  | 1,3         | 7,8         |
| Clinica e Investigacion en Arteriosclerosis       | 3  | 1,9         | 5,7         |
| CLINICAL & TRANSLATIONAL ONCOLOGY                 | 18 | 2,8         | <b>50,4</b> |
| Clinical and Experimental Nephrology              | 1  | 2,2         | 2,2         |
| CLINICAL AND EXPERIMENTAL RHEUMATOLOGY            | 2  | 3,4         | 6,8         |

| Journal                                                | Nº | IF          | Amount IF   |
|--------------------------------------------------------|----|-------------|-------------|
| Clinical and Translational Allergy                     | 1  | 4,6         | 4,6         |
| CLINICAL CANCER RESEARCH                               | 5  | <b>10</b>   | <b>50</b>   |
| Clinical Child Psychology and Psychiatry               | 1  | 1,8         | 1,8         |
| CLINICAL COLORECTAL CANCER                             | 1  | 3,3         | 3,3         |
| CLINICAL ENDOCRINOLOGY                                 | 1  | 3           | 3           |
| CLINICAL GENETICS                                      | 2  | 2,9         | 5,8         |
| CLINICAL GERONTOLOGIST                                 | 1  | 2,6         | 2,6         |
| CLINICAL INFECTIOUS DISEASES                           | 4  | 8,2         | <b>32,8</b> |
| CLINICAL JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY | 1  | 8,5         | 8,5         |
| CLINICAL KIDNEY JOURNAL                                | 6  | 3,9         | <b>23,4</b> |
| CLINICAL LUNG CANCER                                   | 1  | 3,3         | 3,3         |
| CLINICAL MICROBIOLOGY AND INFECTION                    | 4  | <b>10,9</b> | <b>43,6</b> |
| CLINICAL NURSING RESEARCH                              | 1  | 1,7         | 1,7         |
| CLINICAL NUTRITION                                     | 8  | 6,6         | <b>52,8</b> |
| Clinical Nutrition ESPEN                               | 2  | 2,9         | 5,8         |
| CLINICAL PSYCHOLOGY & PSYCHOTHERAPY                    | 1  | 3,2         | 3,2         |
| CLINICAL RHEUMATOLOGY                                  | 1  | 2,9         | 2,9         |
| CLINICAL TRIALS                                        | 1  | 2,2         | 2,2         |
| ClinicoEconomics and Outcomes Research                 | 1  | 2,1         | 2,1         |
| COLORECTAL DISEASE                                     | 5  | 2,9         | <b>14,5</b> |
| COMPUTERS IN BIOLOGY AND MEDICINE                      | 1  | 7           | 7           |
| COMPUTING                                              | 1  | 3,3         | 3,3         |
| CORONARY ARTERY DISEASE                                | 1  | 1,5         | 1,5         |
| CRITICAL CARE                                          | 1  | 8,8         | 8,8         |
| CUREUS JOURNAL OF MEDICAL SCIENCE                      | 1  | 1           | 1           |
| Current Cardiology Reviews                             | 1  | 2,4         | 2,4         |
| Current Heart Failure Reports                          | 4  | 3,8         | <b>15,2</b> |

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| Journal                                            | Nº | IF          | Amount IF   |
|----------------------------------------------------|----|-------------|-------------|
| Current Oncology                                   | 1  | 2,8         | 2,8         |
| CURRENT OPINION IN INFECTIOUS DISEASES             | 2  | 3,6         | 7,2         |
| CURRENT PHARMACEUTICAL DESIGN                      | 1  | 2,6         | 2,6         |
| CURRENT PROBLEMS IN CARDIOLOGY                     | 1  | 3           | 3           |
| Current Urology Reports                            | 1  | 2,5         | 2,5         |
| CYTOGENETIC AND GENOME RESEARCH                    | 1  | 1,7         | 1,7         |
| CYTOMETRY PART B-CLINICAL CYTOMETRY                | 3  | 2,3         | 6,9         |
| DEATH STUDIES                                      | 1  | 2,1         | 2,1         |
| DERMATOLOGY                                        | 1  | 3           | 3           |
| Diagnostics                                        | 1  | 3           | 3           |
| DIGESTIVE DISEASES AND SCIENCES                    | 1  | 2,5         | 2,5         |
| EARLY INTERVENTION IN PSYCHIATRY                   | 3  | 2,1         | 6,3         |
| EBioMedicine                                       | 1  | 9,7         | 9,7         |
| Eclinicalmedicine                                  | 3  | 9,6         | <b>28,8</b> |
| EJNMMI Physics                                     | 1  | 3           | 3           |
| EJSO                                               | 1  | 3,5         | 3,5         |
| Emergencias                                        | 10 | 5,4         | <b>54</b>   |
| EMERGENCY MEDICINE JOURNAL                         | 1  | 2,7         | 2,7         |
| EMERGING INFECTIOUS DISEASES                       | 2  | 7,2         | <b>14,4</b> |
| ENDOCRINE                                          | 4  | 3           | 12          |
| Endocrine Connections                              | 1  | 2,6         | 2,6         |
| Endocrinologia Diabetes Y Nutricion                | 6  | 1,8         | <b>10,8</b> |
| Endocrinology Diabetes And Metabolism Case Reports | 1  | 0,7         | 0,7         |
| ENDOSCOPY                                          | 2  | <b>11,5</b> | <b>23</b>   |
| ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA   | 7  | 2,6         | <b>18,2</b> |
| Enfermeria Clinica                                 | 3  | 0,7         | 2,1         |

| Journal                                                      | Nº | IF          | Amount IF   |
|--------------------------------------------------------------|----|-------------|-------------|
| ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE          | 2  | 7,5         | <b>15</b>   |
| Entropy                                                      | 1  | 2,1         | 2,1         |
| EPIDEMIOLOGY AND PSYCHIATRIC SCIENCES                        | 2  | 5,9         | <b>11,8</b> |
| Epilepsia Open                                               | 1  | 2,8         | 2,8         |
| ERJ Open Research                                            | 3  | 4,3         | <b>12,9</b> |
| ESC heart failure                                            | 1  | 3,2         | 3,2         |
| Esmo Open                                                    | 2  | 7,1         | <b>14,2</b> |
| EuroIntervention                                             | 1  | 7,6         | 7,6         |
| EUROPACE                                                     | 1  | 7,9         | 7,9         |
| EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY                   | 1  | 1,9         | 1,9         |
| EUROPEAN ARCHIVES OF PSYCHIATRY AND CLINICAL NEUROSCIENCE    | 1  | 3,5         | 3,5         |
| EUROPEAN CHILD & ADOLESCENT PSYCHIATRY                       | 6  | 6           | <b>36</b>   |
| European Geriatric Medicine                                  | 1  | 3,5         | 3,5         |
| EUROPEAN HEART JOURNAL                                       | 1  | <b>37,6</b> | <b>37,6</b> |
| EUROPEAN HEART JOURNAL-ACUTE CARDIOVASCULAR CARE             | 2  | 3,9         | 7,8         |
| European Heart Journal-Cardiovascular Imaging                | 1  | 6,7         | 6,7         |
| European Heart Journal-Cardiovascular Pharmacotherapy        | 3  | 5,3         | <b>15,9</b> |
| EUROPEAN HEART JOURNAL-QUALITY OF CARE AND CLINICAL OUTCOMES | 2  | 4,8         | 9,6         |
| EUROPEAN JOURNAL OF CANCER                                   | 2  | 7,6         | <b>15,2</b> |
| EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY                  | 1  | 3,1         | 3,1         |
| EUROPEAN JOURNAL OF CLINICAL INVESTIGATION                   | 1  | 4,4         | 4,4         |
| EUROPEAN JOURNAL OF DERMATOLOGY                              | 8  | 2           | <b>16</b>   |
| European Journal of General Practice                         | 2  | 2,3         | 4,6         |

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| Journal                                                    | Nº | IF          | Amount IF   |
|------------------------------------------------------------|----|-------------|-------------|
| EUROPEAN JOURNAL OF HAEMATOLOGY                            | 1  | 2,3         | 2,3         |
| EUROPEAN JOURNAL OF HEART FAILURE                          | 1  | <b>16,9</b> | <b>16,9</b> |
| EUROPEAN JOURNAL OF HOSPITAL PHARMACY                      | 1  | 1,6         | 1,6         |
| EUROPEAN JOURNAL OF HUMAN GENETICS                         | 1  | 3,7         | 3,7         |
| EUROPEAN JOURNAL OF INTERNAL MEDICINE                      | 2  | 5,9         | <b>11,8</b> |
| EUROPEAN JOURNAL OF MEDICAL GENETICS                       | 3  | 1,6         | 4,8         |
| EUROPEAN JOURNAL OF NEUROLOGY                              | 1  | 4,5         | 4,5         |
| EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING | 1  | 8,6         | 8,6         |
| EUROPEAN JOURNAL OF PEDIATRIC SURGERY                      | 1  | 1,5         | 1,5         |
| EUROPEAN JOURNAL OF PEDIATRICS                             | 11 | 3           | <b>33</b>   |
| EUROPEAN JOURNAL OF PSYCHIATRY                             | 1  | 2,5         | 2,5         |
| EUROPEAN JOURNAL OF TRAUMA AND EMERGENCY SURGERY           | 2  | 1,9         | 3,8         |
| EUROPEAN JOURNAL OF VASCULAR AND ENDOVASCULAR SURGERY      | 1  | 5,7         | 5,7         |
| EUROPEAN NEUROPSYCHOPHARMACOLOGY                           | 5  | 6,1         | <b>30,5</b> |
| EUROPEAN PSYCHIATRY                                        | 4  | 7,2         | <b>28,8</b> |
| EUROPEAN RESPIRATORY JOURNAL                               | 2  | <b>16,6</b> | <b>33,2</b> |
| EUROPEAN UROLOGY                                           | 1  | <b>25,3</b> | <b>25,3</b> |
| European Urology Focus                                     | 2  | 4,8         | 9,6         |
| European Urology Open Science                              | 1  | 3,2         | 3,2         |
| Eurosurveillance                                           | 1  | 9,9         | 9,9         |
| EXPERIMENTAL DERMATOLOGY                                   | 2  | 3,5         | 7           |
| EXPERT OPINION ON DRUG SAFETY                              | 2  | 3           | 6           |
| Expert Review of Cardiovascular Therapy                    | 1  | 1,8         | 1,8         |
| Expert Review of Clinical Pharmacology                     | 1  | 3,6         | 3,6         |
| Expert Review of Hematology                                | 1  | 2,3         | 2,3         |
| FARMACIA HOSPITALARIA                                      | 11 | 1           | <b>11</b>   |

| Journal                                                                  | Nº | IF  | Amount IF   |
|--------------------------------------------------------------------------|----|-----|-------------|
| Foods                                                                    | 1  | 4,7 | 4,7         |
| Frontiers in Behavioral Neuroscience                                     | 1  | 2,6 | 2,6         |
| Frontiers in Bioengineering and Biotechnology                            | 1  | 4,3 | 4,3         |
| Frontiers In Bioscience-Landmark                                         | 1  | 3,3 | 3,3         |
| Frontiers in Cardiovascular Medicine                                     | 2  | 2,8 | 5,6         |
| Frontiers in Cell and Developmental Biology                              | 1  | 4,6 | 4,6         |
| Frontiers in Cellular and Infection Microbiology                         | 4  | 4,6 | <b>18,4</b> |
| Frontiers in Endocrinology                                               | 3  | 3,9 | <b>11,7</b> |
| Frontiers in Genetics                                                    | 1  | 2,8 | 2,8         |
| Frontiers in Immunology                                                  | 7  | 5,7 | <b>39,9</b> |
| Frontiers in Microbiology                                                | 4  | 4   | <b>16</b>   |
| Frontiers in Oncology                                                    | 2  | 3,5 | 7           |
| Frontiers In Pediatrics                                                  | 1  | 2,1 | 2,1         |
| Frontiers in Pharmacology                                                | 3  | 4,4 | <b>13,2</b> |
| Frontiers in Physiology                                                  | 1  | 3,2 | 3,2         |
| Frontiers in Psychiatry                                                  | 2  | 3,2 | 6,4         |
| FRONTIERS IN PSYCHOLOGY                                                  | 1  | 2,6 | 2,6         |
| Frontiers in Public Health                                               | 2  | 3   | 6           |
| Frontiers in Surgery                                                     | 2  | 1,6 | 3,2         |
| FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF ESCIENCE | 3  | 6,2 | <b>18,6</b> |
| FUTURE MICROBIOLOGY                                                      | 1  | 2,5 | 2,5         |
| GACETA SANITARIA                                                         | 1  | 1,5 | 1,5         |
| Galicía Clínica                                                          | 1  | 0,1 | 0,1         |
| Gastroenterología y Hepatología                                          | 7  | 2,2 | <b>15,4</b> |
| GASTROINTESTINAL ENDOSCOPY                                               | 1  | 6,7 | 6,7         |
| Genes                                                                    | 1  | 2,8 | 2,8         |
| Genes & Diseases                                                         | 1  | 6,9 | 6,9         |

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| Journal                                                                     | Nº | IF          | Amount IF   |
|-----------------------------------------------------------------------------|----|-------------|-------------|
| Genome Medicine                                                             | 1  | <b>10,4</b> | <b>10,4</b> |
| Gerontology                                                                 | 1  | 3,1         | 3,1         |
| GUT                                                                         | 5  | <b>23</b>   | <b>115</b>  |
| GYNECOLOGIC ONCOLOGY                                                        | 1  | 4,5         | 4,5         |
| HAEMATOLOGICA                                                               | 2  | 8,2         | <b>16,4</b> |
| HEAD AND NECK-JOURNAL FOR THE SCIENCES AND SPECIALTIES OF THE HEAD AND NECK | 1  | 2,3         | 2,3         |
| HEALTH & PLACE                                                              | 1  | 3,8         | 3,8         |
| Healthcare                                                                  | 5  | 2,4         | <b>12</b>   |
| HEART                                                                       | 1  | 5,1         | 5,1         |
| Heart Failure Clinics                                                       | 1  | 2,5         | 2,5         |
| Heart Rhythm O2                                                             | 1  | 2,5         | 2,5         |
| Heliyon                                                                     | 1  | 3,4         | 3,4         |
| Hemasphere                                                                  | 3  | 7,6         | <b>22,8</b> |
| HEMATOLOGICAL ONCOLOGY                                                      | 2  | 3,3         | 6,6         |
| HEPATOLOGY                                                                  | 4  | <b>12,9</b> | <b>51,6</b> |
| HISTOLOGY AND HISTOPATHOLOGY                                                | 1  | 2,5         | 2,5         |
| HISTOPATHOLOGY                                                              | 1  | 3,9         | 3,9         |
| HIV MEDICINE                                                                | 3  | 2,8         | 8,4         |
| Hormone and Metabolic Research                                              | 1  | 2           | 2           |
| Hospital Pharmacy                                                           | 1  | 0,8         | 0,8         |
| HUMAN BRAIN MAPPING                                                         | 1  | 3,5         | 3,5         |
| HUMAN IMMUNOLOGY                                                            | 2  | 3,1         | 6,2         |
| HUMAN PATHOLOGY                                                             | 1  | 2,7         | 2,7         |
| IEEE Access                                                                 | 2  | 3,4         | 6,8         |
| IEEE Journal of Biomedical and Health Informatics                           | 1  | 6,7         | 6,7         |
| IEEE MICRO                                                                  | 1  | 2,8         | 2,8         |
| IEEE TRANSACTIONS ON MEDICAL IMAGING                                        | 1  | 8,9         | 8,9         |

| Journal                                                    | Nº | IF          | Amount IF   |
|------------------------------------------------------------|----|-------------|-------------|
| Ieee Transactions On Radiation And Plasma Medical Sciences | 1  | 4,6         | 4,6         |
| IEEE Transactions on Services Computing                    | 1  | 5,5         | 5,5         |
| IEEE TRANSACTIONS ON SIGNAL PROCESSING                     | 1  | 4,6         | 4,6         |
| Immunity & Ageing                                          | 2  | 5,2         | <b>10,4</b> |
| INDIAN JOURNAL OF PEDIATRICS                               | 1  | 2,1         | 2,1         |
| INFECTION                                                  | 1  | 5,4         | 5,4         |
| INFECTIOUS DISEASES                                        | 1  | 4           | 4           |
| Infectious Diseases and Therapy                            | 1  | 4,7         | 4,7         |
| INFORMATION PROCESSING & MANAGEMENT                        | 1  | 7,4         | 7,4         |
| INJURY-INTERNATIONAL JOURNAL OF THE CARE OF THE INJURED    | 1  | 2,2         | 2,2         |
| Insuficiencia Cardiaca                                     | 1  | 0,1         | 0,1         |
| INTENSIVE CARE MEDICINE                                    | 1  | <b>27,1</b> | <b>27,1</b> |
| Interface Focus                                            | 1  | 3,6         | 3,6         |
| INTERNAL AND EMERGENCY MEDICINE                            | 3  | 3,2         | 9,6         |
| INTERNATIONAL IMMUNOLOGY                                   | 1  | 4,8         | 4,8         |
| INTERNATIONAL IMMUNOPHARMACOLOGY                           | 1  | 4,8         | 4,8         |
| INTERNATIONAL JOURNAL FOR QUALITY IN HEALTH CARE           | 1  | 2,7         | 2,7         |
| INTERNATIONAL JOURNAL OF ANTIMICROBIAL AGENTS              | 1  | 4,9         | 4,9         |
| International Journal of Bioprinting                       | 1  | 6,8         | 6,8         |
| INTERNATIONAL JOURNAL OF CARDIOLOGY                        | 5  | 3,2         | <b>16</b>   |
| INTERNATIONAL JOURNAL OF DERMATOLOGY                       | 2  | 3,5         | 7           |
| INTERNATIONAL JOURNAL OF EPIDEMIOLOGY                      | 1  | 6,4         | 6,4         |
| INTERNATIONAL JOURNAL OF GYNECOLOGICAL CANCER              | 1  | 4,1         | 4,1         |
| INTERNATIONAL JOURNAL OF GYNECOLOGY & OBSTETRICS           | 3  | 2,6         | 7,8         |

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| Journal                                                                                           | Nº | IF          | Amount IF   |
|---------------------------------------------------------------------------------------------------|----|-------------|-------------|
| International Journal of Healthcare Management                                                    | 1  | 1,4         | 1,4         |
| INTERNATIONAL JOURNAL OF HIGH PERFORMANCE COMPUTING APPLICATIONS                                  | 1  | 3,5         | 3,5         |
| INTERNATIONAL JOURNAL OF INFECTIOUS DISEASES                                                      | 4  | 4,8         | <b>19,2</b> |
| International Journal of Medical Sciences                                                         | 1  | 3,2         | 3,2         |
| INTERNATIONAL JOURNAL OF MENTAL HEALTH NURSING                                                    | 1  | 3,6         | 3,6         |
| INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES                                                       | 11 | 4,9         | <b>53,9</b> |
| INTERNATIONAL JOURNAL OF NEUROPSYCHOPHARMACOLOGY                                                  | 1  | 4,5         | 4,5         |
| INTERNATIONAL JOURNAL OF NURSING KNOWLEDGE                                                        | 1  | 1,4         | 1,4         |
| INTERNATIONAL JOURNAL OF PSYCHIATRY IN CLINICAL PRACTICE                                          | 1  | 2,9         | 2,9         |
| INTERNATIONAL JOURNAL OF SOCIAL PSYCHIATRY                                                        | 1  | 2,5         | 2,5         |
| International Journal of Surgery                                                                  | 2  | <b>12,5</b> | <b>25</b>   |
| INTERNATIONAL JOURNAL OF SURGICAL PATHOLOGY                                                       | 1  | 0,9         | 0,9         |
| INTERNET INTERVENTIONS-THE APPLICATION OF INFORMATION TECHNOLOGY IN MENTAL AND BEHAVIOURAL HEALTH | 1  | 3,6         | 3,6         |
| iScience                                                                                          | 1  | 4,6         | 4,6         |
| JACC-BASIC TO TRANSLATIONAL SCIENCE                                                               | 1  | 8,4         | 8,4         |
| JACC-Cardiovascular Imaging                                                                       | 1  | <b>12,8</b> | <b>12,8</b> |
| JACC-Cardiovascular Interventions                                                                 | 2  | <b>11,7</b> | <b>23,4</b> |
| JACC-Heart Failure                                                                                | 1  | <b>10,3</b> | <b>10,3</b> |
| JAMA Internal Medicine                                                                            | 1  | <b>22,5</b> | <b>22,5</b> |
| JAMA Oncology                                                                                     | 2  | <b>22,5</b> | <b>45</b>   |
| Jci Insight                                                                                       | 1  | 6,3         | 6,3         |

| Journal                                                  | Nº | IF          | Amount IF   |
|----------------------------------------------------------|----|-------------|-------------|
| Jco Precision Oncology                                   | 1  | 5,3         | 5,3         |
| Jhep Reports                                             | 4  | 9,5         | <b>38</b>   |
| Jmir Formative Research                                  | 1  | 2           | 2           |
| Jmir Research Protocols                                  | 2  | 1,4         | 2,8         |
| Jnci Cancer Spectrum                                     | 1  | 3,4         | 3,4         |
| JOINT BONE SPINE                                         | 1  | 3,8         | 3,8         |
| JOURNAL DER DEUTSCHEN DERMATOLOGISCHEN GESELLSCHAFT      | 2  | 5,5         | 11          |
| Journal for ImmunoTherapy of Cancer                      | 1  | <b>10,3</b> | <b>10,3</b> |
| Journal of Affective Disorders                           | 4  | 4,9         | <b>19,6</b> |
| Journal of Allergy and Clinical Immunology-In Practice   | 2  | 8,2         | <b>16,4</b> |
| JOURNAL OF ALZHEIMERS DISEASE                            | 1  | 3,4         | 3,4         |
| JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY                    | 5  | 3,9         | <b>19,5</b> |
| JOURNAL OF ASTHMA                                        | 2  | 1,7         | 3,4         |
| JOURNAL OF AUTISM AND DEVELOPMENTAL DISORDERS            | 2  | 3,2         | 6,4         |
| Journal Of Bone And Joint Infection                      | 1  | 1,8         | 1,8         |
| JOURNAL OF BONE AND MINERAL RESEARCH                     | 1  | 5,1         | 5,1         |
| JOURNAL OF CANCER RESEARCH AND CLINICAL ONCOLOGY         | 3  | 2,7         | 8,1         |
| JOURNAL OF CARDIOPULMONARY REHABILITATION AND PREVENTION | 2  | 3,3         | 6,6         |
| Journal of Cardiovascular Development and Disease        | 2  | 2,4         | 4,8         |
| Journal of Clinical and Experimental Hepatology          | 1  | 3,3         | 3,3         |
| JOURNAL OF CLINICAL APHERESIS                            | 1  | 1,4         | 1,4         |
| JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM           | 1  | 5           | 5           |
| JOURNAL OF CLINICAL LIPIDOLOGY                           | 1  | 3,6         | 3,6         |
| Journal of Clinical Medicine                             | 29 | 3           | <b>87</b>   |

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| Journal                                                        | Nº | IF          | Amount IF    |
|----------------------------------------------------------------|----|-------------|--------------|
| JOURNAL OF CLINICAL MICROBIOLOGY                               | 5  | 6,1         | <b>30,5</b>  |
| Journal of Clinical Neonatology                                | 1  | 0,2         | 0,2          |
| Journal of Clinical Nursing                                    | 1  | 3,2         | 3,2          |
| JOURNAL OF CLINICAL ONCOLOGY                                   | 7  | <b>42,1</b> | <b>294,7</b> |
| JOURNAL OF CLINICAL PATHOLOGY                                  | 1  | 2,5         | 2,5          |
| JOURNAL OF CLINICAL PSYCHIATRY                                 | 1  | 4,5         | 4,5          |
| JOURNAL OF CLINICAL VIROLOGY                                   | 3  | 4           | <b>12</b>    |
| JOURNAL OF ELECTROCARDIOLOGY                                   | 1  | 1,3         | 1,3          |
| JOURNAL OF ENDOCRINOLOGICAL INVESTIGATION                      | 2  | 3,9         | 7,8          |
| JOURNAL OF ENDOVASCULAR THERAPY                                | 1  | 1,7         | 1,7          |
| JOURNAL OF EXPERIMENTAL MEDICINE                               | 1  | <b>12,6</b> | <b>12,6</b>  |
| Journal of Fungi                                               | 4  | 4,2         | <b>16,8</b>  |
| JOURNAL OF GENERAL PHYSIOLOGY                                  | 1  | 3,3         | 3,3          |
| Journal of Geriatric Oncology                                  | 2  | 3           | 6            |
| Journal Of Healthcare Quality Research                         | 1  | 1,1         | 1,1          |
| JOURNAL OF HEART AND LUNG TRANSPLANTATION                      | 2  | 6,4         | <b>12,8</b>  |
| JOURNAL OF HEMATOLOGY & ONCOLOGY                               | 1  | <b>29,5</b> | <b>29,5</b>  |
| JOURNAL OF HEPATOLOGY                                          | 1  | <b>26,8</b> | <b>26,8</b>  |
| JOURNAL OF HOSPITAL INFECTION                                  | 1  | 3,9         | 3,9          |
| JOURNAL OF INFECTION                                           | 1  | <b>14,3</b> | <b>14,3</b>  |
| Journal of Infection and Public Health                         | 1  | 4,7         | 4,7          |
| JOURNAL OF INFECTIOUS DISEASES                                 | 2  | 5           | <b>10</b>    |
| JOURNAL OF INTERVENTIONAL CARDIAC ELECTROPHYSIOLOGY            | 2  | 2,1         | 4,2          |
| JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY | 5  | 6,1         | <b>30,5</b>  |
| Journal of Medical Economics                                   | 3  | 2,9         | 8,7          |
| JOURNAL OF MEDICAL VIROLOGY                                    | 3  | 6,8         | <b>20,4</b>  |

| Journal                                                            | Nº | IF          | Amount IF   |
|--------------------------------------------------------------------|----|-------------|-------------|
| JOURNAL OF MICROBIOLOGY IMMUNOLOGY AND INFECTION                   | 2  | 4,5         | 9           |
| JOURNAL OF MINIMALLY INVASIVE GYNECOLOGY                           | 1  | 3,5         | 3,5         |
| JOURNAL OF NEUROLOGY                                               | 1  | 4,8         | 4,8         |
| Journal of Neuromuscular Diseases                                  | 1  | 3,2         | 3,2         |
| JOURNAL OF NUTRITION HEALTH & AGING                                | 1  | 4,3         | 4,3         |
| JOURNAL OF ONCOLOGY PHARMACY PRACTICE                              | 1  | 1           | 1           |
| Journal of patient safety                                          | 1  | 1,7         | 1,7         |
| JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION                | 1  | 2,4         | 2,4         |
| JOURNAL OF PERINATOLOGY                                            | 1  | 2,4         | 2,4         |
| Journal Of Personalized Medicine                                   | 4  | 3           | <b>12</b>   |
| Journal of Pharmaceutical Policy and Practice                      | 1  | 3,3         | 3,3         |
| Journal of Pharmacy Practice                                       | 1  | 1           | 1           |
| JOURNAL OF PHYSIOLOGY-LONDON                                       | 2  | 4,7         | 9,4         |
| JOURNAL OF PLASTIC RECONSTRUCTIVE AND AESTHETIC SURGERY            | 2  | 2           | 4           |
| JOURNAL OF PSYCHOPHARMACOLOGY                                      | 1  | 4,5         | 4,5         |
| Journal of Research in Medical Sciences                            | 1  | 1,5         | 1,5         |
| JOURNAL OF RHEUMATOLOGY                                            | 1  | 3,6         | 3,6         |
| JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY | 2  | 9,2         | <b>18,4</b> |
| JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY                      | 1  | <b>21,7</b> | <b>21,7</b> |
| JOURNAL OF THE AMERICAN GERIATRICS SOCIETY                         | 1  | 4,3         | 4,3         |
| Journal of the American Heart Association                          | 2  | 5           | <b>10</b>   |
| JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY     | 3  | 8,4         | <b>25,2</b> |
| JOURNAL OF THE HISTORY OF THE NEUROSCIENCES                        | 1  | 0,3         | 0,3         |

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| Journal                                              | Nº | IF          | Amount IF    |
|------------------------------------------------------|----|-------------|--------------|
| Journal of the Pediatric Infectious Diseases Society | 1  | 2,5         | 2,5          |
| JOURNAL OF THORACIC ONCOLOGY                         | 2  | <b>21</b>   | <b>42</b>    |
| Journal of Tissue Engineering                        | 1  | 6,7         | 6,7          |
| JOURNAL OF TRACE ELEMENTS IN MEDICINE AND BIOLOGY    | 1  | 3,6         | 3,6          |
| JOURNAL OF TRANSLATIONAL MEDICINE                    | 1  | 6,1         | 6,1          |
| JOURNAL OF VIRAL HEPATITIS                           | 1  | 2,5         | 2,5          |
| JOURNAL OF WOMENS HEALTH                             | 1  | 3           | 3            |
| Jove-Journal of Visualized Experiments               | 1  | 1,2         | 1,2          |
| Jto Clinical And Research Reports                    | 1  | 3           | 3            |
| Kidney International Reports                         | 1  | 5,7         | 5,7          |
| Kidney Medicine                                      | 1  | 3,2         | 3,2          |
| Kidney360                                            | 1  | 3,2         | 3,2          |
| LABORATORY ANIMALS                                   | 1  | 1,3         | 1,3          |
| LANCET                                               | 3  | <b>98,4</b> | <b>295,2</b> |
| Lancet Haematology                                   | 1  | <b>15,4</b> | <b>15,4</b>  |
| Lancet Microbe                                       | 1  | <b>20,9</b> | <b>20,9</b>  |
| LANCET ONCOLOGY                                      | 2  | <b>41,6</b> | <b>83,2</b>  |
| LANCET PUBLIC HEALTH                                 | 1  | <b>25,4</b> | <b>25,4</b>  |
| Lancet Regional Health-Europe                        | 4  | <b>13,6</b> | <b>54,4</b>  |
| Lancet Respiratory Medicine                          | 1  | <b>38,7</b> | <b>38,7</b>  |
| LANGENBECKS ARCHIVES OF SURGERY                      | 1  | 2,1         | 2,1          |
| LARYNGOSCOPE                                         | 1  | 2,2         | 2,2          |
| LEUKEMIA                                             | 2  | <b>12,8</b> | <b>25,6</b>  |
| LIFE-BASEL                                           | 1  | 3,2         | 3,2          |
| LIPIDS                                               | 1  | 1,8         | 1,8          |
| LIVER INTERNATIONAL                                  | 4  | 6           | <b>24</b>    |
| LUNG                                                 | 1  | 4,6         | 4,6          |

| Journal                                      | Nº | IF          | Amount IF    |
|----------------------------------------------|----|-------------|--------------|
| MEDICAL MYCOLOGY                             | 3  | 2,7         | 8,1          |
| MEDICINA CLINICA                             | 7  | 2,6         | <b>18,2</b>  |
| Medicina Intensiva                           | 2  | 2,7         | 5,4          |
| MEDICINA ORAL PATOLOGIA ORAL Y CIRUGIA BUCAL | 1  | 1,8         | 1,8          |
| MEDICINA-LITHUANIA                           | 1  | 2,4         | 2,4          |
| Medwave                                      | 1  | 1,2         | 1,2          |
| Membranes                                    | 1  | 3,3         | 3,3          |
| Microbial Biotechnology                      | 1  | 4,8         | 4,8          |
| Microbiology spectrum                        | 6  | 3,7         | <b>22,2</b>  |
| Microorganisms                               | 2  | 4,1         | 8,2          |
| MICROSURGERY                                 | 1  | 1,5         | 1,5          |
| MINERVA ANESTESIOLOGICA                      | 1  | 2,9         | 2,9          |
| Minerva Urology and Nephrology               | 1  | 4,9         | 4,9          |
| Modern Rheumatology                          | 1  | 1,8         | 1,8          |
| Modern Rheumatology Case Reports             | 1  | 0,9         | 0,9          |
| MOLECULAR BIOLOGY REPORTS                    | 1  | 2,6         | 2,6          |
| MOLECULAR PSYCHIATRY                         | 5  | 9,6         | <b>48</b>    |
| MOLECULES                                    | 1  | 4,2         | 4,2          |
| Movement Disorders Clinical Practice         | 1  | 2,6         | 2,6          |
| MULTIPLE SCLEROSIS JOURNAL                   | 1  | 4,8         | 4,8          |
| Musculoskeletal care                         | 1  | 1,5         | 1,5          |
| MYCOSES                                      | 2  | 4,1         | 8,2          |
| Nanomaterials                                | 1  | 4,4         | 4,4          |
| Nature Communications                        | 3  | <b>14,7</b> | <b>44,1</b>  |
| NATURE GENETICS                              | 1  | <b>31,7</b> | <b>31,7</b>  |
| NATURE MEDICINE                              | 2  | <b>58,7</b> | <b>117,4</b> |
| NATURE METHODS                               | 1  | <b>36,1</b> | <b>36,1</b>  |

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| Journal                                                                                | Nº | IF          | Amount IF   |
|----------------------------------------------------------------------------------------|----|-------------|-------------|
| NATURE REVIEWS NEUROLOGY                                                               | 1  | <b>28,2</b> | <b>28,2</b> |
| NATURE REVIEWS NEUROSCIENCE                                                            | 1  | <b>28,7</b> | <b>28,7</b> |
| NEFROLOGIA                                                                             | 10 | 2           | <b>20</b>   |
| Neonatology                                                                            | 1  | 2,6         | 2,6         |
| NEPHROLOGY DIALYSIS TRANSPLANTATION                                                    | 1  | 4,8         | 4,8         |
| NEUROCIRUGIA                                                                           | 1  | 0,7         | 0,7         |
| NEUROENDOCRINOLOGY                                                                     | 1  | 3,2         | 3,2         |
| NeuroImage-Clinical                                                                    | 1  | 3,4         | 3,4         |
| NEUROINFORMATICS                                                                       | 1  | 2,7         | 2,7         |
| NEUROLOGIA                                                                             | 7  | 2,9         | <b>20,3</b> |
| NEUROLOGICAL SCIENCES                                                                  | 1  | 2,7         | 2,7         |
| NEUROLOGY                                                                              | 1  | 7,7         | 7,7         |
| NEUROSCIENCE AND BIOBEHAVIORAL REVIEWS                                                 | 1  | 7,5         | 7,5         |
| NURSE EDUCATION TODAY                                                                  | 1  | 3,6         | 3,6         |
| NURSING IN CRITICAL CARE                                                               | 1  | 3           | 3           |
| Nursing Open                                                                           | 4  | 2           | 8           |
| NUTRICION HOSPITALARIA                                                                 | 2  | 1,2         | 2,4         |
| Nutrients                                                                              | 4  | 4,8         | <b>19,2</b> |
| NUTRITION IN CLINICAL PRACTICE                                                         | 1  | 2,1         | 2,1         |
| OBESITY SURGERY                                                                        | 1  | 2,9         | 2,9         |
| Open Forum Infectious Diseases                                                         | 3  | 3,8         | <b>11,4</b> |
| OPHTHALMIC RESEARCH                                                                    | 1  | 2           | 2           |
| ORBIT-THE INTERNATIONAL JOURNAL ON ORBITAL DISORDERS-OCULOPLASTIC AND LACRIMAL SURGERY | 1  | 0,9         | 0,9         |
| OSTEOPOROSIS INTERNATIONAL                                                             | 1  | 4,2         | 4,2         |
| Papeles del Psicologo                                                                  | 1  | 1,1         | 1,1         |
| Pathogens                                                                              | 1  | 3,3         | 3,3         |
| PEDIATRIC BLOOD & CANCER                                                               | 1  | 2,4         | 2,4         |

| Journal                                                                         | Nº | IF  | Amount IF   |
|---------------------------------------------------------------------------------|----|-----|-------------|
| PEDIATRIC CRITICAL CARE MEDICINE                                                | 1  | 4   | 4           |
| PEDIATRIC DERMATOLOGY                                                           | 1  | 1,2 | 1,2         |
| PEDIATRIC EMERGENCY CARE                                                        | 3  | 1,2 | 3,6         |
| PEDIATRIC INFECTIOUS DISEASE JOURNAL                                            | 4  | 2,9 | <b>11,6</b> |
| PEDIATRIC NEPHROLOGY                                                            | 1  | 2,6 | 2,6         |
| PEDIATRIC PULMONOLOGY                                                           | 2  | 2,7 | 5,4         |
| PEDIATRIC TRANSPLANTATION                                                       | 1  | 1,2 | 1,2         |
| PEDIATRICS                                                                      | 1  | 6,2 | 6,2         |
| Pharmaceutics                                                                   | 1  | 4,9 | 4,9         |
| PHARMACOLOGICAL REPORTS                                                         | 1  | 3,6 | 3,6         |
| PHARMACOLOGICAL RESEARCH                                                        | 4  | 9,1 | <b>36,4</b> |
| Physics & Imaging In Radiation Oncology                                         | 1  | 3,4 | 3,4         |
| PHYSIOTHERAPY RESEARCH INTERNATIONAL                                            | 1  | 1,5 | 1,5         |
| Plastic And Reconstructive Surgery-Global Open                                  | 1  | 1,5 | 1,5         |
| PLoS One                                                                        | 4  | 2,9 | <b>11,6</b> |
| PLOS PATHOGENS                                                                  | 2  | 5,5 | <b>11</b>   |
| Primary Health Care Research and Development                                    | 1  | 1,6 | 1,6         |
| PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA | 3  | 9,4 | <b>28,2</b> |
| PROGRESS IN NEURO-PSYCHOPHARMACOLOGY & BIOLOGICAL PSYCHIATRY                    | 1  | 5,3 | 5,3         |
| PSYCHIATRY RESEARCH                                                             | 4  | 4,2 | <b>16,8</b> |
| PSYCHOLOGICAL MEDICINE                                                          | 11 | 5,9 | <b>64,9</b> |
| PSYCHONEUROENDOCRINOLOGY                                                        | 1  | 3,4 | 3,4         |
| PSYCHOSOMATIC MEDICINE                                                          | 1  | 2,9 | 2,9         |
| QUALITY OF LIFE RESEARCH                                                        | 1  | 3,3 | 3,3         |
| QUINTESENCE INTERNATIONAL                                                       | 1  | 1,3 | 1,3         |
| RADIATION RESEARCH                                                              | 3  | 2,5 | 7,5         |

Continued on next page



| Journal                                              | Nº | IF  | Amount IF   |
|------------------------------------------------------|----|-----|-------------|
| Rec-Interventional Cardiology                        | 9  | 1,2 | <b>10,8</b> |
| Research and Practice in Thrombosis and Haemostasis  | 1  | 3,4 | 3,4         |
| RESPIRATORY CARE                                     | 1  | 2,4 | 2,4         |
| RESPIRATORY MEDICINE                                 | 4  | 3,5 | <b>14</b>   |
| Respiratory Medicine and Research                    | 1  | 2,2 | 2,2         |
| Reumatologia Clinica                                 | 7  | 1,2 | 8,4         |
| REVIEWS IN CARDIOVASCULAR MEDICINE                   | 1  | 1,9 | 1,9         |
| REVIEWS IN MEDICAL VIROLOGY                          | 1  | 9   | 9           |
| REVISTA CLINICA ESPANOLA                             | 3  | 2,3 | 6,9         |
| REVISTA DE NEUROLOGIA                                | 5  | 0,8 | 4           |
| Revista de Senologia y Patologia Mamaria             | 2  | 0,3 | 0,6         |
| Revista Espanola de Anestesiologia y Reanimacion     | 7  | 0,9 | 6,3         |
| REVISTA ESPANOLA DE CARDIOLOGIA                      | 9  | 7,2 | <b>64,8</b> |
| REVISTA ESPANOLA DE ENFERMEDADES DIGESTIVAS          | 6  | 2,7 | <b>16,2</b> |
| REVISTA ESPANOLA DE QUIMIOTERAPIA                    | 18 | 1,9 | <b>34,2</b> |
| REVISTA ESPANOLA DE SALUD PUBLICA                    | 2  | 0,9 | 1,8         |
| Revista Medica Clinica Las Condes                    | 1  | 0,2 | 0,2         |
| Revista Portuguesa de Cardiologia                    | 1  | 1,6 | 1,6         |
| RHEUMATOLOGY                                         | 2  | 4,7 | 9,4         |
| RHEUMATOLOGY INTERNATIONAL                           | 1  | 3,2 | 3,2         |
| Rmd Open                                             | 4  | 5,1 | <b>20,4</b> |
| SCANDINAVIAN JOURNAL OF MEDICINE & SCIENCE IN SPORTS | 1  | 3,5 | 3,5         |
| Schizophrenia                                        | 1  | 3   | 3           |
| SCHIZOPHRENIA BULLETIN                               | 2  | 5,3 | <b>10,6</b> |
| Scientific Reports                                   | 12 | 3,8 | <b>45,6</b> |
| SEMINARS IN ARTHRITIS AND RHEUMATISM                 | 2  | 4,6 | 9,2         |

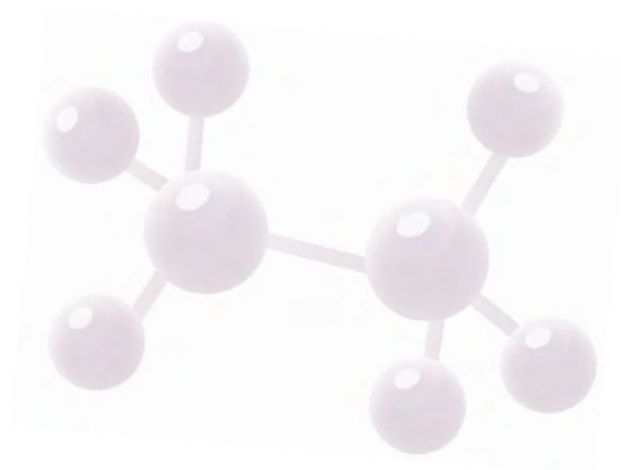
| Journal                                                | Nº | IF  | Amount IF   |
|--------------------------------------------------------|----|-----|-------------|
| SEMINARS IN NEPHROLOGY                                 | 1  | 2,8 | 2,8         |
| SEMINARS IN ONCOLOGY                                   | 1  | 3   | 3           |
| SENSORS                                                | 1  | 3,4 | 3,4         |
| SLEEP MEDICINE                                         | 1  | 3,8 | 3,8         |
| SOCIAL PSYCHIATRY AND PSYCHIATRIC EPIDEMIOLOGY         | 1  | 3,6 | 3,6         |
| Strabismus                                             | 1  | 0,8 | 0,8         |
| SURGERY                                                | 1  | 3,2 | 3,2         |
| SURGICAL ENDOSCOPY AND OTHER INTERVENTIONAL TECHNIQUES | 1  | 2,4 | 2,4         |
| SURGICAL ONCOLOGY-OXFORD                               | 1  | 2,3 | 2,3         |
| Techniques in Coloproctology                           | 2  | 2,7 | 5,4         |
| TELEMEDICINE AND E-HEALTH                              | 1  | 2,8 | 2,8         |
| Therapeutic Advances in Gastroenterology               | 2  | 3,9 | 7,8         |
| Therapeutic Advances in Medical Oncology               | 4  | 4,3 | <b>17,2</b> |
| Thoracic Cancer                                        | 1  | 2,3 | 2,3         |
| Thrombosis Journal                                     | 1  | 2,6 | 2,6         |
| THROMBOSIS RESEARCH                                    | 3  | 3,7 | <b>11,1</b> |
| TRANSBOUNDARY AND EMERGING DISEASES                    | 1  | 3,5 | 3,5         |
| TRANSFUSION AND APHERESIS SCIENCE                      | 1  | 1,4 | 1,4         |
| TRANSFUSION MEDICINE AND HEMOTHERAPY                   | 1  | 1,9 | 1,9         |
| Translational Psychiatry                               | 4  | 5,8 | <b>23,2</b> |
| TRANSPLANT INFECTIOUS DISEASE                          | 2  | 2,6 | 5,2         |
| TRANSPLANT INTERNATIONAL                               | 1  | 2,7 | 2,7         |
| TRANSPLANTATION                                        | 2  | 5,3 | <b>10,6</b> |
| Transplantation And Cellular Therapy                   | 5  | 3,6 | <b>18</b>   |
| Transplantation Reviews                                | 1  | 3,6 | 3,6         |

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| Journal                                  | Nº | IF          | Amount IF   |
|------------------------------------------|----|-------------|-------------|
| TRENDS IN FOOD SCIENCE & TECHNOLOGY      | 1  | <b>15,1</b> | <b>15,1</b> |
| Trials                                   | 1  | 2           | 2           |
| TROPICAL MEDICINE & INTERNATIONAL HEALTH | 1  | 2,6         | 2,6         |
| Turkish Archives Of Otorhinolaryngology  | 1  | 0,7         | 0,7         |
| ULTRASOUND IN OBSTETRICS & GYNECOLOGY    | 1  | 6,1         | 6,1         |
| Updates in Surgery                       | 2  | 2,4         | 4,8         |
| UROLOGIA JOURNAL                         | 1  | 0,8         | 0,8         |
| VACCINE                                  | 1  | 4,5         | 4,5         |
| Vascular and Endovascular Surgery        | 1  | 0,7         | 0,7         |

| Journal                              | Nº          | IF          | Amount IF     |
|--------------------------------------|-------------|-------------|---------------|
| VIRCHOWS ARCHIV                      | 1           | 3,4         | 3,4           |
| Viruses-Basel                        | 1           | 3,8         | 3,8           |
| VOX SANGUINIS                        | 1           | 1,8         | 1,8           |
| WORLD JOURNAL OF PEDIATRICS          | 1           | 6,1         | 6,1           |
| WORLD JOURNAL OF SURGERY             | 1           | 2,3         | 2,3           |
| WORLD JOURNAL OF UROLOGY             | 1           | 2,8         | 2,8           |
| World Psychiatry                     | 2           | <b>60,5</b> | <b>121</b>    |
| WORLDVIEWS ON EVIDENCE-BASED NURSING | 1           | 3,4         | 3,4           |
| Total general                        | <b>1192</b> | <b>98,4</b> | <b>6354,6</b> |





A summary of publications by research group is shown below:

|      |                                                           |    | Own Publications | Shared Publications (with IF) | 1D Publications | 1Q Publications | 2Q Publications | 3Q Publications | 4Q Publications | Not indexed Publications (without IF) | TOTAL (without IF included) |
|------|-----------------------------------------------------------|----|------------------|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|-----------------------------|
| 1.01 | Advanced technological applications and human health      | Nº | 12               | 16                            | 7               | 19              | 8               | 1               | 0               | 2                                     | 30                          |
|      |                                                           | FI | 74,7             | 84,3                          | 0,0             | 131,8           | 25,9            | 1,3             | 0,0             |                                       | 159,0                       |
| 1.02 | Signal processing                                         | Nº | 3                | 4                             | 3               | 6               | 0               | 1               | 0               | 2                                     | 9                           |
|      |                                                           | FI | 10,3             | 25,4                          | 0,0             | 33,7            | 0,0             | 2,0             | 0,0             |                                       | 35,7                        |
| 1.03 | Computer architecture, communications, and systems: ARCOS | Nº | 7                | 2                             | 5               | 6               | 3               | 0               | 0               | 1                                     | 10                          |
|      |                                                           | FI | 32,8             | 11,7                          | 0,0             | 35,0            | 9,5             | 0,0             | 0,0             |                                       | 44,5                        |
| 1.04 | Nonparametric statistics and intensive computing          | Nº | 1                | 0                             | 0               | 0               | 1               | 0               | 0               | 0                                     | 1                           |
|      |                                                           | FI | 1,4              | 0,0                           | -               | 0,0             | 1,4             | 0,0             | 0,0             |                                       | 1,4                         |
| 1.05 | Structural and Functional Medical Imaging                 | Nº | 0                | 8                             | 1               | 4               | 2               | 0               | 2               | 1                                     | 9                           |
|      |                                                           | FI | 0,0              | 27,9                          | 0,0             | 21,8            | 4,5             | 0,0             | 1,6             |                                       | 27,9                        |
| 1.06 | Biomedical applications of engineering                    | Nº | 3                | 4                             | 2               | 5               | 1               | 1               | 0               | 1                                     | 8                           |
|      |                                                           | FI | 3,4              | 54,0                          | 0,0             | 52,7            | 3,4             | 1,3             | 0,0             |                                       | 57,4                        |
| 2.01 | Natural history of heart disease                          | Nº | 35               | 54                            | 19              | 48              | 21              | 20              | 0               | 10                                    | 99                          |
|      |                                                           | FI | 154,1            | 302,6                         | 0,0             | 363,0           | 61,7            | 32,0            | 0,0             |                                       | 456,7                       |
| 2.02 | Cardiovascular pathophysiology                            | Nº | 0                | 1                             | 1               | 1               | 0               | 0               | 0               | 0                                     | 1                           |
|      |                                                           | FI | 0,0              | 6,9                           | 0,0             | 6,9             | 0,0             | 0,0             | 0,0             |                                       | 6,9                         |
| 2.03 | Cardiac celular electrophysiology                         | Nº | 6                | 2                             | 5               | 6               | 2               | 0               | 0               | 0                                     | 8                           |
|      |                                                           | FI | 62,4             | 10,6                          | 0,0             | 66,2            | 6,8             | 0,0             | 0,0             |                                       | 73,0                        |

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|       |                                                                                            |    | Own Publications | Shared Publications (with IF) | 1D Publications | 1Q Publications | 2Q Publications | 3Q Publications | 4Q Publications | Not indexed Publications (without IF) | TOTAL (without IF included) |
|-------|--------------------------------------------------------------------------------------------|----|------------------|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|-----------------------------|
| 2.05  | Cardiology and heart transplantation in infants                                            | Nº | 7                | 8                             | 1               | 6               | 2               | 4               | 3               | 0                                     | 15                          |
|       |                                                                                            | FI | 5,6              | 35,1                          | 0,0             | 30,0            | 3,0             | 4,8             | 2,9             |                                       | 40,7                        |
| 2.06  | Blood lipids and cardiovascular risk                                                       | Nº | 10               | 13                            | 2               | 12              | 4               | 5               | 2               | 5                                     | 28                          |
|       |                                                                                            | FI | 23,0             | 47,7                          | 0,0             | 49,7            | 10,7            | 9,2             | 1,1             |                                       | 70,7                        |
| 2.07  | Acute cerebral ischemia. Stroke                                                            | Nº | 1                | 3                             | 2               | 2               | 2               | 0               | 0               | 2                                     | 6                           |
|       |                                                                                            | FI | 5,7              | 12,1                          | 0,0             | 13,4            | 4,4             | 0,0             | 0,0             |                                       | 17,8                        |
| 3.01  | Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment | Nº | 27               | 73                            | 52              | 72              | 19              | 8               | 1               | 8                                     | 108                         |
|       |                                                                                            | FI | 129,4            | 529,7                         | 0,0             | 590,1           | 52,6            | 15,4            | 1,0             |                                       | 659,1                       |
| 3.03B | Neurological diseases                                                                      | Nº | 7                | 20                            | 2               | 10              | 10              | 2               | 5               | 5                                     | 32                          |
|       |                                                                                            | FI | 22,9             | 66,6                          | 0,0             | 53,5            | 26,8            | 4,7             | 4,5             |                                       | 89,5                        |
| 4.01  | Infectious diseases                                                                        | Nº | 60               | 60                            | 22              | 74              | 24              | 22              | 0               | 4                                     | 124                         |
|       |                                                                                            | FI | 332,6            | 285,4                         | 0,0             | 490,3           | 83,5            | 44,2            | 0,0             |                                       | 618,0                       |
| 4.02  | Clinical and epidemiological aspects of HIV infection and associated conditions            | Nº | 5                | 30                            | 11              | 20              | 12              | 3               | 0               | 1                                     | 36                          |
|       |                                                                                            | FI | 27,6             | 164,7                         | 0,0             | 147,8           | 38,0            | 6,5             | 0,0             |                                       | 192,3                       |
| 5.01  | Pathophysiology and clinical research into chronic inflammatory and immunological diseases | Nº | 5                | 9                             | 2               | 11              | 1               | 2               | 0               | 0                                     | 14                          |
|       |                                                                                            | FI | 19,5             | 52,7                          | 0,0             | 61,2            | 4,8             | 6,2             | 0,0             |                                       | 72,2                        |

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|      |                                                                                                       |    | Own Publications | Shared Publications (with IF) | 1D Publications | 1Q Publications | 2Q Publications | 3Q Publications | 4Q Publications | Not indexed Publications (without IF) | TOTAL (without IF included) |
|------|-------------------------------------------------------------------------------------------------------|----|------------------|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|-----------------------------|
| 5.02 | Molecular biology of HIV                                                                              | Nº | 9                | 11                            | 5               | 18              | 2               | 0               | 0               | 0                                     | 20                          |
|      |                                                                                                       | FI | 43,9             | 46,3                          | 0,0             | 86,7            | 3,5             | 0,0             | 0,0             |                                       | 90,2                        |
| 5.03 | Systemic autoimmune diseases                                                                          | Nº | 10               | 16                            | 2               | 14              | 3               | 3               | 6               | 4                                     | 30                          |
|      |                                                                                                       | FI | 25,2             | 86,5                          | 0,0             | 89,5            | 9,7             | 5,3             | 7,2             |                                       | 111,7                       |
| 5.05 | Pathogenesis of the immunoallergic response                                                           | Nº | 6                | 8                             | 4               | 10              | 2               | 1               | 1               | 0                                     | 14                          |
|      |                                                                                                       | FI | 21,5             | 59,2                          | 0,0             | 89,5            | 9,7             | 5,3             | 7,2             |                                       | 111,7                       |
| 5.06 | Immune regulation and homeostasis in diseases of the immune system                                    | Nº | 6                | 2                             | 3               | 4               | 2               | 1               | 1               | 0                                     | 8                           |
|      |                                                                                                       | FI | 41,6             | 3,0                           | 0,0             | 34,9            | 6,3             | 2,5             | 0,9             |                                       | 44,6                        |
| 5.07 | Infections in pediatric patients                                                                      | Nº | 20               | 32                            | 4               | 25              | 15              | 8               | 4               | 4                                     | 56                          |
|      |                                                                                                       | FI | 52,6             | 96,5                          | 0,0             | 102,1           | 31,0            | 13,0            | 3,0             |                                       | 149,1                       |
| 6.01 | Interdisciplinary oncology and biotechnology                                                          | Nº | 7                | 22                            | 2               | 13              | 9               | 3               | 4               | 4                                     | 56                          |
|      |                                                                                                       | FI | 22,0             | 138,2                         | 0,0             | 128,9           | 24,5            | 4,9             | 1,9             |                                       | 160,2                       |
| 6.02 | Translational medical oncology and personalized cancer therapy                                        | Nº | 24               | 56                            | 24              | 41              | 32              | 4               | 3               | 2                                     | 82                          |
|      |                                                                                                       | FI | 274,0            | 531,5                         | 0,0             | 694,3           | 99,4            | 9,3             | 2,5             |                                       | 805,5                       |
| 6.03 | Genetics and clinical aspects of hematologic malignancies and hematopoietic stem cell transplantation | Nº | 13               | 50                            | 13              | 42              | 17              | 4               | 0               | 1                                     | 64                          |
|      |                                                                                                       | FI | 48,3             | 310,4                         | 0,0             | 306,0           | 43,5            | 9,2             | 0,0             |                                       | 358,7                       |
| 6.04 | Surgical oncology                                                                                     | Nº | 2                | 3                             | 0               | 3               | 2               | 0               | 0               | 0                                     | 5                           |
|      |                                                                                                       | FI | 7,0              | 10,8                          | -               | 12,5            | 5,3             | 0,0             | 0,0             |                                       | 17,8                        |

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|       |                                                                                                                                 |    | Own Publications | Shared Publications (with IF) | 1D Publications | 1Q Publications | 2Q Publications | 3Q Publications | 4Q Publications | Not indexed Publications (without IF) | TOTAL (without IF included) |
|-------|---------------------------------------------------------------------------------------------------------------------------------|----|------------------|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|-----------------------------|
| 7.01  | Vascular damage and inflammation in chronic kidney disease, dialysis, and kidney transplantation. Pathophysiology of the kidney | Nº | 8                | 18                            | 2               | 13              | 12              | 0               | 1               | 3                                     | 29                          |
|       |                                                                                                                                 | FI | 21,9             | 115,4                         | 0,0             | 108,5           | 27,4            | 0,0             | 1,4             |                                       | 137,3                       |
| 7.02  | Pathophysiology and natural history of liver and digestive diseases                                                             | Nº | 20               | 41                            | 22              | 40              | 14              | 7               | 0               | 0                                     | 61                          |
|       |                                                                                                                                 | FI | 120,6            | 354,4                         | 0,0             | 420,7           | 38,9            | 15,4            | 0,0             |                                       | 475,0                       |
| 7.04  | Diseases of the critically ill child                                                                                            | Nº | 16               | 14                            | 6               | 18              | 8               | 4               | 0               | 2                                     | 32                          |
|       |                                                                                                                                 | FI | 38,2             | 66,9                          | 0,0             | 86,9            | 12,6            | 5,6             | 0,0             |                                       | 105,1                       |
| 7.05B | Pathophysiology, outcome, and therapeutic strategies in chronic respiratory insufficiency and respiratory disorders of sleep    | Nº | 12               | 24                            | 5               | 19              | 9               | 8               | 0               | 6                                     | 42                          |
|       |                                                                                                                                 | FI | 35,1             | 190,7                         | 0,0             | 190,2           | 24,8            | 10,8            | 0,0             |                                       | 225,8                       |
| 7.06  | Regenerative medicine in plastic surgery                                                                                        | Nº | 1                | 1                             | 0               | 0               | 1               | 1               | 0               | 0                                     | 2                           |
|       |                                                                                                                                 | FI | 1,5              | 2,3                           | -               | 0,0             | 2,3             | 1,5             | 0,0             |                                       | 3,8                         |
| 7.07  | Regenerative medicine in plastic surgery                                                                                        | Nº | 7                | 2                             | 0               | 3               | 1               | 4               | 1               | 5                                     | 14                          |
|       |                                                                                                                                 | FI | 12,1             | 11,1                          | -               | 14,5            | 2,5             | 4,8             | 1,4             |                                       | 23,2                        |
| 7.08  | Pediatric endocrinology                                                                                                         | Nº | 3                | 1                             | 0               | 1               | 2               | 1               | 0               | 1                                     | 5                           |
|       |                                                                                                                                 | FI | 5,6              | 3,0                           | -               | 3,0             | 3,6             | 2,0             | 0,0             |                                       | 8,6                         |
| 7.10  | Regeneration and biomaterials in musculoskeletal disease                                                                        | Nº | 3                | 3                             | 0               | 5               | 1               | 0               | 0               | 7                                     | 13                          |
|       |                                                                                                                                 | FI | 8,9              | 13,2                          | -               | 19,9            | 2,2             | 0,0             | 0,0             |                                       | 22,1                        |

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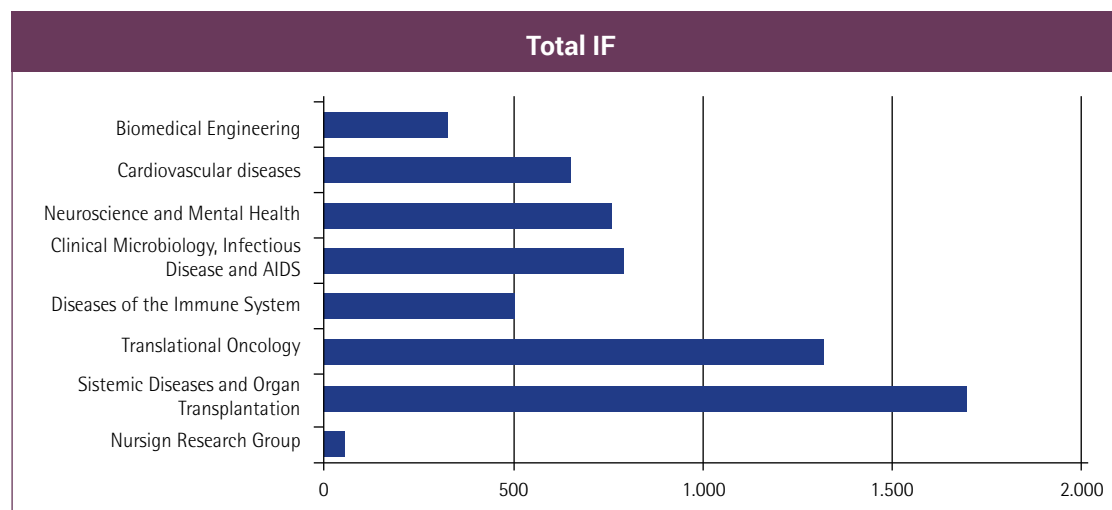


|       |                                                                      |    | Own Publications | Shared Publications (with IF) | 1D Publications | 1Q Publications | 2Q Publications | 3Q Publications | 4Q Publications | Not indexed Publications (without IF) | TOTAL (without IF included) |
|-------|----------------------------------------------------------------------|----|------------------|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|-----------------------------|
| 7.12  | Emergency medicine                                                   | Nº | 0                | 4                             | 1               | 1               | 1               | 2               | 0               | 0                                     | 4                           |
|       |                                                                      | FI | 0,0              | 43,1                          | 0,0             | 38,7            | 2,6             | 1,8             | 0,0             |                                       | 43,1                        |
| 7.16B | Pathophysiology of the cardiovascular system and circulatory support | Nº | 1                | 8                             | 1               | 5               | 1               | 0               | 3               | 1                                     | 10                          |
|       |                                                                      | FI | 0,0              | 36,0                          | 0,0             | 32,4            | 2,7             | 0,0             | 0,9             |                                       | 36,0                        |
| 7.18  | Peritransplant evaluation (liver)                                    | Nº | 1                | 1                             | 0               | 0               | 0               | 2               | 0               | 0                                     | 2                           |
|       |                                                                      | FI | 1,9              | 0,9                           | -               | 0,0             | 0,0             | 2,8             | 0,0             |                                       | 2,8                         |
| 7.19  | Perianesthetic evaluation                                            | Nº | 0                | 3                             | 0               | 0               | 1               | 1               | 1               | 0                                     | 3                           |
|       |                                                                      | FI | 0,0              | 4,2                           | -               | 0,0             | 3,0             | 0,9             | 0,3             |                                       | 4,2                         |
| 7.20  | Anesthesia, toxins, and arrhythmias                                  | Nº | 5                | 1                             | 0               | 3               | 2               | 1               | 0               | 1                                     | 7                           |
|       |                                                                      | FI | 13,3             | 3,0                           | -               | 10,6            | 4,8             | 0,9             | 0,0             |                                       | 16,3                        |
| 7.21  | Biopathology of aging                                                | Nº | 5                | 4                             | 0               | 4               | 3               | 2               | 0               | 0                                     | 9                           |
|       |                                                                      | FI | 17,8             | 13,1                          | -               | 16,8            | 9,2             | 4,9             | 0,0             |                                       | 30,9                        |
| 7.22  | Pathophysiology of the neonate and developing child                  | Nº | 14               | 9                             | 1               | 12              | 7               | 2               | 2               | 3                                     | 26                          |
|       |                                                                      | FI | 26,8             | 36,0                          | 0,0             | 47,0            | 12,4            | 3,0             | 0,4             |                                       | 62,8                        |
| 7.26  | Pathophysiology of the neonate and developing child                  | Nº | 2                | 2                             | 1               | 2               | 2               | 0               | 0               | 1                                     | 5                           |
|       |                                                                      | FI | 4,1              | 7,4                           | 0,0             | 8,5             | 3,0             | 0,0             | 0,0             |                                       | 11,5                        |
| 7.27  | Hospital pharmacy and pharmacogenomics                               | Nº | 20               | 19                            | 5               | 15              | 6               | 4               | 14              | 4                                     | 43                          |
|       |                                                                      | FI | 61,5             | 55,3                          | 0,0             | 76,5            | 18,0            | 8,3             | 14,0            |                                       | 116,8                       |
| 7.28  | Clinical nutrition                                                   | Nº | 4                | 13                            | 8               | 10              | 0               | 5               | 2               | 2                                     | 19                          |
|       |                                                                      | FI | 17,4             | 56,8                          | 0,0             | 60,6            | 0,0             | 11,2            | 2,4             |                                       | 74,2                        |
| 7.29  | Vascular pathophysiology and pharmacology                            | Nº | 6                | 5                             | 5               | 11              | 0               | 0               | 0               | 0                                     | 11                          |
|       |                                                                      | FI | 38,0             | 29,7                          | 0,0             | 67,7            | 0,0             | 0,0             | 0,0             |                                       | 67,7                        |

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|      |                                                                    |    | Own Publications | Shared Publications (with IF) | 1D Publications | 1Q Publications | 2Q Publications | 3Q Publications | 4Q Publications | Not indexed Publications (without IF) | TOTAL (withot IF included) |
|------|--------------------------------------------------------------------|----|------------------|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|----------------------------|
| 7.31 | Pathophysiology in women, pregnancy, labor, and puerperium         | Nº | 7                | 22                            | 3               | 18              | 9               | 2               | 0               | 0                                     | 29                         |
|      |                                                                    | FI | 15,6             | 89,6                          | 0,0             | 80,6            | 22,0            | 2,6             | 0,0             |                                       | 105,2                      |
| 7.32 | Physical medicine and rehabilitation                               | Nº | 1                | 4                             | 1               | 1               | 3               | 0               | 1               | 2                                     | 7                          |
|      |                                                                    | FI | 0,0              | 17,8                          | 0,0             | 9,6             | 8,1             | 0,0             | 0,1             |                                       | 17,8                       |
| 7.33 | Pathological Anatomy                                               | Nº | 2                | 18                            | 2               | 12              | 5               | 1               | 2               | 0                                     | 20                         |
|      |                                                                    | FI | 2,0              | 89,5                          | 0,0             | 77,4            | 11,8            | 0,9             | 1,4             |                                       | 91,5                       |
| 7.34 | Multimorbidity, chronic diseases and health services. Primary Care | Nº | 11               | 4                             | 2               | 5               | 9               | 1               | 0               | 0                                     | 15                         |
|      |                                                                    | FI | 22,8             | 20,4                          | 0,0             | 19,9            | 21,7            | 1,6             | 0,0             |                                       | 43,2                       |
| 7.35 | Translational dermatology: Research and innovation                 | Nº | 9                | 12                            | 6               | 14              | 2               | 5               | 0               | 2                                     | 23                         |
|      |                                                                    | FI | 23,3             | 69,2                          | 0,0             | 77,5            | 5,6             | 9,4             | 0,0             |                                       | 92,5                       |
| 8.01 | Research in nursing                                                | Nº | 18               | 4                             | 4               | 5               | 7               | 4               | 6               | 5                                     | 27                         |
|      |                                                                    | FI | 31,2             | 10,7                          | 0,0             | 16,4            | 14,8            | 5,6             | 5,1             |                                       | 41,9                       |





## Training: courses, seminars and meetings

Following the pandemic, training activities have undergone a process of transformation to online or hybrid formats. For example, the weekly seminars have been held online since May 2020. Next year, the aim is to return to face-to-face format.

During 2023, the IISGM Training Committee continued working along the same lines as in previous years to detect specific needs in training.

After requesting information from IISGM researchers by means of a needs analysis, we assessed the results and decided on the areas that were most relevant for the Institute. These can be seen in the Training Plan 2023 (<http://www.iisgm.com/actualidad/convocatorias-y-formacion/>).

The Continuing Training Committee of the Health Care Professions of the Autonomous Community of Madrid mostly certifies the training activities offered by IISGM.

As stated in the Training Plan, during the year 2023, the IISGM intended to offer the following training opportunities among those periodically organized by the Institute (see Figure):

- Basic Course in Research Methodology, which tries to cover the needs detected for training in basic areas of methodology in the needs analysis. This essentially practical course lasts 20 hours and is aimed mainly at medical residents and staff members who are in the early stages of their research career. Based on a case study, the course addresses review of information sources, design of a research project and database, and basic concepts of statistical analysis, interpretation and representation of results, as well as the synthesis and reporting of the information obtained.
- Course in Biomedical Research Methodology, which is organized into 4 modules lasting 80 hours. The course provides advanced training in the basics of biomedical research methodology. The format of the course enables it to cover all areas from the initial research hypothesis to publication of results.

- Course on Biomedical Research Instrumental Techniques, which aims to provide researchers with data on the main instrumental techniques and the various research platforms of the IISGM. The course is practical in nature and addresses various surgical and microsurgical techniques. The IISGM has the ideal facilities, equipment, and staff for organizing training activities at the highest level. Therefore, its human and material resources can be appropriately managed to design competitive and high-quality training. The course has very specific elements that set it apart from the range of courses provided by health research institutes and could eventually become a reference in the field of postgraduate training for veterinarians.

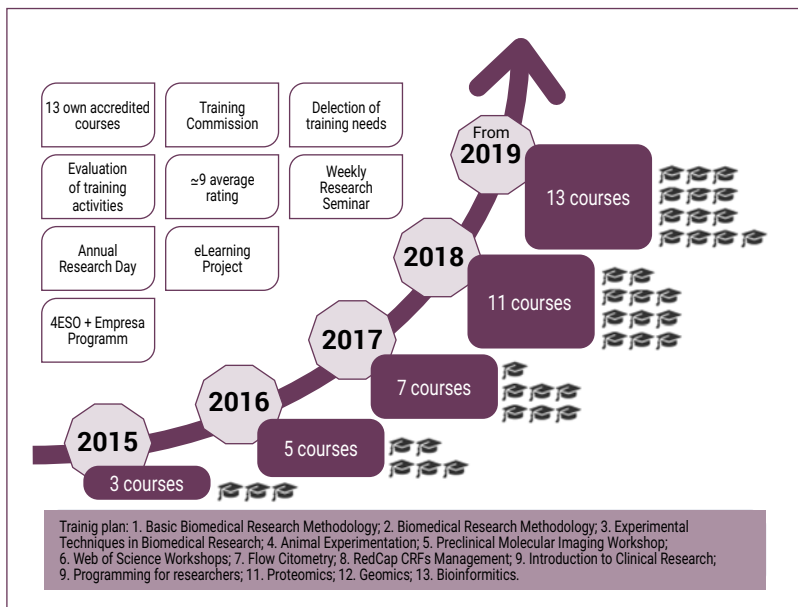
Furthermore, the IISGM Weekly Research Seminars Program is continuing, with sessions every Wednesday of the year covering areas of basic research, clinical medicine, and practical aspects of research, as well as with the participation of guest researchers. This forum is considered by the Institute to be the perfect space for implementing cooperation and synergies between groups from the IISGM and researchers from other institutions who are invited to speak.

Other courses provided included the following:

- Seminars on research and lectures in the Medical Imaging Laboratory of the Experimental Medicine and Surgery Unit.
- A series of training activities were coordinated from the Nursing Research Support Unit, as follows:
  - Training courses in research methodology for resident nursing interns in gynecology and obstetrics, mental health, and pediatrics. First steps in bibliographic searches and information resources in health sciences and qualitative research.
  - Workshops: bibliographic searches and reference management. Creation of databases in access. Workshops: bibliographic searches and reference management. Creation of databases in access.



## Training 2023





## Clinical Practice Guidelines

| Group | Authors                                                                                                                                                                                                                                                                                                                                                                                      | Title                                                                                                                                                                                                                                                                              | Journal/Reference                                                                                                                  |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 201   | Manuel Martínez-Selles, Francisco Fdez-Avilés                                                                                                                                                                                                                                                                                                                                                | Cardiogenic shock code 2023. Expert document for a multidisciplinary organization that allows quality care                                                                                                                                                                         | Revista Española de Cardiología. <a href="https://doi.org/10.1016/j.rec.2022.10.014">https://doi.org/10.1016/j.rec.2022.10.014</a> |
| 203   | Savelieva I, Fumagalli S, Kenny RA, Anker S, Benetos A, Boriani G, Bunch J, Dargès N, Dubner S, Fauchier L, Ferrucci L, Israel C, Kamel H, Lane DA, Lip GYH, Marchionni N, Obel I, Okumura K, Olshansky B, Potpara T, Stiles MK, Tamargo J, Ungar A, Kosiuk J, Larsen TB, Dinov B, Estner H, García R, Moscoso Costa FM, Lampert R, Lin YJ, Chin A, Rodríguez HA, Strandberg T, Grodzicki T. | EHRA expert consensus document on the management of arrhythmias in frailty syndrome, endorsed by the Heart Rhythm Society (HRS), Asia Pacific Heart Rhythm Society (APHRS), Latin America Heart Rhythm Society (LAHRS), and Cardiac Arrhythmia Society of Southern Africa (CASSA). | Europace. 2023;25(4):1249-1276.                                                                                                    |
| 203   | Pedro-Botet J, Barrios V, Sánchez-Margalet V, Tamargo J, Arrieta F, Gámez JM, Gimeno-Orna JA, Escobar C, Gómez-Doblas JJ, Pérez A; Working Groups of Cardiovascular Pharmacotherapy of the Sociedad Española de Cardiología and Cardiovascular Disease of the Sociedad Española de Diabetes.                                                                                                 | Treatment of hypertriglyceridaemia with icosapent ethyl in patients with high/very high cardiovascular risk. Consensus document of the Sociedad Española de Cardiología [Spanish Society of Cardiology] and the Sociedad Española de Diabetes [Spanish Diabetes Society].          | Endocrinol Diabetes Nutr (Engl Ed). 2023 MARZO;70 Suppl 1:51-62.                                                                   |
| 301   | Bouza E, Arango C, Moreno C, Gracia D, Martín M, Pérez V, Lázaro L, Ferre F, Salazar G, Tejerina-Picado F, Navio M, Granda Revilla J, Palomo E, Gil-Monte PR                                                                                                                                                                                                                                 | Impact of the COVID-19 pandemic on the mental health of the general population and health care workers                                                                                                                                                                             | Revista española de quimioterapia. Doi: 10.37201/req/018.2023. Epub 2023 Feb 21. PMID: 36800778; PMCID: PMC10066913.               |

| Group | Authors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Title                                                                                                                                                                                                   | Journal/Reference                                                                                                  |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| 301   | Cortese S, Besag FM, Clark B, Hollis C, Kilgariff J, Moreno C, Nicholls D, Wilkinson P, Woodbury-Smith M, Sharma A.                                                                                                                                                                                                                                                                                                                                                                       | Common practical questions - and answers - at the British Association for Psychopharmacology child and adolescent psychopharmacology course                                                             | Journal of psychopharmacology. Doi: 10.1177/02698811221140005. Epub 2022 Dec 7. PMID: 36476096; PMCID: PMC9912307. |
| 301   | Rojnic Kuzman M, Slade M, Puschner B, Scanferla E, Bajic Z, Courtet P, Samochowiec J, Arango C, Vahip S, Taube M, Falkai P, Dom G, Izakova L, Carpinello B, Bellani M, Fiorillo A, Skugarevsky O, Mihaljevic-Peles A, Telles-Correia D, Novais F, Mohr P, Wancata J, Hultén M, Chkonia E, Balazs J, Beezhold J, Lien L, Mihajlovic G, Delic M, Stoppe G, Racetovic G, Babic D, Mazaliauskiene R, Cozman D, Hjerrild S, Chihai J, Flannery W, Melartin T, Maruta N, Soghoian A, Gorwood P. | Clinical decision-making style preferences of European psychiatrists: Results from the Ambassadors survey in 38 countries                                                                               | European psychiatry. Doi: 10.1192/j.eurpsy.2022.2330. PMID: 36266742; PMCID: PMC9706307.                           |
| 301   | Mendez MA, Oakley B, Canitano R, San José-Cáceres A, Tinelli M, Knapp M, Cusack J, Parellada M, Violland P, Derk Plas JR, Canal-Bedia R, Bejarano-Martín A, Murphy DGM, Quidbach V, Arango C.                                                                                                                                                                                                                                                                                             | Autism care pathway in Europe                                                                                                                                                                           | European psychiatry. Doi: 10.1192/j.eurpsy.2023.2435. PMID: 37694810; PMCID: PMC10594203.                          |
| 301   | Arango C, Fagiolini A, Gorwood P, Kane JM, Díaz-Mendoza S, Sahota N, Correll CU.                                                                                                                                                                                                                                                                                                                                                                                                          | Delphi panel to obtain clinical consensus about using long-acting injectable antipsychotics to treat first-episode and early-phase schizophrenia: treatment goals and approaches to functional recovery | BMC Psychiatry. Doi: 10.1186/s12888-023-04928-0. PMID: 37344763; PMCID: PMC10286361.                               |
| 301   | van Eeghen AM, Stemkens D, Fernández-Fructuoso JR, Maruani A, Hadzisev K; ERN ITHACA Guideline Working Group; European Phelan-McDermid syndrome guideline consortium; van Balkom IDC.                                                                                                                                                                                                                                                                                                     | Consensus recommendations on organization of care for individuals with Phelan-McDermid syndrome                                                                                                         | European journal of medical genetics. Doi: 10.1016/j.ejmg.2023.104747. Epub 2023 Mar 30. PMID: 37003574.           |

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| Group | Authors                                                                                                                                                                                                                   | Title                                                                                                                                                                                                                                            | Journal/Reference                                                                                                                    |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 301   | San José Cáceres A, Landlust AM, Carbin JM; European Phelan-McDermid Syndrome consortium; Loth E.                                                                                                                         | Consensus recommendations on sleeping problems in Phelan-McDermid syndrome                                                                                                                                                                       | European journal of medical genetics. Doi: 10.1016/j.ejmg.2023.104750. Epub 2023 Mar 23. PMID: 36963463.                             |
| 501   | Rojo, R; Alén, JC; Prada, A; Valor, S; Roy, G; López-Hoyos, M; Cervera, R; Mateos, PS; Roger, AJ                                                                                                                          | Recommendations for the use of anti-dsDNA autoantibodies in the diagnosis and follow-up of systemic lupus erythematosus - A proposal from an expert panel                                                                                        | Autoimmun Rev. 2023 Dec;22(12):103479. doi: 10.1016/j.autrev.2023.103479. 2023 Dec;22(12):103479. doi: 10.1016/j.autrev.2023.103479. |
| 507   | Pintado V, Ruiz-Garbajosa P, Aguilera-Alonso D, Baquero-Artigao F, Bou G, Cantón R, Grau S, Gutiérrez-Gutiérrez B, Larrosa N, Machuca I, Martínez Martínez L, Montero MM, Morte-Romea E, Oliver A, Paño-Pardo JR, Sorlí L | Executive summary of the consensus document of the Spanish Society of Infectious Diseases and Clinical Microbiology (SEIMC) on the diagnosis and antimicrobial treatment of infections due to carbapenem-resistant Gram-negative bacteria.       | Enferm Infecc Microbiol Clin (Engl Ed). Doi: 10.1016/j.eimce.2022.06.014. Epub 2022 Dec 13. PMID: 36522272.                          |
| 507   | Martínez Campos L, Pérez-Albert P, Ferres Ramis L, Rincón-López EM, Mendoza-Palomar N, Soler-Palacin P, Aguilera-Alonso D                                                                                                 | Consensus document on the management of febrile neutropenia in paediatric haematology and oncology patients of the Spanish Society of Pediatric Infectious Diseases (SEIP) and the Spanish Society of Pediatric Hematology and Oncology (SEHOP). | An Pediatr (Engl Ed). Doi: 10.1016/j.anpede.2023.03.010. Epub 2023 May 31. PMID: 37268527.                                           |
| 507   | Núñez Cuadros E, Saavedra Lozano J                                                                                                                                                                                        | Infecciones osteoarticulares: artritis séptica, osteomielitis y espondilodiscitis                                                                                                                                                                | Protocolos AEP. Protoc diagn ter pediatr. 2023;2:285-308.                                                                            |

| Group | Authors                                                                                                                                                                                                                                                                                                                         | Title                                                                                                                                                                                                       | Journal/Reference                                                                         |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 507   | Ara Montojo MF, Escosa García L, Aguilera Alonso D                                                                                                                                                                                                                                                                              | Resistencias bacterianas en Pediatría                                                                                                                                                                       | Protocolos AEP. Protoc diagn ter pediatr. 2023;2:13-31.                                   |
| 507   | Martín Pedraz L, Obando Pacheco P, Santos Sebastián MM.                                                                                                                                                                                                                                                                         | Infecciones intraabdominales                                                                                                                                                                                | Protocolos AEP. Protoc diagn ter pediatr. 2023;2:245-257                                  |
| 507   | Rodríguez Molino P, Santiago García B, Mellado Peña MJ.                                                                                                                                                                                                                                                                         | Tuberculosis pediátrica y tuberculosis congénita                                                                                                                                                            | Protocolos AEP. Protoc diagn ter pediatr. 2023;2:369-386.                                 |
| 507   | Martínez de Albéniz Margalef I, Berzosa Sánchez A, Navarro Gómez ML, Fortuny Guasch C.                                                                                                                                                                                                                                          | Infección por el virus de la inmunodeficiencia humana (VIH) en Pediatría                                                                                                                                    | Protocolos AEP. Protoc diagn ter pediatr. 2023;2:387-400.                                 |
| 507   | Rivero Calle I, Del Rosal Rabes T, Garrote Llanos E, Núñez Cuadros E, Navarro Gómez ML, Ramos Amador JT, Calvo C, Álvarez García F; Grupo de colaboradores del Documento de Consenso SEIP-CAV de la AEP                                                                                                                         | Consensus document of the Spanish Society of Paediatric Infectious Diseases and the Advisory Committee on Vaccines of the Spanish Association of Pediatrics for vaccination of immunosuppressed individuals | An Pediatr (Engl Ed). Doi: 10.1016/j.anpede.2023.11.009. Epub 2023 Dec 5. PMID: 38057232. |
| 507   | Álvarez García FJ, Cilleruelo Ortega MJ, Álvarez Aldeán J, Garcés-Sánchez M, Garrote Llanos E, Iofrío de Arce A, Montesdeoca Melián A, Navarro Gómez ML, Pineda Solas V, Rivero Calle I, Ruiz-Contreras J, Serrano Marchuet P; en representación del Comité Asesor de Vacunas de la Asociación Española de Pediatría (CAV-AEP). | Immunisation schedule of the Spanish Association of Paediatrics: 2023 Recommendations                                                                                                                       | An Pediatr (Engl Ed). Doi: 10.1016/j.anpede.2022.11.002. PMID: 36599520.                  |
| 507   | David Aguilera Alonso, Jesús Saavedra Lozano, Paula Vázquez, Cecilia Martínez Fernández, María Luisa Navarro                                                                                                                                                                                                                    | Abordaje de la infección por el virus influenza: Período epidémico 2023-2024                                                                                                                                | Intranet HGUGM. Código: 201911PEDINFLUENZA                                                |

Continued on next page





| Group | Authors                                                                                                           | Title                                                                                                         | Journal/Reference                                      |
|-------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| 507   | Elvira Cobo Vázquez, Jesús Saavedra Lozano                                                                        | Abordaje de la fiebre en paciente neutropénico o con trasplante de progenitores hematopoyéticos en pediatría. | Intranet HGUGM. Código 201902PEDNEUTROPENI             |
| 507   | David Aguilera Alonso, Marisa Navarro, Paula Vázquez, Rosa Rodríguez, Julia Serrano Lobo, Alicia Galar            | Parotiditis epidémica en pediatría                                                                            | Intranet HGUGM. Código 202308PAROTIDITISPED            |
| 507   | Teresa Eizaguirre Fernández-Palacios (DUE), Felipe González Martínez (Medico), Esther Tierraseca Serrano (DUE)    | Protocolo alarmas de monitorización en unidades de pediatría                                                  | Intranet HGUGM. Código 202204.PED.INT. ALARMMONITOR    |
| 507   | Sara Vigil Vázquez Felipe González, M <sup>a</sup> Isabel González Sánchez.                                       | Protocolo de atención a lactantes ingresados por BRUE                                                         | Intranet HGUGM. Código 202204PED.INT.BRUE              |
| 507   | Jimena Pérez Moreno (revisado por Felipe González, M <sup>a</sup> Isabel González, Blanca Toledo, Rosa Rodríguez) | Protocolo de atención integral al paciente crónico complejo                                                   | Intranet HGUGM. Código 202204PEDATENPCC                |
| 507   | Rosa Rodríguez (revisado por Felipe González, Jimena Pérez, María Isabel González, Blanca Toledo)                 | Protocolo de diagnóstico y tratamiento bronquiolitis                                                          | Intranet HGUGM. Código 202204 PEDINT-BRONQ             |
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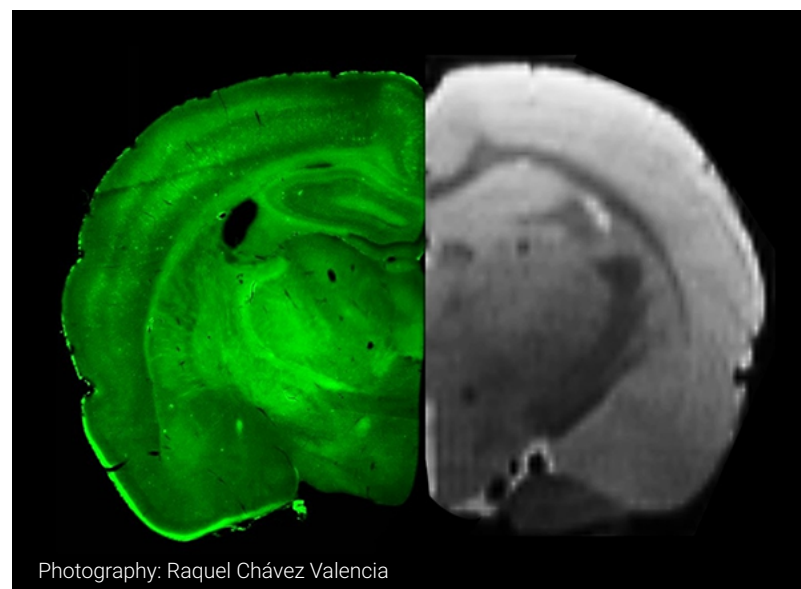
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| Group | Authors                                                                                                                                                                                                                                                                                                                                                                                                                                      | Title                                                                                                                                                        | Journal/Reference                                                                            |
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| 727   | José M Alonso Herreros, Silvia Berisa Prado, Carmen Cañete Ramírez, Carmela Dávila Pousa, Begoña Feal Cortizas, María Pilar Flox Benítez, Raquel Fuentes Irigoyen, Marta García Palomo, Carmen López Cabezas, Ana María Martín de Rosales, Vicente merino Bohorquez, Berta Montero Pastor, Catalina Perelló Alomar, Sagrario Pernía López, Virginia Puebla García, Beatriz Ramos Martínez, Ana Cristina Riestra Ayora, Nieves Vila Clérigues | Preparaciones orales sólidas y fraccionamiento de medicamentos                                                                                               | Manual de Farmacotecnia. Sociedad Española de Farmacia Hospitalaria. ISBN: 978-84-09-50880-8 |
| 727   | Ramón Morillo-Verdugo, PhD, Tamara Aguilar Pérez, Mercedes Gimeno-Gracia, PhD, Carmen Rodríguez-González, PhD, and María de las Aguas Robustillo-Cortés <sup>1</sup> , representing the project research team belonging to the HIV Pharmaceutical Care group of the Sociedad Española de Farmacia Hospitalaria (SEFH)                                                                                                                        | Simplification and Multidimensional Adaptation of the Stratification Tool for Pharmaceutical Care in People Living With HIV                                  | Annals of Pharmacotherapy 2023;57(2):163-174. doi: 10.1177/10600280221096759                 |
| 727   | Jesús Ruiz Ramos, Beatriz Calderón Hernanz, Yolanda Castellanos Clemente, Manuel Bonete Sánchez, Emili Vallve Alcon, M.ª Rosario Santolaya Perrin, M.ª Ángeles García Martín, Ana de Lorenzo Pinto, José Manuel Real Campaña, Javier Ramos Rodríguez, et al.                                                                                                                                                                                 | Atención farmacéutica en los servicios de urgencias: documento de posicionamiento de la SEFH y SEMES                                                         | Emergencias 2023 Jun;35(3):205-217                                                           |
| 727   | María Teresa Martín Conde, Emilio Monte Boquet, Herminia Navarro Aznares, María de las Aguas Robustillo Cortés, Carmen Rodríguez González, Joaquín Ignacio Serrano López de las Hazas, Ramón Morillo Verdugo                                                                                                                                                                                                                                 | Actualización de los indicadores para la calidad asistencial y la atención farmacéutica a las personas que viven con el virus de la inmunodeficiencia humana | Farm Hosp. 2023Jun;47(3):113-120                                                             |
| 728   | Pironi, L; Cuerda, C; Jeppesen, PB; Joly, F; Jonkers, C; Krznaric, Z; Lal, S; Lamprecht, G; Lichota, M; Mundi, MS; Schneider, SM; Szczepanek, K; Van Gossum, A; Wanten, G; Wheatley, C; Weimann, A                                                                                                                                                                                                                                           | ESPEN guideline on chronic intestinal failure in adults- Update 2023                                                                                         | Clinical Nutrition 42 (2023) 1940-2021                                                       |

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| Group   | Authors                                                                                                                                                                                                                                                                                                                                      | Title                                                                                                                | Journal/Reference                                                                                                                                                                                                        |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 728     | Bischoff, SC; Austin, P; Boeykens, K; Chourdakis, M; Cuerda, C; Jonkers-Schuitema, C; Lichota, M; Nyulasi, I; Schneider, SM; Stanga, Z; Pironi, L; Cantón, A                                                                                                                                                                                 | ESPEN practical guideline: Home enteral nutrition                                                                    | Nutricion Hospitalaria 2023 Aug 28;40(4):858-885                                                                                                                                                                         |
| 728     | Stephan C Bischoff, Johann Ockenga, Ahad Eshraghian, Rocco Barazzoni, Luca Busetto, Marjo Campmans-Kuijpers, Vincenzo Cardinale, Irit Chermesh, Haluk Tarik Kani, Wafaa Khannoussi, Laurence Lacaze, Miguel León-Sanz, Juan M Mendive, Michael W Müller, Frank Tacke, Anders Thorell, Darija Vranesic Bender, Arved Weimann, Cristina Cuerda | Practical guideline on obesity care in patients with gastrointestinal and liver diseases - Joint ESPEN/UEG guideline | Clinical Nutrition 42 (2023) 987-1024                                                                                                                                                                                    |
| Nursing | Míguez Navarro MC, Guerrero Márquez G, Fernández Landalucea, en representación del Grupo de Trabajo de Triage Pediátrico SEUP                                                                                                                                                                                                                | Requisitos imprescindibles de un triaje pediátrico                                                                   | Sociedad Española de Urgencias de Pediatría. <a href="https://seup.org/wp-content/uploads/2024/01/REQUISITOS-MINIMO-TRIAJE-oct23.pdf">https://seup.org/wp-content/uploads/2024/01/REQUISITOS-MINIMO-TRIAJE-oct23.pdf</a> |



Photography: Raquel Chávez Valencia



## Doctoral theses defended

| Group | Type      | Candidate                 | Title                                                                                                                   | Name/s Director/s                                 | University | Date Defended |
|-------|-----------|---------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------|---------------|
| 101   | Ph Thesis | Alberto Fernández Pena    | Surface-Based Tools for Characterizing the Human Brain Cortical Morphology.                                             | Susana Carmona Cañabate / Manuel Desco Menéndez   | UC3M       | 13/01/2023    |
| 101   | Ph Thesis | Magdalena Martínez García | Characterization of gestational brain remodeling in human mothers.                                                      | Susana Carmona Cañabate                           | UC3M       | 27/01/2023    |
| 101   | Ph Thesis | Desiré Herreros Pérez     | Funcionalización de exosomas de leche de cabra para la vectorización específica y el diagnóstico de procesos tumorales. | Manuel Desco Menéndez / Beatriz Salinas Rodríguez | UC3M       | 14/09/2023    |
| 101   | Ph Thesis | Nicolás Lamanna Rama      | Relevance of cannabinoids in preclinical models of psychiatric disorders.                                               | María Luisa Soto Montenegro                       | UC3M       | 28/09/2023    |
| 102   | Ph Thesis | Ignacio Peis Aznarte      | Advanced Inference and Representation Learning Methods in Variational Autoencoders.                                     | Antonio Artés Rodríguez / Pablo M. Olmos          | UC3M       | 22/09/2023    |
| 102   | Ph Thesis | Daniel Barrejón Moreno    | How can humans leverage machine learning? From Medical Data Wrangling to Learning to Defer to Multiple Experts.         | Antonio Artés Rodríguez / Pablo M. Olmos          | UC3M       | 04/10/2023    |
| 102   | Ph Thesis | Fernando Moreno Pino      | Deep Attentive Time Series Modelling for Quantitative Finance.                                                          | Antonio Artés Rodríguez / Pablo M. Olmos          | UC3M       | 05/05/2023    |

| Group | Type      | Candidate                     | Title                                                                                                                                        | Name/s Director/s                                                                | University | Date Defended |
|-------|-----------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------|---------------|
| 102   | Ph Thesis | Lorena Romero Medrano         | Change-Point Detection Methods for Behavioral Shift in Recognition Mental Healthcare                                                         | Antonio Artés Rodríguez / Pablo M. Olmos                                         | UC3M       | 20/01/2023    |
| 106   | Ph Thesis | Alicia Pose Díez de la Lastra | Augmented Reality in Image-Guided Therapy to Improve Surgical Planning and Guidance.                                                         | Javier Pascau González-Garzón                                                    | UC3M       | 13/11/2023    |
| 106   | Ph Thesis | Laura Nicolás Sáenz           | A Colour Wheel to Rule them All: Analysing Colour & Geometry in Medical Microscopy                                                           | María Arrate Muñoz Barrutia / Javier Pascau González-Garzón                      | UC3M       | 06/10/2023    |
| 201   | Ph Thesis | Alejandro Carta Bergaz        | Efecto de las células madre cardíacas sobre el sustrato arritmico epicárdico en un modelo de posinfarto                                      | Ángel Arenal Maíz / Javier Bermejo Thomas / Francisco Fernández-Avilés Díaz      | UCM        | 02/02/2023    |
| 201   | Ph Thesis | Blanca Alcón Durán            | Índices de estenosis aórtica, mortalidad e incidencia de eventos cardiovasculares                                                            | Javier Bermejo Thomas / Pablo Martínez-Legazpi / Francisco Fernández-Avilés Díaz | UCM        | 02/03/2023    |
| 203   | Ph Thesis | Marcos Rubio Alarcón          | El factor de transcripción Zfhx3 regula la expresión del gen SCN5A y la densidad de la corriente de sodio (I <sub>Na</sub> ) en el miocardio | Eva Delpón/ Ricardo Caballero                                                    | UCM        | 17/02/2023    |

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| Group | Type      | Candidate                 | Title                                                                                                                                      | Name/s Director/s                            | University | Date Defended |
|-------|-----------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------|---------------|
| 203   | Ph Thesis | Teresa Crespo García      | Respuesta farmacológica y estudio funcional de los canales KATP con mutaciones asociadas al Síndrome de Cantú                              | Eva Delpón/<br>Ricardo Caballero             | UCM        | 11/07/2023    |
| 301   | Ph Thesis | José Manuel Rubio Lorente | Correlatos clínicos y neurobiológicos de la recurrencia de psicosis en personas con esquizofrenia adherentes al tratamiento                | Celso Arango                                 | UCM        | 16/05/2023    |
| 301   | Ph Thesis | Carol Stella              | Análisis de la variación genética de predisposición a trastornos psiquiátricos en rutas de regulación de la expresión génica por microRNAs | Celso Arango /<br>Javier González Peñas      | UCM        | 14/07/2023    |
| 301   | Ph Thesis | Aina Sastre Buades        | Cognición y conducta suicida en psicosis y depresión                                                                                       | María Luisa Barrigón/<br>Enrique Baca García | UAM        | 05/05/2023    |
| 301   | Ph Thesis | Fabián Hernández Álvarez  | Estrés oxidativo e inflamación en trastorno bipolar de inicio temprano                                                                     | Celso Arango/<br>Carmen Moreno               | UCM        | 01/11/2023    |
| 301   | Ph Thesis | Mónica Burdeus            | Caracterización clínica de los trastornos del neurodesarrollo asociados con sinaptopatías: El caso del síndrome de Phelan-McDermid         | María José Parellada                         | UAM        | 18/12/2023    |

| Group | Type      | Candidate            | Title                                                                                                                                                                                             | Name/s Director/s                                         | University | Date Defended |
|-------|-----------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|------------|---------------|
| 401   | Ph Thesis | Judith Díaz García   | Etiología causal, resistencia antifúngica, y clones circulantes de Candida spp. procedentes de hemocultivos y muestras intra-abdominales: una perspectiva multicéntrica desde el estudio CANDIMAD | Pilar Escribano /<br>Jesús Vicente Guinea Ortega          | UCM        | 18/12/2023    |
| 401   | Ph Thesis | Chiara Fanciulli     | Coinfección por el virus de la inmunodeficiencia humana y el virus de la hepatitis C en España: tendencias epidemiológicas y características clínicas                                             | Juan Berenguer Berenguer /<br>Juan Julián González García | UCM        | 04/07/2023    |
| 501   | Ph Thesis | Alba Gutiérrez Seijo | Microambiente tumoral del melanoma humano                                                                                                                                                         | Rafael Samaniego García /<br>Paloma Sánchez-Mateos Rubio  | UCM        | 01/06/2023    |
| 506   | Ph Thesis | Jorge Gallego Valle  | Potencial terapéutico de linfocitos T reguladores de timo (thyTreg): Vías de generación alternativas y modificación genética con un Receptor de Antígeno Quimérico Universal                      | Marjorie Pion                                             | UCM        | 20/12/2023    |



| Group | Type      | Candidate               | Title                                                                                                                                                                           | Name/s Director/s                                                                       | University | Date Defended |
|-------|-----------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------|---------------|
| 506   | Ph Thesis | Fernando Díaz Fontenla  | La expresión intrahepática de genes relacionados con vías de señalización inmune como avance en la comprensión de la patogenia de la hepatitis autoinmune                       | Rafael Correa Rocha / Rafael Bañares Cañizares / María Magdalena Salcedo Plaza          | UCM        | 31/10/2023    |
| 506   | Ph Thesis | Sergio Gil Manso        | Caracterización de la inmunidad en pacientes infectados por SARS CoV-2 y de la respuesta inmune conferida por la vacunación frente a la COVID-19                                | Marjorie Pion / Rafael Correa Rocha                                                     | UCM        | 23/06/2023    |
| 603   | Ph Thesis | Cristina Andrés Zayas   | Caracterización molecular de pacientes con predisposición germinal a neoplasias hematológicas mediante la detección de variantes genómicas por técnicas de secuenciación masiva | Ismael Buño Borde / Carolina Martínez Laperche                                          | UCM        | 05/12/2023    |
| 701   | Ph Thesis | Irma María Barrio Pérez | Sevoflurano y desflurano en la reparación del aneurisma de aorta. Ensayo clínico aleatorizado Fase IV                                                                           | María Begoña Quintana Villamandos / Alberto Lázaro Fernández / Carmen Fernández Riviera | UCM        | 19/01/2023    |

| Group | Type      | Candidate                   | Title                                                                                                                                                    | Name/s Director/s                                                           | University | Date Defended |
|-------|-----------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|------------|---------------|
| 701   | Ph Thesis | Marta Tejedor Bravo         | Hiponatremia intermitente recurrente: un nuevo modelo experimental. Estudio de su efecto sobre el balance hidrosalino y el sistema nervioso central      | Alberto Lázaro Fernández / Luis Antonio Álvarez-Sala Walther                | UCM        | 21/04/2023    |
| 701   | Ph Thesis | Diego Barbieri Merlo        | Análisis de interrelación entre obesidad, c1q/ tumour necrosis factor-related protein-1 y 3 y la progresión de la enfermedad renal crónica               | María Ángeles Goicoechea / María Dolores Sánchez Niño                       | UCM        | 04/12/2023    |
| 704   | Ph Thesis | Miriam García San Prudencio | Estudio del sueño de los niños críticamente enfermos, sus padres y el personal sanitario de una unidad de cuidados intensivos pediátricos                | Santiago Mencía Bartolomé / Jesús López-Herce Cid                           | UCM        | 12/09/2023    |
| 705B  | Ph Thesis | Silvia Ramos Cerro          | Efecto modulador del esmolol sobre la respuesta inflamatoria local secundaria a la ventilación unipulmonar en un modelo experimental de cirugía torácica | Carlos María Simón Adiego / Elena Vara Ameigeiras/ Ignacio Garutti Martínez | UCM        | 19/05/2023    |

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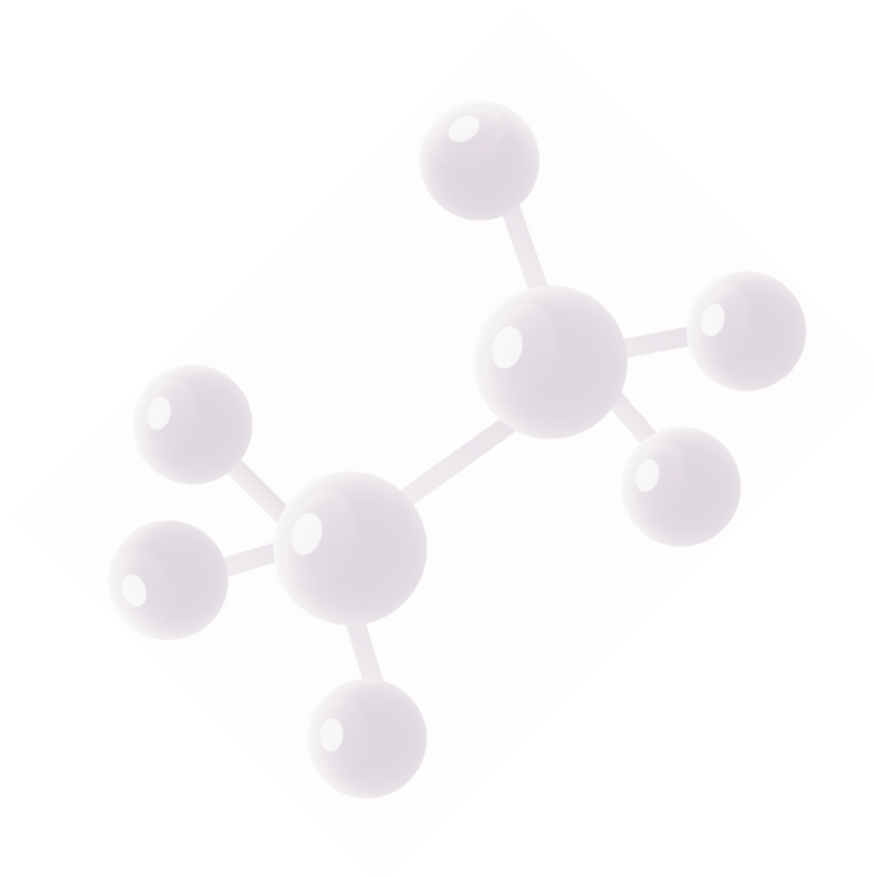
| Group | Type      | Candidate               | Title                                                                                                                                                             | Name/s Director/s                                                                            | University | Date Defended |
|-------|-----------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------|---------------|
| 705B  | Ph Thesis | Alberto Fernández Peña  | Efectos de la administración intraoperatoria de esmolol sobre la respuesta inflamatoria perioperatoria en un modelo experimental de cirugía de resección pulmonar | Elena Vara Ameigeiras/<br>Carlos María Simón Adiego /<br>Ignacio Garutti Martínez            | UCM        | 30/06/2023    |
| 716B  | Ph Thesis | Irma María Barrio Pérez | Sevoflurano y desflurano en la reparación del aneurisma de aorta. Ensayo clínico aleatorizado Fase IV                                                             | María Begoña Quintana Villamandos/<br>Alberto Lázaro Fernández /<br>Carmen Fernández Riveira | UCM        | 19/01/2023    |
| 716B  | Ph Thesis | Alba Burgos Santamaría  | Biomarcadores de estrés oxidativo y capacidad antioxidante en cirugía endovascular de aorta con agentes anestésicos inhalados: sevoflurano frente a desflurano.   | María Begoña Quintana Villamandos/<br>Pilar Rodríguez Rodríguez /<br>Ana Arnalich Montiel    | UCM        | 29/11/2023    |
| 716B  | Ph Thesis | María Lema Tomé         | Estudio sobre los resultados clínicos de la técnica epidural obstétrica en el Hospital General Universitario Gregorio Marañón. Búsqueda de la excelencia clínica. | María Begoña Quintana Villamandos                                                            | UCM        | 21/12/2023    |

| Group | Type      | Candidate            | Title                                                                                                                                           | Name/s Director/s                                                                            | University | Date Defended |
|-------|-----------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------|---------------|
| 716B  | Ph Thesis | Andrés Rivera Muñoz  | Fisiopatología del proceso de isquemia-reperusión y aplicabilidad de la perfusión normotérmica en hígado porcino                                | Juan Francisco del Cañizo                                                                    | UCM        | 20/12/2023    |
| 716B  | Ph Thesis | Ángela Irabien Ortiz | Estudio de los factores influyentes en los resultados de reparación mitral de un centro de referencia                                           | Ángel González Pinto/<br>Gregorio Pablo Cuerpo Caballero/<br>Juan Francisco del Cañizo López | UCM        | 30/01/2023    |
| 720   | Ph Thesis | Lucía Álvarez Baena  | Concentración al final de la espiración (end tidal) de sevoflurano para la inserción de la mascarilla laríngea supreme™ en niños entre 10-50 kg | María Teresa López Gil/<br>Matilde Zaballos García/<br>Manuel Cuervas-Mons Cantón            | UCM        | 10/10/2023    |
| 722   | Ph Thesis | Ana Gutiérrez Vélez  | Prevalencia, etiología y abordaje terapéutico del dolor persistente en el neonato crítico                                                       | Itziar Marsinyach Ros/<br>Manuel Sánchez Luna                                                | UCM        | 31/05/2023    |
| 722   | Ph Thesis | Gonzalo Solís García | Nuevas estrategias de ventilación mecánica protectora en neonatología: ventilación de alta frecuencia oscilatoria con volumen garantizado       | Cristina Ramos Navarro/<br>Noelia González Pacheco/<br>Manuel Sánchez Luna                   | UCM        | 24/10/2023    |

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| Group | Type      | Candidate                    | Title                                                                                                                                                                                 | Name/s Director/s                                          | University             | Date Defended |
|-------|-----------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------|---------------|
| 727   | Ph Thesis | Cristina Villanueva Bueno    | Diseño y validación de la dosis diaria definida de antimicrobianos en neonatología                                                                                                    | María Victoria Gil Navarro/<br>María Teresa Morales Millán | Universidad de Sevilla | 14/04/2023    |
| 728   | Ph Thesis | Ángela Morales Cerchiaro     | Repercusión clínica y económica de la implantación de una herramienta de cribado nutricional en un hospital terciario                                                                 | Cristina Cuerda Compés                                     | UCM                    | 17/07/2023    |
| 728   | Ph Thesis | Marta Motilla de la Cámara   | Evolución del gasto energético, microbiota intestinal y de los niveles en sangre de aminoácidos y acilcarnitina en pacientes en programa de trasplante de precursores hematopoyéticos | Cristina Cuerda Compés                                     | UCM                    | Pendiente     |
| 729   | Ph Thesis | Miguel Macías Montero        | Papel de las vesículas extracelulares en las complicaciones pulmonares asociadas a daño hepático                                                                                      | Laura Moreno Gutiérrez / Ángel Cogolludo Torralba          | UCM                    | 29/03/2023    |
| 729   | Ph Thesis | Miguel Ángel Olivencia Plaza | Vitamin D deficiency and chronic alcohol consumption as predisposing factors of erectile dysfunction and pulmonary hypertension                                                       | Francisco Pérez Vizcaino                                   | UCM                    | 03/11/2023    |





## Cooperative Research Structures

| Group | Type (RICORS, CIBER, others)                                                       | Name of Network                                                                                       | Role                | Code           |
|-------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------|----------------|
| 101   | CIBER                                                                              | CIBERSAM                                                                                              | Collaborating group | CIBERSAM       |
| 101   | Platform                                                                           | Plataforma ISCIII de Biomodelos y Biobancos                                                           | Collaborating group | PT23/00027     |
| 101   | Other: Programs of R&D activities among research groups in the Community of Madrid | Red Madrileña de Nanomedicina en Imagen Molecular                                                     | Coordinating group  | RENIM-CM       |
| 102   | CIBER                                                                              | CIBERSAM                                                                                              | Associated group    | CIBERSAM       |
| 102   | Other                                                                              | International Society for Bayesian Analysis                                                           |                     | ISBA           |
| 201   | CIBER                                                                              | CIBERCV                                                                                               | Coordinating group  | CB16/11/00292  |
| 201   | Other                                                                              | Red de Formación Interdisciplinaria en Regeneración Cardíaca.                                         | Associated group    | EUIN2017-88719 |
| 201   | Other                                                                              | PROGRAMA AVANCELL-CM - Terapias avanzadas de precisión en regeneración y reparación celular y tisular | Coordinating group  | S2017/BMD-3692 |
| 201   | Other                                                                              | Programa ITACA - CM Investigación Traslacional en Arritmias Cardíacas hereditarias                    | Associated group    | B2017/BMD3738  |
| 201   | Other                                                                              | PROGRAMA PREFI-CM - Personalización del Riesgo Embólico mediante el análisis del Flujo Intracardiaco  | Coordinating group  | Y2018/BIO-4858 |
| 202   | CIBER                                                                              | CIBERCV                                                                                               | Coordinating group  | CB16/11/00286  |
| 203   | CIBER                                                                              | CIBERCV                                                                                               | Coordinating group  | CB16/11/00303  |
| 301   | Other                                                                              | Ambiente y genes en esquizofrenia                                                                     | Coordinating group  | AGES-CM3       |

| Group | Type (RICORS, CIBER, others)                                                           | Name of Network                                                                             | Role                    | Code          |
|-------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------|---------------|
| 301   | CIBER                                                                                  | CIBERSAM                                                                                    | Collaborating group     | CB/07/09/0023 |
| 301   | Other: c4c research network                                                            | conect4children                                                                             | Expert advice group     | c4c           |
| 301   | Other: ECNP Network                                                                    | Networks Board and Taskforce - ECNP ECNP Network                                            | Thematic Working Groups |               |
| 301   | Other: ECNP Network                                                                    | Child and Adolescent Neuropsychopharmacology Network                                        | Thematic Working Groups |               |
| 402   | CIBER                                                                                  | CIBERINFEC                                                                                  | Collaborating group     | CB21/13/00044 |
| 501   | Other                                                                                  | International Network for Strategic Initiatives in Global HIV Trials                        | Associated group        | INSIGHT       |
| 501   | Other                                                                                  | Strategies and Treatments for Respiratory Infections & Viral Emergencies                    | Associated group        |               |
| 501   | Other                                                                                  | Registro Español de Inmunodeficiencias Primarias                                            | Associated group        | REDIP         |
| 502   | Other: Network of the Ibero-American Program of Science and Technology for Development | Red Pediátrica para Prevención, Detección Precoz y Tratamiento del VIH en niños (PLANTAIDS) | Collaborating group     | PLANTAIDS     |
| 502   | Other: European Paediatric Research Network                                            | Pediatric European Network for Treatment of AIDS                                            | Collaborating group     | PENTA         |
| 502   | CIBER                                                                                  | CIBERBBN                                                                                    | Collaborating group     | CIBERBBN      |
| 506   | Other                                                                                  | Canadian Donation and Transplantation Program                                               | Collaborating group     | CDTRP         |
| 506   | Other: European Reference Network (ERN)                                                | ERN TRANSPLANT-CHILD                                                                        | Collaborating group     |               |



| Group | Type (RICORS, CIBER, others)                 | Name of Network                                                                                              | Role                | Code     |
|-------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------|----------|
| 507   | Other: National Cooperative Research Network | Red Española de Estudio de la Tuberculosis Pediátrica                                                        | Coordinating group  | pTBred   |
| 507   | Other: Regional Cooperative Research Network | Grupo de Estudio de tuberculosis resistente en niños de la Comunidad de Madrid                               | Coordinating group  | EREMITA  |
| 507   | Other: National Cooperative Research Network | Estudio sobre la influencia genética en la enfermedad meningocócica                                          | Collaborating group | ESIGEM   |
| 507   | Other: National Cooperative Research Network | Red de la Infección Congénita por CMV                                                                        | Collaborating group | REDICCMV |
| 507   | Other: National Cooperative Research Network | Red para el estudio de la enfermedad invasiva por SGA                                                        | Collaborating group | PeiSGA   |
| 507   | Other: National Cooperative Research Network | Red Nacional de Infección Osteoarticular en niños                                                            | Collaborating group | RioPed   |
| 507   | Other: National Cooperative Research Network | Red nacional de Kawasaki                                                                                     | Collaborating group | KawaRACE |
| 507   | Other: National Cooperative Research Network | Red Nacional para el Diagnóstico, Tipificación Genética y Actuaciones Terapéuticas de la giardiasis infantil | Collaborating group | RedGlp   |
| 507   | Other: National Cooperative Research Network | Red de Investigación Traslacional en Infectología Pediátrica                                                 | Collaborating group | RITIP    |
| 507   | Other: National Cooperative Research Network | Registro nacional de estudio de casos de infección por ZIKA en el embarazo y recién nacido                   | Collaborating group | pedZIKA  |

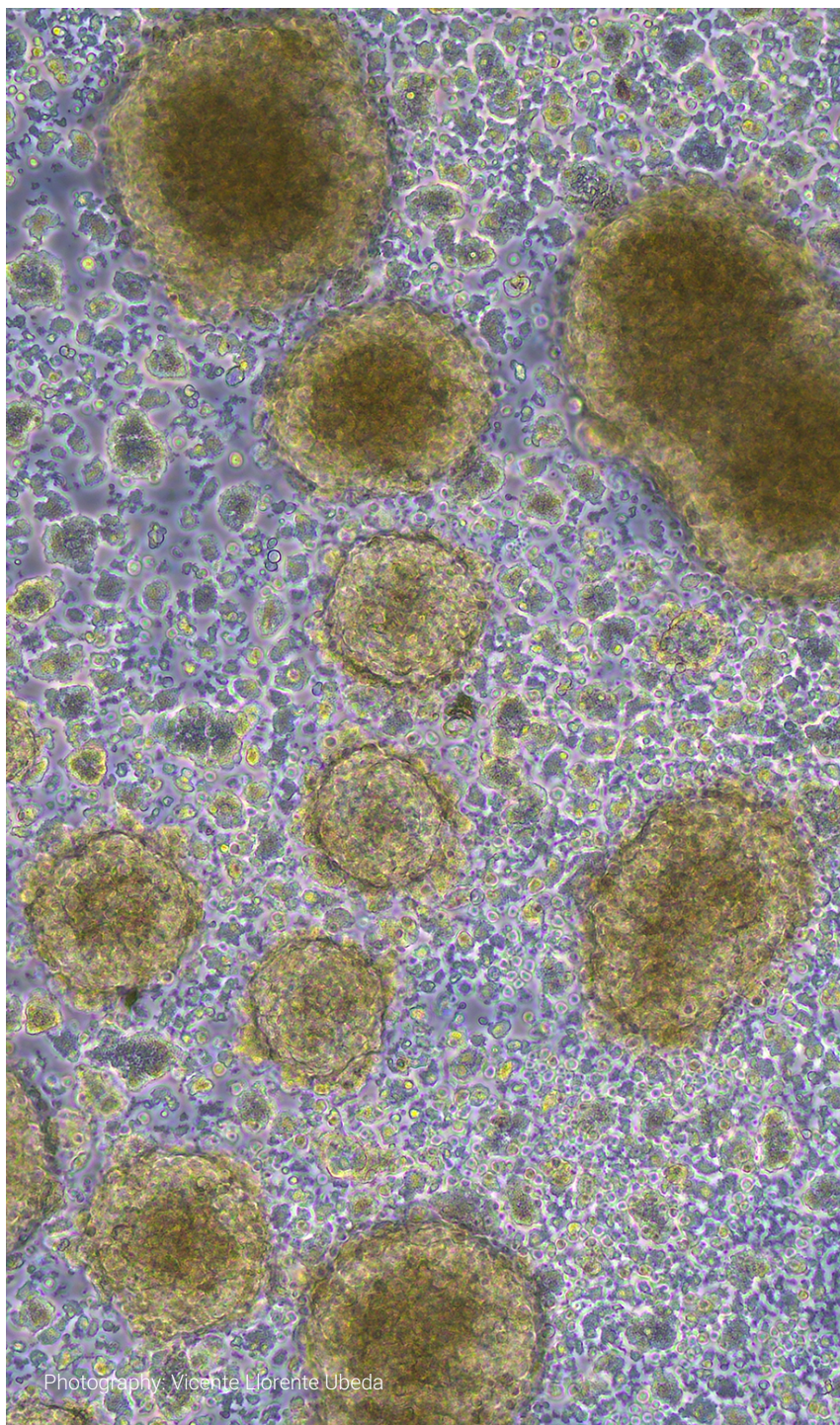
| Group | Type (RICORS, CIBER, others)                                                           | Name of Network                                                                           | Role                | Code      |
|-------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------|-----------|
| 507   | Other: National Cooperative Research Network                                           | Red de Investigación de la Sociedad española de Urgencias de Pediatría                    | Collaborating group | RISeuP    |
| 507   | Other: Network of the Ibero-American Program of Science and Technology for Development | Red Pediátrica para Prevención, Detección Precoz y Tratamiento del VIH en niños           | Collaborating group | PLANTAIDS |
| 507   | Other: European Paediatric Research Network                                            | Pediatric European Network for Treatment of AIDS                                          | Collaborating group | PENTA     |
| 507   | Other: National Cooperative Research Network                                           | Estudio epidemiológico de las infecciones pediátricas por el nuevo coronavirus SARS-CoV-2 | Collaborating group | EPICO-AEP |
| 507   | Other: European Paediatric Research Network                                            | Red Europea de Investigación en RSV                                                       | Collaborating group | ResVinet  |
| 507   | Other: National Cooperative Research Network                                           | Red Estatal de Investigación en Toxoplasmosis Congénita                                   | Collaborating group | REIV-TOXO |
| 507   | Other: European Paediatric Research Network                                            | Pediatric Tuberculosis Network European Trials group                                      | Collaborating group | PTBNET    |
| 507   | Other: European Paediatric Research Network                                            | Paediatric invasive S. aureus study                                                       | Collaborating group | PISA      |
| 507   | Other: European Paediatric Research Network                                            | Sickle cell disease Pediatric Research about Infections Group                             | Collaborating group | SPRING    |
| 507   | Other: European Paediatric Research Network                                            | MultiCenter modified point prevAlence studY of antifungal use in PediatricS in EurOpe     | Collaborating group | CALYPSO   |



| Group | Type (RICORS, CIBER, others)  | Name of Network                                                                                             | Role                | Code          |
|-------|-------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------|---------------|
| 507   | Platform                      | Plataforma europea para el estudio e implementación de grupos PROA en las diferentes instituciones europeas | Coordinating group  | Ranin-Kids    |
| 507   | Platform                      | European Pregnancy and Pediatric HIV Cohorts Collaboration                                                  | Collaborating group | EPPICC        |
| 507   | CIBER                         | CIBERINFEC                                                                                                  | Collaborating group | CIBERINFEC    |
| 602   | CIBER                         | CIBERONC                                                                                                    | Collaborating group | CB16/12/00471 |
| 602   | Other: Scientific Association | GEICAM. Grupo Español de Cáncer de mama.                                                                    | Collaborating group | GEICAM        |
| 602   | Other: Scientific Association | ESMO. European Society for Medical Oncology                                                                 | Other               | ESMO          |
| 602   | Other: Scientific Association | TRIO. Translational Research In Oncology                                                                    | Coordinating group  | TRIO          |
| 602   | Other: Scientific Association | GEIS. Grupo Español de Investigación en Sarcomas.                                                           | Other               | GEIS          |
| 602   | Other: Scientific Association | TTD. Grupo de Tratamiento de los Tumores Digestivos                                                         | Other               | TTD           |
| 602   | Other: Cooperative Group      | SOGUG. Grupo Español de Oncología Genitourinaria.                                                           | Other               | SOGUG         |
| 602   | Other: Scientific Association | SEOM. Sociedad Española de Oncología Médica                                                                 | Other               | SEOM          |
| 602   | Other: Scientific Association | GEM. Grupo Español Multidisciplinar de Melanoma                                                             | Other               | GEM           |
| 602   | Other: Patients' association. | EUROPACOLON España. Asociación cáncer colorrectal                                                           | Other               | EUROPACOLON   |
| 602   | Other: Scientific Association | Grupo ECO para la calidad en la Oncología                                                                   | Other               | ECO           |
| 602   | Other: Scientific Association | SOMA. Sociedad Oncológica Madrileña                                                                         | Other               | SOMA          |
| 602   | Other: Scientific Association | BCIRG. Breast Cancer Internacional Research Group                                                           | Other               | BCIRG         |
| 602   | Other: Scientific Association | ASCO. American Society of Clinical Oncology                                                                 | Other               | ASCO          |
| 602   | Other: Cooperative Group      | CECOG. Central European Cooperative Oncology Group                                                          | Other               | CECOG         |

| Group | Type (RICORS, CIBER, others)                                                       | Name of Network                                                                                                                         | Role                | Code           |
|-------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|
| 602   | Other: Cooperative Group                                                           | EBCTCG. Early Breast Cancer Trialist Cooperative Group                                                                                  | Other               | EBCTCG         |
| 602   | Other: Association of researchers                                                  | ALIPANC. Alianza de Investigación en Cáncer de Páncreas                                                                                 | Other               | ALIPANC        |
| 603   | Platform                                                                           | Plataforma ISCIII de dinamización e innovación de las capacidades industriales del SNS y su transferencia efectiva al sector productivo | Collaborating group | PT20/00159     |
| 701   | RICORS                                                                             | RICORS 2040 KIDNEY DISEASE                                                                                                              | Associated group    | RD21/0005/0029 |
| 701   | Other: Programs of R&D activities among research groups in the Community of Madrid | Consorcio para el estudio del fracaso renal y su impacto en la patología cardiovascular                                                 | Associated group    | CIFRA_COR-CM   |
| 702   | CIBER                                                                              | CIBEREHD                                                                                                                                | Collaborating group | CIBEREHD       |
| 704   | RICORS                                                                             | Primary care interventions to prevent maternal and child chronic diseases of perinatal and developmental origin                         | Collaborating group | RD21/0012/0011 |
| 721   | CIBER                                                                              | CIBERFES                                                                                                                                | Collaborating group | CIBERFES       |
| 721   | Other: National Hip Fracture Registry                                              | Registro Nacional de Fractura de Cadera                                                                                                 | Collaborating group | RNFC           |
| 727   | Platform                                                                           | Plataforma ISCIII de soporte para la investigación clínica                                                                              | Collaborating group |                |
| 729   | CIBER                                                                              | CIBERES                                                                                                                                 | Coordinating group  | CB06/06/1084   |
| 734   | RICORS                                                                             | Red de Investigación, Cronicidad, Atención primaria y Promoción de la Salud                                                             | Collaborating group | RICAPPS        |





Photography: Vicente Llorente Ubeda

# 5

## Scientific Activity by Area

- Biomedical Engineering • **Area 1**
- Cardiovascular Diseases • **Area 2**
- Neuroscience and Mental Health • **Area 3**
- Infectious Diseases and AIDS • **Area 4**
- Diseases of the Immune System • **Area 5**
- Translational Oncology • **Area 6**
- Systemic Diseases and Organ  
Transplantation • **Area 7**
- Nursing Research Group



# AREA 1

## BIOMEDICAL ENGINEERING

Area coordinator:  
**Manuel Desco Menéndez**

The Area of Biomedical Engineering is a particularly interesting facet of the Instituto de Investigación Sanitaria Gregorio Marañón (IISGM [*Gregorio Marañón Health Research Institute*]). It provides a complementary and clearly enriching vision of the type of research traditionally carried out in biomedicine. Its emphasis on technology, transferability, and immediacy of application, together with its clear orientation towards innovation, makes it an area of considerable added value.

These characteristics are evidenced by the considerable number of joint publications with other groups and areas of the Institute. Infact, the Area of Biomedical Engineering leads the Red de Innovación en Tecnologías Médicas y Sanitarias (ITEMAS [*Medical Technology Innovation Network*]) of the Instituto de Salud Carlos III (*Carlos III Health Institute*). This area is also the link between the IISGM and Universidad Carlos III. In addition to its research activity, it plays a key role in the new undergraduate Degree in Biomedical Engineering offered by Universidad Carlos III.

Not surprisingly, therefore, the strategic axes of this area are directed towards consolidating collaboration with Universidad Carlos III (in

which the incorporation of new research groups will be essential), defining and strengthening the area's role in teaching, consolidating the functioning of the Innovation Support Unit of Hospital General Universitario Gregorio Marañón (HGUGM) –which has considerably stepped up its activity during recent years– and intensifying its strategy of supporting and complementing clinical research.

Its marked technological character makes the Area of Biomedical Engineering a key player in obtaining funds from EU framework programs. Greater emphasis will be placed on this activity in the coming years.

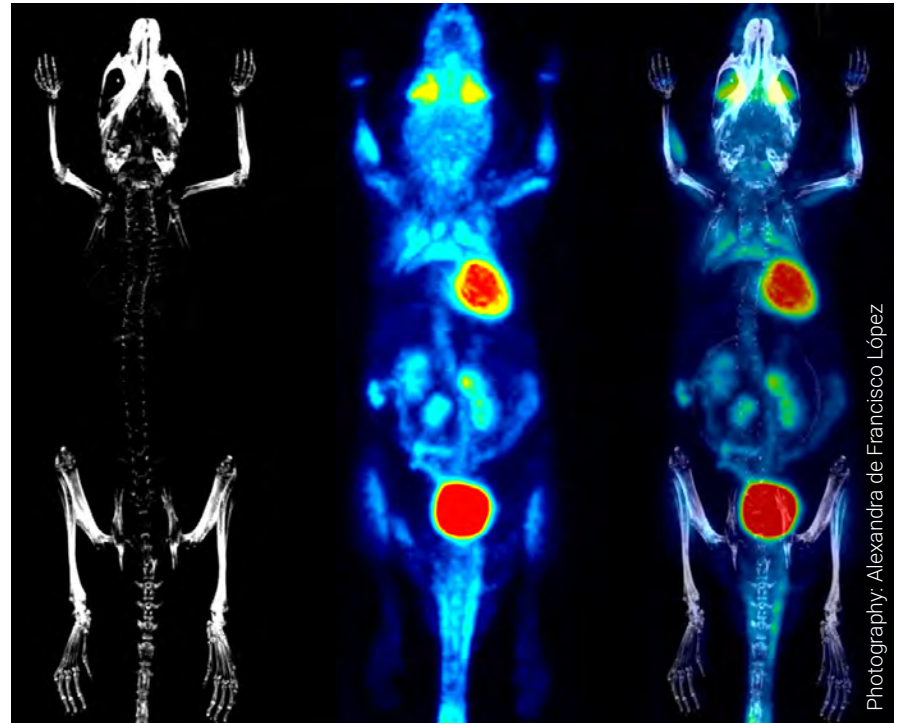
Lastly, the Area of Biomedical Engineering aims to introduce a series of activities aimed at facilitating the participation of other technology groups in the IISGM, thus promoting multidisciplinary research capacity and rapid knowledge transfer, and, in short, responding effectively to key issues in the field of biomedicine.

Of note, one new group joined this Research Area in 2023, Group 1.06. Biomedical applications of engineering, directed by Javier Pascau González y Arrate Muñoz Barrutia.

# Groups in AREA 1

## BIOMEDICAL ENGINEERING

- ▶ 1.01. Advanced technological applications and human health
- ▶ 1.02. Signal processing
- ▶ 1.03. Computer architecture, communications, and systems (ARCOS)
- ▶ 1.04. Nonparametric statistical and intensive computing techniques
- ▶ 1.05. Structural and functional medical image
- ▶ 1.06. Biomedical applications of engineering







Group Director: **MANUEL DESCO MENÉNDEZ**

Organisms involved: **HGUGM-UC3M**

Type: **Consolidated Group**

## Research lines

### Axis 1: Imaging support for Clinical Research

- ▶ L1: Neuroimaging processing

### Axis 2: Technological development

- ▶ L1: Advanced radiological imaging
- ▶ L2: Tissue clarification and SPIM

### Axis 3: Biomedical experimentation

- ▶ L1: Molecular probes for biomedical imaging
- ▶ L2: Animal models for molecular imaging
- ▶ L3: Low dose radiation effects
- ▶ L4: Animal models of drug abuse

The area of Biomedical Engineering provides a complementary and clearly enriching vision of the research traditionally carried out in Biomedicine. Its technological component, the transversality and immediacy of its application, as well as its clear orientation towards innovation, give the area a notable added value. On the other hand, this area represents the link between the Instituto de Investigación Sanitaria Gregorio Marañón and the Carlos III University and, in addition to its research activity, it develops various undergraduate and master's degree training programmes offered by this University, promoting, through interdisciplinary cooperation, the improvement of multidisciplinary research capacity, the rapid transfer of knowledge and, in short, responding effectively to the important questions arising from the field of Biomedicine.

## Group members

- **Abella García, Mónica:** R3. Established Researcher.
- **Abella Larraz, Jaime:** Other.
- **Aguilera Jiménez, Elena:** R1. First Stage Researcher.
- **Álvarez Rubio, Ana:** Other.
- **Ballesteros Sánchez, Cristina:** R1. First Stage Researcher.
- **Barco Tejada, Ainara:** R1. First Stage Researcher.
- **Blázquez López, Elena:** R1. First Stage Researcher.
- **Calle Hernández, Daniel:** Other.
- **Carmona Cañabate, Susana:** R3. Established Researcher.
- **Carravilla Expósito, Eva:** Other.
- **Castro Leal, Gonzalo:** R1. First Stage Researcher.
- **Chávez Valencia, Raquel:** R1. First Stage Researcher.
- **Cusso Mula, Lorena:** R3. Established Researcher.
- **De Francisco López, Alexandra:** Other. Support Technician.
- **Descó Menéndez, Manuel:** R4. Leading Researcher.
- **Eguibar Blázquez, Diego:** Other. Support Technician.
- **Felipe Maestre, María de la Jara:** Other. Support Technician.
- **Fernández del Cerro, Carlos:** R1. First Stage Researcher.
- **Fernández Pena, Alberto:** R2. Recognised Researcher.
- **Fernández-Cortés Navia, Elena:** Other. Support Technician.
- **Garrido Huerta, Trajana:** Other. Management.
- **Garrido Simón, José Alejandro:** R1. First Stage Researcher.
- **Gómez Gavero, María Victoria:** R3. Established Researcher.
- **Gómez Martín, Adrián:** R1. First Stage Researcher.
- **González Arjona, Mario:** R1. First Stage Researcher.
- **González Gutiérrez, María Isabel:** R2. Recognised Researcher.
- **Herreros Pérez, Desire:** R2. Recognised Researcher.
- **Iturmendi González, Leyre:** R1. First Stage Researcher.
- **Jorcano Noval, José Luis:** R3. Established Researcher.
- **Lamanna Rama, Nicolás:** R2. Recognised Researcher.
- **Llorente Úbeda, Vicente:** R2. Recognised Researcher.
- **López Montoya, Gonzalo:** R2. Recognised Researcher.
- **López Nares, Adrián:** Other. Senior Support Technician.

Continued on next page



## Group members (cont.)

- **Lorente Mur, Antonio Tomás:** R2. Recognised Researcher.
- **Margüello Molina, Adrián:** R1. First Stage Researcher.
- **Martín de Blas, Daniel:** R2. Recognised Researcher.
- **Martínez García, Magdalena:** R2. Recognised Researcher.
- **Miguel Ramiro, Natalia:** R1. First Stage Researcher.
- **Navas Sánchez, Francisco Javier:** R2. Recognised Researcher.
- **Ochotorena Santacilia, Paula:** R1. First Stage Researcher.
- **Paternina Die, María del Carmen:** R1. First Stage Researcher.
- **Piol, Alessandro:** R1. First Stage Researcher.
- **Ripoll Lorenzo, Jorge:** R3. Established Researcher.
- **Rodríguez Casau, Elena:** Other. Management.
- **Rodríguez Hita, Antonio:** Other. Management.
- **Salinas Rodríguez, Beatriz:** R3. Established Researcher.
- **Sánchez Puerto, Daniel:** Other. Senior Support Technician.
- **Sanderson Moreno, Daniel:** R1. First Stage Researcher.
- **Serramia Lobera, María Jesús:** Other. Support Technician.
- **Soto Montenegro, María Luisa:** R3. Established Researcher.
- **Velasco Bayón, Diego:** R4. Leading Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 2                       |            |                    |            |
| National      | 12                      | 6          | 2                  | 2          |
| Regional      | 1                       |            | 4                  | 4          |

- Title: **BIOMET4D: Smart 4D biodegradable metallic shape-shifting implants for dynamic tissue restoration.** HE BIOMET4D 101047008.  
Director: Desco Menéndez, Manuel

Project type: European research project

Funding body: EU/PRG. MARCO

Start date: 01/07/2022

End date: 30/06/2026

- Title: **Becoming a mother. An integrative model of adaptations for motherhood during pregnancy and the postpartum period.** H2020 BEMOTHER

Director: Carmona Cañabate, Susana

Project type: European research project

Funding body: EU/PRG. MARCO

Start date: 01/10/2020

End date: 30/09/2025

- Title: **Desarrollo de un Biomarcador de neuroimagen para detectar el estado procoagulante en la enfermedad de Alzheimer.** AC20/00091

Director: Desco Menéndez, Manuel

Project type: ACC. Complementarias

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 30/06/2025

- Title: **Inteligencia Artificial en nuevos sistemas de diagnóstico radiológico (AIRad).** PMPTA22/00118

Director: Desco Menéndez, Manuel

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2023

End date: 31/12/2024

- Title: **Imagen 3D de Plano de Luz con Campo de Vision Extendido.** DTS22/00030

Director: Ripoll Lorenzo, Jorge

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2023

End date: 31/12/2024

- Title: **Efectos a largo plazo del embarazo en el cerebro humano.** PI22/01365

Director: Carmona Cañabate, Susana

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2023

End date: 31/12/2025





- Title: **Monitorización de tratamiento y respuesta a infecciones estafilocócicas mediante imagen inmunoPET empleando trazadores específicos.** PI20/01632  
Director: Salinas Rodríguez, Beatriz  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2024
- Title: **Contribución funcional de los microquimerismos maternos a la respuesta al daño cardíaco.** PI18/00462  
Director: Gómez Gavio, María Victoria  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023
- Title: **Cannabidiol, COVID-19, cannabis, resonancia, CT pulmonar, microbiota.** EXP2022/008917  
Director: Soto Montenegro, María Luisa  
Project type: Research project  
Funding body: Ministerio de Sanidad, SS Sociales e Igualdad  
Start date: 12/07/2023  
End date: 12/01/2025
- Title: **Mecanometabolismo de la insuficiencia cardíaca asociada a la edad - CardioAging (Mechanometabolism of age-associated heart failure).** PLEC2022-009235.  
Director: Gómez Gavio, María Victoria  
Project type: Research project  
Funding body: MICINN/MINECO  
Start date: 03/10/2022  
End date: 02/10/2025
- Title: **Nuevas herramientas nanotecnológicas en el tratamiento de patología neuroinflamatoria y su interacción con el eje intestino-cerebro (ExoCUR).** PID2021-128862OB-I00  
Director: Soto Montenegro, María Luisa  
Project type: Research project  
Funding body: MICINN/MINECO  
Start date: 01/09/2022  
End date: 31/08/2025
- Title: **Microictus cerebrales: nuevo modelo y oportunidades de tratamiento (Nanostroke).** PID2022-141080OB-C21  
Director: Gómez Gavio, María Victoria  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/09/2023  
End date: 31/08/2026
- Title: **Imagen molecular de la infección por Clostridium Difficile.** FRA20/02  
Director: Salinas Rodríguez, Beatriz  
Project type: Research project  
Funding body: Fundación Ramón Areces  
Start date: 12/05/2021  
End date: 11/05/2025
- Title: **Dynamics of the neural, metabolomic and neuropsychological signatures underlying the adaptations for motherhood during pregnancy.** LCF/PR/HR19/52160001  
Director: Carmona Cañabate, Susana  
Project type: Research project  
Funding body: "La Caixa" Banking Foundation  
Start date: 15/09/2019  
End date: 15/09/2023
- Title: **Red Madrileña de Nanomedicina en Imagen Molecular (RENIM-CM).** S2022/BMD-7403  
Director: Desco Menéndez, Manuel  
Project type: Research project  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2023  
End date: 31/12/2026
- Title: **Miguel Servet II contract.** CPII21/00016  
Director: Carmona Cañabate, Susana  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/06/2022  
End date: 31/05/2025
- Title: **PFIS Predoctoral contract.** FI18/00255  
Director: Martínez García, Magdalena  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III



Start date: 01/01/2019

End date: 31/01/2023

- Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-19331

Director: Desco Menéndez, Manuel (Felipe Maestre, María de la Jara)

Project type: Human resources

Funding body: Comunidad Autónoma de Madrid

Start date: 01/01/2021

End date: 28/02/2023

- Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-19418

Director: Gómez Gavero, María Victoria (Fernández Cortés-Navia, Elena)

Project type: Human resources

Funding body: Comunidad Autónoma de Madrid

Start date: 01/01/2021

End date: 09/02/2023

- Title: **Young employment contract. Research Assistant.** PEJ-2021-AI/BMD-23350

Director: Desco Menéndez, Manuel (Abella Larraz, Jaime)

Project type: Human resources

Funding body: Comunidad Autónoma de Madrid

Start date: 01/11/2022

End date: 31/07/2023

- Title: **Young employment contract. Research Assistant.** PEJ-2021-AI/BMD-23350

Director: Desco Menéndez, Manuel (Margüello Molina, Adrián)

Project type: Human resources

Funding body: Comunidad Autónoma de Madrid

Start date: 01/09/2023

End date: 30/11/2024

**Not managed by the FIBHGM**

- Title: **Inteligencia Artificial en nuevos sistemas de diagnóstico radiológico (AIRad).** PMPTA22/00121

Director: Abella García, Mónica

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2023

End date: 31/12/2024

- Title: **Hormesis inducida por radiación en oncología (RADHOR).**

PID2019-110369RB-I00

Director: Desco Menéndez, Manuel / Cussó Mula, Lorena

Project type: Research project

Funding body: Agencia Estatal de Investigación

Start date: 01/06/2020

End date: 29/02/2024

- Title: **Clustering Automático de Comportamientos de invertebrados en libertad mediante imagen 3D.** PID2020-115088RB-I00

Director: Ripoll Lorenzo, Jorge / Moscoso Castro, Miguel

Project type: Research project

Funding body: Agencia Estatal de Investigación

Start date: 01/09/2021

End date: 31/08/2025

- Title: **Nuevo sistema radiológico multifunción de baja dosis (MULTI-RAD).** PDC2021-121656-I00

Director: Abella García, Mónica

Project type: Research project

Funding body: Agencia Estatal de Investigación

Start date: 01/12/2021

End date: 30/11/2023

- Title: **Sistema Microfluídico para Aplicaciones en Tejido en un Chip.** CPP2021-008396

Director: Velasco Bayón, Diego

Project type: Research project

Funding body: Agencia Estatal de Investigación

Start date: 01/09/2022

End date: 31/08/2025

- Title: **Development of a dynamic, functional and personalized 3D melanoma model-on-a-CHIP.** PID2021-126523OB-I00

Director: Velasco Bayón, Diego/Gago, Nuria

Project type: Research project

Funding body: Agencia Estatal de Investigación

Start date: 01/09/2022

End date: 31/08/2025

- Title: **Grants for pre-doctoral contracts for the training of doctors.** PRE2020-095268





Director: Desco Menéndez, Manuel/Cussó Mula, Lorena  
 Project Type: Human resources  
 Funding Body: MICINN  
 Start date: 01/08/2021  
 End date: 31/07/2025

- Title: **Grants for technical support staff. PTA2020-019246-I**  
 Director: Desco Menéndez, Manuel  
 Project Type: Human resources  
 Funding Body: MICINN  
 Start date: 01/12/2021  
 End date: 15/04/2023
- Title: **Programme for Predoctoral Research Staff in Training (PIPF UC3M).**  
 Director: Abella García, Mónica  
 Project Type: Human resources  
 Funding Body: UC3M  
 Start date: 01/02/2019  
 End date: 27/07/2023
- Title: **Programme for Predoctoral Research Staff in Training (PIPF UC3M).**  
 Director: Abella García, Mónica  
 Project Type: Human resources  
 Funding Body: UC3M  
 Start date: 01/09/2022  
 End date: 31/08/2026
- Title: **Programme for Predoctoral Research Staff in Training (PIPF UC3M).**  
 Director: Desco Menéndez, Manuel  
 Project Type: Human resources  
 Funding Body: UC3M  
 Start date: 05/09/2022  
 End date: 04/09/2026
- Title: **Young employment contract. Laboratory Technician. PEJ-2021-TL/BMD-23097**  
 Director: Velasco Bayón, Diego  
 Project Type: Human resources  
 Funding Body: Comunidad Autónoma de Madrid  
 Start date: 01/11/2022  
 End date: 31/10/2024

### Industrial and Intellectual Property Registrations

#### Industrial property

| Title                                                                                                                     | Reference*                  | Owner                                                         | Inventors                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aparato de tomografía multimodal                                                                                          | P 2005 02612<br>7 patents   | FIBHGM - Sociedad Española de Electromedicina y Calidad, S.A. | Juan José Vaquero, Manuel Desco                                                                                                                                                      |
| Ciclotrón clásico superconductor compacto                                                                                 | P 2013 30626                | UC3M - CIEMAT                                                 | Luis García-Tabarés, Concepción Oliver, Fernando Toral, Daniel Gavela, Diego Obradors, Cristina Vázquez, Iván Podadera, Javier Munilla, Jesús Calero, José M. Pérez, Friederich Haug |
| Equipo y método de generación de tomografías                                                                              | P 2017 30341<br>(3 patents) | FIBHGM - UC3M                                                 | Manuel Desco, Mónica Abella                                                                                                                                                          |
| Light Sheet Microscope and procedure for extended samples                                                                 | P 2018 30912                | UC3M                                                          | Jorge Ripoll Lorenzo                                                                                                                                                                 |
| Mobile 3D imaging system based on light sheet microscopy                                                                  | P 2018 30913                | UC3M                                                          | Jorge Ripoll Lorenzo                                                                                                                                                                 |
| Equipo y simulación para control de hemorragias                                                                           | P 2017 30568                | FIBHGM - Medical Simulator                                    | Manuel Desco, Juan Francisco del Cañizo                                                                                                                                              |
| Compuestos radiactivos basados en proteínas selectivas de bacteriemias para la detección no invasiva de focos infecciosos | P 202030838<br>(2 patents)  | FIBHGM - UC3M                                                 | Beatriz Salinas, Manuel Desco, Patricia Muñoz, Emilio Bouza                                                                                                                          |
| Tapón antirreflujo                                                                                                        | EP22382591.0                | FIBHGM - UC3M - Ownmed - FIISFJD                              | Manuel Desco, Ana Ye, Jesús García-Foncillas                                                                                                                                         |
| Sistema de planificación para radioterapia intraoperatoria y procedimiento para llevar a cabo dicha planificación         | US12/937568                 | GMV                                                           | Manuel Desco Menéndez, Javier Pascau González-Garzón, Felipe Calvo Manuel, Juan José Vaquero López, Manlio Fabio Valdivieso Cacique, Carlos Guillermo Illana Alejandro               |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).



### Copyright

| Title                                                                 | Reference                                | Owner        | Inventors                                                                                                                    |
|-----------------------------------------------------------------------|------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------|
| MANGOSE                                                               | Nº Asiento<br>Registral:<br>02/2010/4412 | FIBHGM       | Javier Pascau, Manuel Desco,<br>Mónica Abellá, Alejandro Sisniega,<br>Juan José Vaquero                                      |
| CUSQ: CARDIO US/<br>Quantification                                    | Nº Asiento<br>Registral:<br>16/2010/303  | FIBHGM - UPM | Manuel Desco, María Jesús Ledesma,<br>Andrés de Santos                                                                       |
| FIRST (Fast Iterative<br>Reconstruction Software<br>for Tomography)   | Nº Depósito<br>Notarial: 3806            | FIBHGM       | José Manuel Udías, Joaquín López,<br>Samuel España, Manuel Desco,<br>Juan José Vaquero                                       |
| RapTor                                                                | Nº Asiento<br>Registral:<br>16/2017/7104 | FIBHGM-UC3M  | Manuel Desco, Mónica Abella,<br>Claudia de Molina, Estefanía Serrano,<br>Fco. Javier García, Jesús Carretero                 |
| XAP-LAB                                                               | Nº Asiento<br>Registral:<br>16/2017/7106 | FIBHGM-UC3M  | Manuel Desco, Mónica Abella,<br>Álvaro Martínez, Alba García                                                                 |
| FUX-SIM                                                               | Nº Asiento<br>Registral:<br>16/2017/7105 | FIBHGM-UC3M  | Manuel Desco, Mónica Abella,<br>Inés García, Claudia de Molina,<br>Estefanía Serrano, Fco. Javier García,<br>Jesús Carretero |
| STRAY - Plataforma de<br>simulación para sistemas<br>de radiología    | Nº Asiento<br>Registral:<br>16/2021/8485 | FIBHGM-UC3M  | Manuel Desco, Mónica Abella,<br>Francisco Javier García Blas,<br>Jesús Carretero                                             |
| REXCT: Algoritmo rápido<br>de reconstrucción de<br>imagen tomográfica | Nº Asiento<br>Registral:<br>16/2021/8486 | FIBHGM-UC3M  | Manuel Desco, Mónica Abella,<br>Francisco Javier García Blas,<br>Jesús Carretero                                             |

| Title                                                                                                                         | Reference         | Owner         | Inventors                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CIBERSAMXnat:<br>Plataforma de almacenado<br>de datos de Neuroimagen<br>en entorno Cloud                                      | 16/2021/5024      | CIBER, FIBHGM | Manuel Desco, Susana Carmona,<br>Daniel Martín de Blas, David García,<br>Alberto Fernández                                                                                         |
| Sistema de planificación<br>para radioterapia<br>intraoperatoria y<br>procedimiento para llevar a<br>cabo dicha planificación | US12/937568       | GMV           | Manuel Desco Menéndez, Javier<br>Pascau González-Garzón, Felipe Calvo<br>Manuel, Juan José Vaquero López,<br>Manlio Fabio Valdivieso Cacique,<br>Carlos Guillermo Illana Alejandro |
| Radboost-Software de<br>realce automático de<br>imagen radiográfica                                                           | M-002342/<br>2024 | FIBHGM, UC3M  | Manuel Desco, Mónica Abella, Fco.<br>Javier García Blas, Jesús Carretero<br>Pérez                                                                                                  |

Transferred Industrial Property.

### Cooperative Research Structures

| Type (RICORS, CIBER, others)                                                             | Name of Network                                         | Role                | Code       |
|------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------|------------|
| CIBER                                                                                    | CIBERSAM                                                | Coordinating group  | CIBERSAM   |
| Platform                                                                                 | Plataforma ISCIII de<br>Biomodelos y Biobancos          | Collaborating group | PT23/00027 |
| Other: Programs of R&D activities<br>among research groups in the<br>Community of Madrid | Red Madrileña de<br>Nanomedicina en Imagen<br>Molecular | Coordinating group  |            |
| Others                                                                                   |                                                         | Coordinating group  |            |



### Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate                 | Title                                                                                                                  | Name/s Director/s                                   | University | Date Defended |
|-----------|---------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|------------|---------------|
| Ph Thesis | Alberto Fernández Pena    | Surface-Based Tools for Characterizing the Human Brain Cortical Morphology.                                            | Susana Carmona Cañabate/<br>Manuel Desco Menéndez   | UC3M       | 13/01/2023    |
| Ph Thesis | Magdalena Martínez García | Characterization of gestational brain remodeling in human mothers.                                                     | Susana Carmona Cañabate                             | UC3M       | 27/01/2023    |
| Ph Thesis | Desiré Herreros Pérez     | Funcionalización de exosomas de leche de cabra para la vectorización específica y el diagnóstico de procesos tumorales | Manuel Desco Menéndez/<br>Beatriz Salinas Rodríguez | UC3M       | 14/09/2023    |
| Ph Thesis | Nicolás Lamanna Rama      | Relevance of cannabinoids in preclinical models of psychiatric disorders                                               | María Luisa Soto Montenegro                         | UC3M       | 28/09/2023    |

### Publications

Total Impact Factor: 159,0

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 12        | 74,7         |
| Joint publications                                     | 16        | 84,3         |
| First decile publications                              | 7         | 0,0          |
| First quartile publications                            | 19        | 131,8        |
| Second quartile publications                           | 8         | 25,9         |
| Third quartile publications                            | 1         | 1,3          |
| Fourth quartile publications                           | 0         | 0,0          |
| Nonindexed publications/No IF                          | 2         | —            |
| <b>Total publications (including those without IF)</b> | <b>30</b> | <b>159,0</b> |

### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor:

- Romero-Miguel, D; Casquero-Veiga, M; Fernández, J; Lamanna-Rama, N; Gómez-Rangel, V; Gálvez-Robleno, C; Santa-Marta, C; Villar, CJ; Lombo, F; Abalo, R; Desco, M; Soto-Montenegro, ML. Maternal Supplementation with N-Acetylcysteine Modulates the Microbiota-Gut-Brain Axis in Offspring of the Poly I:C Rat Model of Schizophrenia. ANTIOXIDANTS. 2023; 12(4). FI: 6. Quartile: 1. (Article).
- Edemann-Callesen, H; Bernhardt, N; Hlusicka, EB; Hintz, F; Habelt, B; Winter, R; Neubert, I; Pelz, M; Filla, A; Soto-Montenegro, ML; Winter, C; Hadar, R. Supplement Treatment with NAC and Omega-3 Polyunsaturated Fatty Acids during Pregnancy Partially Prevents Schizophrenia-Related Outcomes in the Poly I:C Rat Model. ANTIOXIDANTS. 2023; 12(5). FI: 6. Quartile: 1. (Article).
- Arias-Valcayo, F; Galve, P; Udias, JM; Vaquero, JJ; Desco, M; Herraiz, JL. Optimizing Point Source Tracking in Awake Rat PET Imaging: A Comprehensive Study of Motion Detection and Best Correction Conditions. APPLIED SCIENCES-BASEL. 2023; 13(22). FI: 2.5. Quartile: 1. (Article).
- Arias-Valcayo, F; Galve, P; Herraiz, JL; Vaquero, JJ; Desco, M; Udías, JM. Reconstruction of multi-animal PET acquisitions with anisotropically variant PSF. BIOMEDICAL PHYSICS & ENGINEERING EXPRESS. 2023; 9(6). FI: 1.3. Quartile: 3. (Article).
- Colomar, L; Caceres, AS; Álvarez-Linera, J; González-Penas, J; Paton, AH; de Blas, DM; Arrondo, APP; Solis, A; Jones, E; Parellada, M. Role of cortical excitatory/inhibitory imbalance in autism spectrum disorders from a symptom severity trajectories framework: a study protocol. BMC PSYCHIATRY. 2023; 23(1). FI: 3.4. Quartile: 2. (Article).
- Clemente-Moragon, A; Oliver, E; Calle, D; Cusso, L; Gómez, M; Pradillo, JM; Castejón, R; Rallon, N; Benito, JM; Fernández-Ferro, JC; Carneado-Ruiz, J; Moro, MA; Sánchez-González, J; Fuster, V; Cortés-Canteli, M; Desco, M; Ibáñez, B. Neutrophil beta(1) adrenoceptor blockade blunts stroke-associated neuroinflammation. BRITISH JOURNAL OF PHARMACOLOGY. 2023; 180(4) 459-478. FI: 6.8. Quartile: 1. (Article).



- Freitas, SC; Sanderson, D; Caspani, S; Magalhaes, R; Cortés-Llanos, B; Granja, A; Reis, S; Belo, JH; Azevedo, J; Gómez-Gavero, MV; de Sousa, CT. New Frontiers in Colorectal Cancer Treatment Combining Nanotechnology with Photo- and Radiotherapy. *CANCERS*. 2023; 15(2). FI: 4.5. Quartile: 1. (Review).
- Quilez, C; Valencia, L; González-Rico, J; Suárez-Cabrera, L; Amigo-Morán, L; Jorcano, JL; Velasco, D. In vitro induction of hair follicle signatures using human dermal papilla cells encapsulated in fibrin microgels. *CELL PROLIFERATION*. 2023; 57(1). FI: 5.9. Quartile: 2. (Article).
- Martínez-García, M; Paternina-Die, M; Cardenas, SI; Vilarroya, O; Desco, M; Carmona, S; Saxbe, DE. First-time fathers show longitudinal gray matter cortical volume reductions: evidence from two international samples. *CEREBRAL CORTEX*. 2023; 33(7) 4156-4163. FI: 2.9. Quartile: 2. (Article).
- Orihuel, J; Capellán, R; Casquero-Veiga, M; Soto-Montenegro, ML; Desco, M; Oteo-Vives, M; Ibáñez-Moragues, M; Magro-Calvo, N; Lujan, VM; Morcillo, MA; Ambrosio, E; Higuera-Matas, A. The long-term effects of adolescent & UDelta; 9-tetrahydrocannabinol on brain structure and function assessed through neuroimaging techniques in male and female rats. *EUROPEAN NEUROPSYCHOPHARMACOLOGY*. 2023; 74 47-63. FI: 6.1. Quartile: 1. (Article).
- Lamanna-Rama, N; MacDowell, KS; López, G; Leza, JC; Desco, M; Ambrosio, E; Soto-Montenegro, ML. Neuroimaging revealed long-lasting glucose metabolism changes to morphine withdrawal in rats pretreated with the cannabinoid agonist CP-55,940 during periadolescence. *EUROPEAN NEUROPSYCHOPHARMACOLOGY*. 2023; 69 60-76. FI: 6.1. Quartile: 1. (Article).
- Casquero-Veiga, M; Lamanna-Rama, N; Romero-Miguel, D; Rojas-Marquez, H; Alcaide, J; Beltran, M; Nacher, J; Desco, M; Soto-Montenegro, ML. The Poly I:C maternal immune stimulation model shows unique patterns of brain metabolism, morphometry, and plasticity in female rats. *FRONTIERS IN BEHAVIORAL NEUROSCIENCE*. 2023; 16. FI: 2.6. Quartile: 2. (Article).
- González, MI; Gallardo, B; Cerón, C; Aguilera-Jiménez, E; Cortés-Canteli, M; Peinado, H; Desco, M; Salinas, B. Isolation of goat milk small extracellular vesicles by novel combined bio-physical methodology. *FRONTIERS IN BIOENGINEERING AND BIOTECHNOLOGY*. 2023; 11. FI: 4.3. Quartile: 1. (Article).
- Fernández-Pena, A; Navas-Sánchez, FJ; de Blas, DM; Marcos-Vidal, L; Desco, M; Carmona, S. Previous pregnancies might mitigate cortical brain differences associated with surgical menopause. *HUMAN BRAIN MAPPING*. 2023; 45(1). FI: 3.5. Quartile: 1. (Article).
- Sanz-Horta, R; Matesanz, A; Gallardo, A; Reinecke, H; Jorcano, JL; Acedo, P; Velasco, D; Elvira, C. Technological advances in fibrin for tissue engineering. *JOURNAL OF TISSUE ENGINEERING*. 2023; 14. FI: 6.7. Quartile: 1. (Review).
- Gálvez-Robleno, C; López-Tofino, Y; López-Gómez, L; Bagues, A; Soto-Montenegro, ML; Abalo, R. Radiographic assessment of the impact of sex and the circadian rhythm-dependent behaviour on gastrointestinal transit in the rat. *LABORATORY ANIMALS*. 2023; 57(3) 270-282. FI: 1.3. Quartile: 2. (Article).
- Muñoz-Hernández, R; Gato, S; Gil-Gómez, A; Aller, R; Rojas, A; Morán, L; Gallego, J; Blázquez-López, E; Gallego-Durán, R; Montero-Vallejo, R; García-Fernández, V; Maya-Miles, D; Rico, MD; Cubero, FJ; Vaquero, J; Ampuero, J; Banares, R; Romero-Gómez, M. Role of EpCAM+CD133+extracellular vesicles in steatosis to steatohepatitis transition in NAFLD. *LIVER INTERNATIONAL*. 2023; 43(9) 1909-1919. FI: 6. Quartile: 1. (Article).
- Aguilera-Correa, JJ; Salinas, B; González-Arjona, M; de Pablo, D; Muñoz, P; Bouza, E; Acenero, MJF; Esteban, J; Desco, M; Cusso, L. Positron Emission Tomography-Computed Tomography and Magnetic Resonance Imaging Assessments in a Mouse Model of Implant-Related Bone and Joint Staphylococcus aureus Infection. *MICROBIOLOGY SPECTRUM*. 2023; 11(3). FI: 3.7. Quartile: 2. (Article).
- Servin-Barthet, C; Martínez-García, M; Pretus, C; Paternina-Pie, M; Soler, A; Khymenets, O; Pozo, OJ; Leuner, B; Vilarroya, O; Carmona, S. The transition to motherhood: linking hormones, brain and behaviour. *NATURE REVIEWS NEUROSCIENCE*. 2023; 24(10) 605-619. FI: 28.7. Quartile: 1. (Review).
- Fernández-Pena, A; de Blas, DM; Navas-Sánchez, FJ; Marcos-Vidal, L; Gordaliza, PM; Santonja, J; Janssen, J; Carmona, S; Desco, M; Aleman-



Gómez, Y. ABLE: Automated Brain Lines Extraction Based on Laplacian Surface Collapse. *NEUROINFORMATICS*. 2023; 21(1) 145-162. FI: 2.7. Quartile: 2. (Article).

- Signore, A; Bonfiglio, R; Varani, M; Galli, F; Campagna, G; Desco, M; Cusso, L; Mattei, M; Wunder, A; Borri, F; Lupo, MT; Bonanno, E. Radioimmune Imaging of alpha(4)beta(7) Integrin and TNF alpha for Diagnostic and Therapeutic Applications in Inflammatory Bowel Disease. *PHARMACEUTICS*. 2023; 15(3). FI: 4.9. Quartile: 1. (Article).
- Gil-Manso S; Herrero-Quevedo D; Carbonell D; Martínez-Bonet M; Bernaldo-de-Quirós E; Kennedy-Batalla R; Gallego-Valle J; López-Esteban R; Blázquez-López E; Miguens-Blanco I; Correa-Rocha R; Gómez-Verdejo V; Pion M. Multidimensional analysis of immune cells from COVID-19 patients identified cell subsets associated with the severity at hospital admission. *PLOS PATHOGENS*. 2023; 19(6). FI: 5.5. Quartile: 1. (Article).
- Fussr-Poli, L; Prachason, T; Erzin, G; Pries, LK; Brondino, N; Politi, P; Delespaul, P; Kenis, G; Luykx, JJ; Lin, BCD; Richards, AL; Akdede, B; Binbay, T; Altinyazar, V; Yalincetin, B; Gumus-Akay, G; Cihan, B; Soygur, H; Ulas, H; Cankurtaran, ES; Kaymak,. Examining the association between exposome score for schizophrenia and cognition in schizophrenia, siblings, and healthy controls: Results from the EUGEI study. *PSYCHIATRY RESEARCH*. 2023; 323. FI: 4.2. Quartile: 1. (Article).
- Aviv, EC; Cardenas, SI; Leon, G; Waizman, YH; Gonzales, C; Flores, G; Martínez-García, M; Saxbe, DE. Prenatal prolactin predicts postnatal parenting attitudes and brain structure remodeling in first-time fathers. *PSYCHONEUROENDOCRINOLOGY*. 2023; 156. FI: 3.4. Quartile: 2. (Article).
- Rodríguez-Toscano, E; Alloza, C; Fraguas, D; Durán-Cutilla, M; Roldan, L; Sánchez-Gutiérrez, T; López-Montoya, G; Parellada, M; Moreno, C; Gayer-Anderson, C; Jongsma, HE; Di Forti, M; Quattrone, D; Velthorst, E; de Haan, L; Selten, JP; Szoke, A; Llorca, P. Differences in Patterns of Stimulant Use and Their Impact on First-Episode Psychosis Incidence:

An Analysis of the EUGEI Study. *SCHIZOPHRENIA BULLETIN*. 2023; 49(5) 1269-1280. FI: 5.3. Quartile: 1. (Article).

- Sakaltras, N; Pena, A; Martínez, C; Desco, M; Abella, M. A novel beam stopper-based approach for scatter correction in digital planar radiography. *SCIENTIFIC REPORTS*. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).
- Capellán, R; Orihuel, J; Marcos, A; Ucha, M; Moreno-Fernández, M; Casquero-Veiga, M; Soto-Montenegro, ML; Desco, M; Oteo-Vives, M; Ibáñez-Moragues, M; Magro-Calvo, N; Morcillo, MA; Ambrosio, E; Higuera-Matas, A. Interaction between maternal immune activation and peripubertal stress in rats: impact on cocaine addiction-like behaviour, morphofunctional brain parameters and striatal transcriptome. *TRANSLATIONAL PSYCHIATRY*. 2023; 13(1). FI: 5.8. Quartile: 1. (Article).
- Soares, FA; Salinas, B; Reis, S; Nunes, C. Milking the milk: Exploiting the full potential of milk constituents for nature-derived delivery systems. *TRENDS IN FOOD SCIENCE & TECHNOLOGY*. 2023; 141. FI: 15.1. Quartile: 1. (Article).

### Other publications

- García-Lamas L; Sánchez-Salcedo S; Jiménez-Díaz V; Bravo-Giménez B; Cabañas MV; Peña J; Román J; Jiménez-Holguín J; Abella M; Desco M; Lozano D; Cecilia-López D; Salinas AJ. [Translated article] Design and comparison of bone substitutes. Study of in vivo behaviour in a rabbit model. *REVISTA ESPAÑOLA DE CIRUGIA ORTOPEDICA Y TRAUMATOLOGIA*. 2023; 67(4). (Article).
- García-Lamas L; Sánchez-Salcedo S; Jiménez-Díaz V; Bravo-Giménez B; Cabañas MV; Peña J; Román J; Jiménez-Holguín J; Abella M; Desco M; Lozano D; Cecilia-López D; Salinas AJ. Desing and comparison of bone substitutes. Study of in vivo behavior in a rabbit model. *REVISTA ESPAÑOLA DE CIRUGIA ORTOPEDICA Y TRAUMATOLOGIA*. 2023; 67(4) 324-333. (Article).



Group Director: **ANTONIO ARTÉS RODRÍGUEZ**

Organisms involved: **UC3M**

Type: **Consolidated Group**

## Research lines

- ▶ L1. Merging information from monitoring devices
- ▶ L2. Data mining in psychiatry
- ▶ L3. Monitoring
- ▶ L4. Ambulatory monitoring with wearable devices
- ▶ L5. Support for the diagnosis of cardiac arrhythmias
- ▶ L6. Signal processing and machine learning for medicine

The Signal Processing and Learning Group focuses its research and teaching activity on the following areas: detection, estimation and classification of signals and images, machine learning, computational statistics in signal processing, information theory and related applications in communications, medicine, geophysics or social sciences.

## Group members

- **Artés Rodríguez, Antonio:** R4. Leading Researcher.
- **Augusto Moreno, Jorge:** R1. First Stage Researcher.
- **Barrejón Moreno, Daniel:** R1. First Stage Researcher.
- **Cabezas Larese, Darío:** Other. Support Technician.
- **Chao Qi:** R2. Recognised Researcher.
- **De Frutos Porras, José Manuel:** R1. First Stage Researcher.
- **García Fernández, Susana.**
- **García Martín, Rafael:** R1. First Stage Researcher.
- **Garrido Fernández, David:** R1. First Stage Researcher.
- **Gómez Verdejo, Vanessa:** R3. Established Researcher.
- **González Hernández, Omar Fabián:** R1. First Stage Researcher.

- **Hernando Gallego, Francisco:** R2. Recognised Researcher.
- **Herrero Quevedo, Diego:** R1. First Stage Researcher.
- **Jiménez Rama, Óscar:** R1. First Stage Researcher.
- **Koch, Tobías:** R3. Established Researcher.
- **Lancho Serrano, Alejandro:** R2. Recognised Researcher.
- **López Castroman, Jorge:** R3. Established Researcher.
- **López Elvira, Igor:** Other. Scientific Manager.
- **López Santiago, Javier:** R3. Established Researcher.
- **Martínez Ordóñez, José Alberto:** R1. First Stage Researcher.
- **Martínez Olmos, Pablo:** R3. Established Researcher.
- **Matos Sanin, Victoria:** R1. First Stage Researcher.
- **Míguez Arenas, Joaquín:** R3. Established Researcher.
- **Moreno Pino, Fernando:** R1. First Stage Researcher.
- **Moreno Pino, Fernando:** R1. First Stage Researcher.
- **Oliver Coimbra, Rodrigo:** Other. Support Technician.
- **Paz Albaizar, Leire:** R1. First Stage Researcher.
- **Peinado Serrano, Jose:** R1. First Stage Researcher.
- **Peis Aznarte, Ignacio:** R1. First Stage Researcher.
- **Peleato Iñarrea, Borja:** R3. Established Researcher.
- **Pérez Sabater, Josué:** Other. Support Technician.
- **Pérez Sada, Pablo:** R1. First Stage Researcher.
- **Pérez Cruz, Fernando:** R3. Established Researcher.
- **Ramírez García, David:** R3. Established Researcher.
- **Salcedo Fernández, Miguel:** Other.
- **Sánchez Salgado, Antonio:** Other. Support Technician.
- **Sauras Fernández, María:** R1. First Stage Researcher.
- **Sztamfater García, Yannick:** Other. Support Technician.
- **Vázquez López, Manuel Alberto:** R3. Established Researcher.
- **Vázquez Vilar, Gonzalo:** R3. Established Researcher.
- **Villacrés Estrada, Grace:** R2. Recognised Researcher.
- **Watman Outon, Andrés Emilio:** Other. Support Technician.





### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         | 2          |                    |            |
| European      |                         |            |                    | 1          |
| National      |                         | 7          |                    |            |
| Regional      |                         | 1          |                    | 4          |

#### Not managed by the FIBHGM

- Title: **Space-time sequential schemes and Bayesian inference methods for continuous-time stochastic systems.** N00014-22-1-2647  
 Director: Míguez Arenas, Joaquín  
 Project type: Research project  
 Funding body: Office of Naval Research (ONR)  
 Start date: 01/10/2022  
 End date: 30/09/2025
  - Title: **Advanced detection algorithms for passive radar.** N62909-23-1-2002  
 Director: Ramírez, David  
 Project type: Research project  
 Funding body: Office of Naval Research (ONR)  
 Start date: 01/01/2023  
 End date: 31/12/2025
  - Title: **Integración longitudinal de datos generados por paciente y determinaciones multi-ómicas para una oncología de precisión integral en cáncer de la mujer.** PMP22/00032  
 Director: Artés Rodríguez, Antonio  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
  - Title: **Medicina Personalizada (MedPer) en la detección precoz del deterioro cognitivo (DC) preclínico. Desarrollo de un modelo predictivo de riesgo.** PMP22/00084  
 Director: Martínez Olmos, Pablo  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III
- Start date: 02/01/2023  
 End date: 01/01/2026
  - Title: **Modelos profundos y explicables basados en variables latentes para salud mental.** PID2021-123182OB-I00  
 Director: Martínez Olmos, Pablo / Ramírez García, David  
 Project type: Research project  
 Funding body: Agencia Estatal de Investigación  
 Start date: 01/09/2022  
 End date: 31/08/2025
  - Title: **Cuantificación de Incertidumbre en Modelos Físicos Estocásticos: Filtros Profundos y Metodos de Monte Carlo Espacio-Temporales.** PID2021-125159NB-I00  
 Director: Míguez Arenas, Joaquín / Vázquez, Manuel A.  
 Project type: Research project  
 Funding body: Agencia Estatal de Investigación  
 Start date: 01/09/2022  
 End date: 31/08/2025
  - Title: **Expansiones asintóticas generalizadas y refinadas para teoría de la información en longitud finita: Comunicaciones inalámbricas y comunicaciones por canales clásico-cuánticos.** PID2020-116683GB-C21  
 Director: Koch, Tobias / Vázquez Vilar, Gonzalo  
 Project type: Research project  
 Funding body: Agencia Estatal de Investigación  
 Start date: 01/09/2021  
 End date: 31/08/2025
  - Title: **Almacenaje y Transmisión de Información sobre Redes Autónomas y Distribuidas -ADICT-Net.** PID2022-142506NA-I00  
 Director: Peleato Iñarrea, Borja  
 Project type: Research project  
 Funding body: Agencia Estatal de Investigación  
 Start date: 01/09/2023  
 End date: 31/08/2026
  - Title: **Prevención de reCAídas en tRastornos dE conducta.** – PreCARE. CPP2022-009537  
 Director: Artés Rodríguez, Antonio  
 Project type: Research project  
 Funding body: Agencia Estatal de Investigación  
 Start date: 30/11/2023  
 End date: 29/11/2026





- Title: **Sistema de monitorización de estado para detección de fisuras en ejes ferroviarios (SMEPDFEF-CM-UC3M)**. PIUC3M2021\_09  
 Director: Martínez Olmos, Pablo / Gómez García, María Jesús  
 Project type: Research project  
 Funding body: UC3M  
 Start date: 01/01/2022  
 End date: 31/12/2023
- Title: **Marie Skłodowska-Curie Individual Fellowships**. UE-H2020-MSCA-IF  
 Director: Koch, Tobias  
 Project type: Human resources  
 Funding body: European Union  
 Start date: 01/10/2021  
 End date: 30/09/2024
- Title: **Industrial Doctorates**. IND2020/TIC-17539  
 Director: Miguez Arenas, Joaquín  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/01/2021  
 End date: 31/12/2024
- Title: **Industrial Doctorates**. IND2022/TIC-23550  
 Director: Martínez Olmos, Pablo  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 18/11/2022  
 End date: 17/11/2025
- Title: **Contract Grants For Laboratory Technicians**. AI/TIC-17888  
 Director: Artes Rodríguez, Antonio  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/03/2021  
 End date: 28/02/2023
- Title: **CM Research Talent Attraction Program**. 2020-T1/TIC-20698  
 Director: Peleato, Borja  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 27/12/2021  
 End date: 26/12/2026

## Industrial and intellectual property registrations

### Industrial property

| Title                                                                                  | Reference*   | Owner         | Inventors                                                                                                     |
|----------------------------------------------------------------------------------------|--------------|---------------|---------------------------------------------------------------------------------------------------------------|
| Sistema y método para la detección automática de patrones electrofisiológicos anómalos | P 2017 31161 | FIBHGM - UC3M | Gonzalo Ricardo Ríos Muñoz, Antonio Artés Rodríguez, Ángel Arenal Maiz, Francisco Jesús Fernández-Avilés Díaz |

■ Transferred Industrial Property.  
 \* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

## Cooperative Research Structures

| Type (RICORS, CIBER, others) | Name of Network                             | Role             | Code     |
|------------------------------|---------------------------------------------|------------------|----------|
| CIBER                        | CIBERSAM                                    | Associated group | CIBERSAM |
| Other                        | International Society for Bayesian Analysis |                  | ISBA     |

## Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate              | Title                                                                                                           | Name/s Director/s                          | University | Date Defended |
|-----------|------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------|------------|---------------|
| Ph Thesis | Ignacio Peis Aznarte   | Advanced Inference and Representation Learning Methods in Variational Autoencoders.                             | Antonio Artés Rodríguez/<br>Pablo M. Olmos | UC3M       | 22/09/2023    |
| Ph Thesis | Daniel Barrejón Moreno | How can humans leverage machine learning? From Medical Data Wrangling to Learning to Defer to Multiple Experts. | Antonio Artés Rodríguez/<br>Pablo M. Olmos | UC3M       | 04/10/2023    |
| Ph Thesis | Fernando Moreno Pino   | Deep Attentive Time Series Modelling for Quantitative Finance.                                                  | Antonio Artés Rodríguez/<br>Pablo M. Olmos | UC3M       | 05/05/2023    |
| Ph Thesis | Lorena Romero Medrano  | Change-Point Detection Methods for Behavioral Shift in Recognition Mental Healthcare                            | Antonio Artés Rodríguez/<br>Pablo M. Olmos | UC3M       | 20/01/2023    |



## Publications Total Impact Factor: 35,7

|                                                        | Nº       | IF          |
|--------------------------------------------------------|----------|-------------|
| Own publications                                       | 3        | 10,3        |
| Joint publications                                     | 4        | 25,4        |
| First decile publications                              | 3        | 0,0         |
| First quartile publications                            | 6        | 33,7        |
| Second quartile publications                           | 0        | 0,0         |
| Third quartile publications                            | 1        | 2,0         |
| Fourth quartile publications                           | 0        | 0,0         |
| Nonindexed publications/No IF                          | 2        | –           |
| <b>Total publications (including those without IF)</b> | <b>9</b> | <b>35,7</b> |

### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor:

- dGaldo, AL; Guerrero-López, A; Olmos, PM; García, MJG. Detecting train driveshaft damages using accelerometer signals and Differential Convolutional Neural Networks. ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE. 2023; 126. FI: 7.5. Quartile: 1. (Article).
- Guerrero-López, A; Sevilla-Salcedo, C; Candela, A; Hernández-García, M; Cercenado, E; Olmos, PM; Canton, R; Muñoz, P; Gómez-Verdejo, V; del Campo, R; Rodríguez-Sánchez, B. Automatic antibiotic resistance prediction in Klebsiella pneumoniae based on MALDI-TOF mass. ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE. 2023; 118. FI: 7.5. Quartile: 1. (Article).
- Martínez-García, M; Olmos, P. Handling Ill-Conditioned Omics Data With Deep Probabilistic Models. IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS. 2023; 27(9) 4601-4610. FI: 6.7. Quartile: 1. (Article).

- Xiao, YH; Huang, L; Ramírez, D; Qian, C; So, HC. Covariance Matrix Recovery From One-Bit Data With Non-Zero Quantization Thresholds: Algorithm and Performance Analysis. IEEE TRANSACTIONS ON SIGNAL PROCESSING. 2023; 71 4060-4076. FI: 4.6. Quartile: 1. (Article).
- Suekei, E; de Leon-Martínez, S; Olmos, PM; Artes, A. Automatic patient functionality assessment from multimodal data using deep learning techniques - Development and feasibility evaluation. INTERNET INTERVENTIONS-THE APPLICATION OF INFORMATION TECHNOLOGY IN MENTAL AND BEHAVIOURAL HEALTH. 2023; 33. FI: 3.6. Quartile: 1. (Article).
- Sükei, E; Romero-Medrano, L; de Leon-Martínez, S; López, JH; Campaña-Montes, JJ; Olmos, PM; Baca-García, E; Artés, A. Continuous Assessment of Function and Disability via Mobile Sensing: Real-World Data-Driven Feasibility Study. JMIR FORMATIVE RESEARCH. 2023; 7. FI: 2. Quartile: 3. (Article).
- Bonilla-Escribano, P; Ramírez, D; Baca-García, E; Courtet, P; Artes-Rodríguez, A; López-Castroman, J. Multidimensional variability in ecological assessments predicts two clusters of suicidal patients. SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).

### Publications of the main WOS collection in journals indexed in the Journal Citation Reports without impact factor

- Sánchez-Martín, P; Olmos, PM; Pérez-Cruz, F. Enhancing diversity in GANs via non-uniform sampling. INFORMATION SCIENCES. 2023; 637. (Article).

### Other publications

- Barrigon ML; Romero-Medrano L; Moreno-Muñoz P; Porras-Segovia A; López-Castroman J; Courtet P; Artés-Rodríguez A; Baca-García E. One-Week Suicide Risk Prediction Using Real-Time Smartphone Monitoring: Prospective Cohort Study. JOURNAL OF MEDICAL INTERNET RESEARCH. 2023; 25. (Article).



Group Director: **JESÚS CARRETERO PÉREZ**

Organisms involved: **UC3M**

Type: **Consolidated Group**

## Research lines

### Axis 1: High-performance processing

- ▶ Line 1: Cluster processing.
- ▶ Line 2: Cloud computing.
- ▶ Line 1: High-performance storage.
- ▶ Line 1: GPU processing.

### Axis 2: Medical image processing

- ▶ Line 1: Real-time reconstruction of 3D images.

### Axis 3: Epidemic simulators

- ▶ Line 1: Simulation of influenza with social information.

The research group of computer architecture, communications and systems (ARCOS) represents the Computer Architecture and Technology Area at the Carlos III of Madrid University.

Its main objective is to investigate and develop hardware and software systems in the areas of real-time and embedded systems, high-performance computing, storage systems, dependable systems.

ARCOS is a dynamic research group that is currently conducting research in various HPC areas. Our research activities are oriented to the development of new software for large-scale parallel and distributed systems. These activities cover the development and optimization of parallel and distributed applications, real time, reliable designs, and high performance computing, including cross-layer optimizations of HPC storage I/O stack, parallel file systems, I/O acceleration of scientific workflows, auto-tuning of parallel I/O based on machine learning, dynamic monitoring of HPC infrastructures, convergence of HPC and Bigdata software stacks, and resource allocation elasticity in HPC and clouds.

All the former knowledge has been applied to several scientific and industrial areas, such as fluid mechanics, reconstruction of 3D medical images, Big Data Analytics, finance computing, and simulations involving complex systems, trying to combine real world engineering with cutting-edge research topics. As a result, ARCOS has strong relations with a portfolio of major European laboratories and companies in areas such as Informatics, Bioengineering and Aerospace.

Moreover, ARCOS researchers are leading several European projects, such as COST Action IC1305 entitled «Network for Sustainable Ultrascale Computing» (NESUS, [www.nesus.eu](http://www.nesus.eu)), with more than 70 institutions from 40 countries all around the world, or the projects REPARA and RePhrase ([rephrase-ict.eu](http://rephrase-ict.eu)) that address the programmability for parallel systems with special attention to heterogeneous architectures.

Besides that, ARCOS is actively involved in the standardization of the C++ programming language (representing Spain in the ISO C++ standards committee).



## Group members

- Calderón Mateos, Alejandro.
- Camarmas Alonso, Diego.
- Carretero Pérez, Jesús: R4. Leading Researcher
- Cristóbal Bocos, Humberto.
- Del Pozo Puñal, Elías.
- Expósito Singh, David.
- Fernández Muñoz, Javier.
- García Blas, Francisco Javier.
- García Carballeira, Félix.
- García Fernández, Alberto.
- García Sánchez, José Daniel.
- Martínez Rendón, Christian.
- Sánchez Gallegos, Dante.
- Visuña Pérez, Lara: R1. First Stage Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Industrial and intellectual property registrations

### Copyright

| Title                                                         | Reference                          | Owner       | Inventors                                                                                              |
|---------------------------------------------------------------|------------------------------------|-------------|--------------------------------------------------------------------------------------------------------|
| RapTor                                                        | Nº Asiento Registral: 16/2017/7104 | FIBHGM-UC3M | Manuel Desco, Mónica Abella, Claudia de Molina, Estefanía Serrano, Fco. Javier García, Jesús Carretero |
| Radboost-Software de realce automático de imagen radiográfica | M-002342/2024                      | FIBHGM-UC3M | Manuel Desco, Mónica Abella, Fco. Javier García Blas, Jesús Carretero Pérez                            |

## Publications

Total Impact Factor: 44,5

|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 7         | 32,8        |
| Joint publications                                     | 2         | 11,7        |
| First decile publications                              | 5         | 0,0         |
| First quartile publications                            | 6         | 35,0        |
| Second quartile publications                           | 3         | 9,5         |
| Third quartile publications                            | 0         | 0,0         |
| Fourth quartile publications                           | 0         | 0,0         |
| Nonindexed publications / No IF                        | 1         | –           |
| <b>Total publications (including those without IF)</b> | <b>10</b> | <b>44,5</b> |



**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

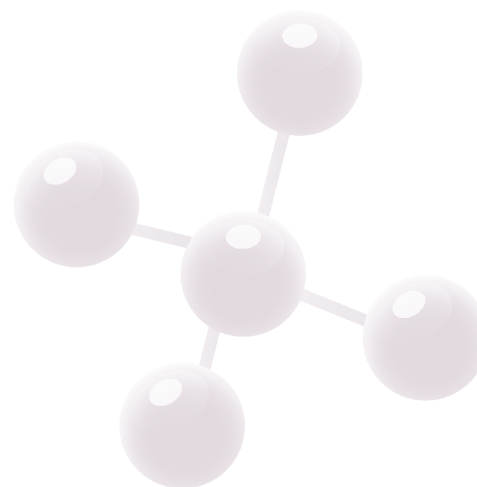
- Carrizales-Espinoza, D; Sánchez-Gallegos, DD; González-Compean, JL; Carretero, J. FedFlow: a federated platform to build secure sharing and synchronization services for health dataflows. COMPUTING. 2023; 105(5) 1019-1037. FI: 3.3. Quartile: 2. (Article).
- Sánchez-Gallegos, G; Sánchez-Gallegos, DD; González-Compean, JL; Reyes-Anastacio, HG; Carretero, J. On the building of efficient self-adaptable health data science services by using dynamic patterns. FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF ESCIENCE. 2023; 145 478-495. FI: 6.2. Quartile: 1. (Article).
- Barron-Lugo, JA; González-Compean, JL; López-Arevalo, I; Carretero, J; Martínez-Rodríguez, JL. Xel: A cloud-agnostic data platform for the design-driven building of high-availability data science services. FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF ESCIENCE. 2023; 145 87-103. FI: 6.2. Quartile: 1. (Article).
- Merino, MG; Marinescu, MC; Cascajo, A; Carretero, J; Singh, DE. Evaluating the spread of Omicron COVID-19 variant in Spain\*. FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF ESCIENCE. 2023; 149 547-561. FI: 6.2. Quartile: 1. (Article).
- Lozano, S; Lugo, T; Carretero, J. A Comprehensive Survey on the Use of Hypervisors in Safety-Critical Systems. IEEE ACCESS. 2023; 11 36244-36263. FI: 3.4. Quartile: 2. (Review).
- Cascajo, A; Gómez-López, G; Escudero-Sahuquillo, J; García, PJ; Singh, DE; Alfaro-Cortés, F; Quiles, FJ; Carretero, J. Monitoring InfiniBand Networks to React Efficiently to Congestion. IEEE MICRO. 2023; 43(2) 120-130. FI: 2.8. Quartile: 2. (Article).
- Sánchez-Gallegos, DD; González-Compean, JL; Carretero, J; Marin-Castro, HM; Tchernykh, A; Montella, R. PuzzleMesh: A Puzzle Model to Build Mesh of Agnostic Services for Edge-Fog-Cloud. IEEE TRANSACTIONS ON SERVICES COMPUTING. 2023; 16(2) 1334-1345. FI: 5.5. Quartile: 1. (Article).
- Martínez-Rendon, C; González-Compean, JL; Sánchez-Gallegos, DD; Carretero, J. CD/CV: Blockchain-based schemes for continuous

verifiability and traceability of IoT data for edge-fog-cloud. INFORMATION PROCESSING & MANAGEMENT. 2023; 60(1). FI: 7.4. Quartile: 1. (Article).

- Cascajo, A; Singh, DE; Carretero, J. Detecting interference between applications and improving the scheduling using malleable application clones. INTERNATIONAL JOURNAL OF HIGH PERFORMANCE COMPUTING APPLICATIONS. 2023; 38(2) 108-133. FI: 3.5. Quartile: 1. (Article).

**Publications of the main WOS collection in journals indexed in the Journal Citation Reports without impact factor**

- García-Blas, J; Sánchez-Gallegos, G; Petre, C; Martinelli, AR; Aldinucci, M; Carretero, J. Hercules: Scalable and Network Portable In-Memory Ad-Hoc File System for Data-Centric and High-Performance Applications. LECTURE NOTES IN COMPUTER SCIENCE. 2023; 14100 679-693. (Proceedings Paper).





Group Director: **JUAN ROMO URROZ**

Organisms involved: **UC3M**

Type: **Associated Group**

## Research lines

### Axis 1: Big data

- ▶ Line 1: Genetic studies with massive databases
- ▶ Line 2: Design of genetic networks
- ▶ Line 3: Analysis and selection of polymorphisms

### Axis 2: Analysis of complex data

- ▶ Line 1: Analysis of functional data
- ▶ Line 2: Analysis of microarray data
- ▶ Line 3: Analysis of images

### Axis 3: Survival analysis

- ▶ Line 1: Study of the efficacy of treatment using confidence intervals
- ▶ Line 2: Definition of reliability measures and associated comparisons
- ▶ Line 3: Use of MAP models for analysis of the appearance of events

## Group members

- Aguilera Morillo, Carmen.
- Arribas Gil, Ana.
- Hernández Roig, Harold Antonio.
- Lillo Rodríguez, Rosa Elvira.
- Méndez Civieta, Álvaro.
- Romo Urroz, Juan: R4. Leading Researcher.
- Strzalkovska Kominiak, Ewa.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Publications

Total Impact Factor: 1,4

|                                                        | Nº       | IF         |
|--------------------------------------------------------|----------|------------|
| Own publications                                       | 1        | 1,4        |
| Joint publications                                     | 0        | 0,0        |
| First decile publications                              | 0        | –          |
| First quartile publications                            | 0        | 0,0        |
| Second quartile publications                           | 1        | 1,4        |
| Third quartile publications                            | 0        | 0,0        |
| Fourth quartile publications                           | 0        | 0,0        |
| Nonindexed publications / No IF                        | 0        | –          |
| <b>Total publications (including those without IF)</b> | <b>1</b> | <b>1,4</b> |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor:

- Albert-Smet, J; Torrente, A; Romo, J. Band depth based initialization of K-means for functional data clustering. ADVANCES IN DATA ANALYSIS AND CLASSIFICATION. 2023; 17(2) 463-484. FI: 1.4. Quartile: 2. (Article).



Group Director: **JESÚS DE LA TORRE FERNÁNDEZ**  
**AND JUAN A. GUZMÁN DE VILLORIA**

Organisms involved: **HGUGM**

Type: **Emerging Group**

The Structural and Functional Medical Imaging group is a transversal research group whose objective is the assessment, quantification and analysis of parameters obtained from medical imaging. The results obtained provide diagnostic, prognostic or predictive biomarkers of the pathological processes studied.

## Research lines

### Axis 1: Neuroimaging

- ▶ L1: MRI assessment of carotid plaque vulnerability in patients with asymptomatic stenosis.
- ▶ L2: Development of artificial intelligence tools in MRI in patients with the diagnosis or follow-up of patients with glial tumours
- ▶ L3: Deep electrode stimulation in patients with movement disorders

### Axis 2: Paediatric Radiology

- ▶ L1: Ultrasound diagnosis of tuberculosis
- ▶ L2: Cardiac morphology and function study for the Pulsta® valve prosthesis.
- ▶ L3: Doppler and cerebral MRI in the study of hypothermia treatment of cerebral hypoxia-ischemia in the neonate.
- ▶ L4: Postnatal hepatic elastography reference values and their usefulness in the description of liver pathology
- ▶ L5: Computational MR imaging biomarkers in neonatal hypoxic-ischaemic encephalopathy using learning algorithms
- ▶ L6: Implementation of a CAD software tool for paediatric tuberculosis X-rays
- ▶ L7: Personalised image-guided craniofacial surgery

### Axis 3: Cardiothoracic Imaging

- ▶ L1: New tomosynthesis-based radiological diagnostic system for COVID-19
- ▶ L2: Reconstruction and 3D printing of thoracic structures as a surgical map for atypical pulmonary segmentectomy

- ▶ L3: Spectral CT assessment of pulmonary sequelae after SARS-CoV 2 pneumonia.

### Axis 4: Abdominal Imaging

- ▶ L1: Correlation of prostate MRI with perfusion / spectral CT
- ▶ L2: Pre-surgical planning of right colon neoplasms by 3D reconstructions from CT images
- ▶ L3: 3D volumetric reconstruction from CT of abdominal wall hernias without right asylum
- ▶ L4: Relationship between CT scan-estimated splanchnic volumetry and clinically significant portal hypertension and/or the presence of varices in patients with compensated advanced liver disease

### Axis 5: Vascular and Interventional Radiology

- ▶ L1: Efficacy and safety in radical hepatic segmentation
- ▶ L2: TIPS (Transjugular intrahepatic portosystemic shunt) treatment of portal thrombosis
- ▶ L3: Endovascular embolisation of haemorrhage by anticoagulation
- ▶ L4: Lymphatic leak detection and embolisation in lymphocele and chylothorax and

### Axis 6: Musculoskeletal Radiology

- ▶ L1: T2 relaxometry assessment of knee articular cartilage

### Axis 7: Breast and Gynaecological Radiology

- ▶ L1: Efficacy of tomosynthesis in breast cancer screening
- ▶ L2: Assessment of artificial intelligence tools in breast cancer screening





## Group members

- **Aguado del Hoyo, Alejandra:** R1. First Stage Researcher.
- **Calleja Cartón, Enrique:** R1. First Stage Researcher.
- **Carretero López, Fernando:** R1. First Stage Researcher.
- **De la Torre Fernández, Jesús:** R1. First Stage Researcher.
- **Díez Pérez de las Vacas, María Isabel:** R1. First Stage Researcher.
- **Echenagusia Boyra, Miguel Jesús:** R1. First Stage Researcher.
- **Fernández García, María del Pilar:** R1. First Stage Researcher.
- **Garrido Morro, Irene:** R1. First Stage Researcher.
- **González Cantero, José Luis:** R2. Recognised Researcher.
- **González Leyte, Manuel:** R1. First Stage Researcher.
- **Guzmán de Villoria Lebiechjewski, Juan Adán:** R2. Recognised Researcher.
- **Herrera Herrera, Isabel:** R1. First Stage Researcher.
- **Lancharro Zapata, Ángel Miguel:** R1. First Stage Researcher.
- **Marín Rodríguez, Carlos:** R2. Recognised Researcher.
- **Paniagua González, Miguel:** R1. First Stage Researcher.
- **Ruiz Martín, Yolanda:** R2. Recognised Researcher.
- **Sánchez Alegre, María Luisa:** R1. First Stage Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Publications

Total Impact Factor: 27,9

|                                                        | Nº       | IF          |
|--------------------------------------------------------|----------|-------------|
| Own publications                                       | 0        | 0,0         |
| Joint publications                                     | 8        | 27,9        |
| First decile publications                              | 1        | 0,0         |
| First quartile publications                            | 4        | 21,8        |
| Second quartile publications                           | 2        | 4,5         |
| Third quartile publications                            | 0        | 0,0         |
| Fourth quartile publications                           | 2        | 1,6         |
| Nonindexed publications / No IF                        | 1        | –           |
| <b>Total publications (including those without IF)</b> | <b>9</b> | <b>27,9</b> |



## **Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Gregorio-Hernández, R; Chimenti-Camacho, P; del Hoyo, AA; Sánchez-Luna, M. A case of neonatal tuberous sclerosis diagnosed by lung ultrasound. ANALES DE PEDIATRIA. 2023; 99(1) 71-73. FI: 1.5. Quartile: 2. (Editorial Material).
- Álvarez, RA; Manzano, A; Pujol, CA; Raventos, VA; Correa, R; Jurado, JC; Fernández, JA; del Muro, XG; González, JA; Hindi, N; Lominchar, PL; Martínez-Trufero, J; Mendez, R; Muñoz, M; Casares, CM; Castellanos, FO; Fernández, RO; González, MP; Redondo, A; M. Updated Review and Clinical Recommendations for the Diagnosis and Treatment of Patients with Retroperitoneal Sarcoma by the Spanish Sarcoma Research Group (GEIS). CANCERS. 2023; 15(12). FI: 4.5. Quartile: 1. (Review).
- Cuéllar, IN; Alonso, SE; Serrano, FA; Herrera, IH; León, JJZ; de Vera, JLDP; López, AML; Muela, CM; de Frutos, GA; Caicoya, SO; Rial, MT; Sevilla, AG; Antúnez-Conde, R; Carretero, JLC; Alonso, MIGH; Escobar, JIS; García, MB; Vila, CN; Cuellar, CN. Depth of Invasion: Influence of the Latest TNM Classification on the Prognosis of Clinical Early Stages of Oral Tongue Squamous Cell Carcinoma and Its Association with Other Histological Risk Factors. CANCERS. 2023; 15(19). FI: 4.5. Quartile: 1. (Article).
- Galera, M; Álvarez, R; Arregui, M; Paniagua, M; Álvarez, A; Crisostomo, RAG; Díazgranados, A; Gutiérrez, N; Calles, A; Agra, C. A Clear Cell Sarcoma Case: A Diagnostic and Treatment Challenge, with a Promising Response to Trabectedin. CASE REPORTS IN ONCOLOGY. 2023; 16(1) 1542-1550. FI: 0.7. Quartile: 4. (Article).
- Rincon, JO; Regi, AR; Pena, AM; Berenguer, LR; Leyte, MG; Martín, LC; De La Santa, JAG; Boyra, ME; Ruiz, CG; Rodríguez, AC; Farto, JCA. Maximum tumor-absorbed dose measured by voxel-based multicompartimental dosimetry as a response predictor in yttrium-90 radiation segmentectomy for hepatocellular carcinoma. EJNMMI PHYSICS. 2023; 10(1). FI: 3. Quartile: 2. (Article).
- Cordero-Grande, L; Ortuno-Fisac, JE; del Hoyo, AA; Uus, A; Deprez, M; Santos, A; Hajnal, JV; Ledesma-Carbayo, MJ. Fetal MRI by Robust Deep Generative Prior Reconstruction and Diffeomorphic Registration. IEEE TRANSACTIONS ON MEDICAL IMAGING. 2023; 42(3) 810-822. FI: 8.9. Quartile: 1. (Article).
- Quintana-Ortega, C; Pfeifer, APM; Lozano, LP; Lancharro, A; Lozano, JS; Villa-García, AJ; Seoane-Reula, E. Colchicine as rescue treatment in two pediatric patients with chronic recurrent multifocal osteomyelitis (CRMO). MODERN RHEUMATOLOGY CASE REPORTS. 2023; 7(1) 215-218. FI: 0.9. Quartile: 4. (Article).
- Carrión, L; Clemente-Sánchez, A; Márquez-Pérez, L; Orcajo-Rincón, J; Rotger, A; Ramón-Botella, E; González-Leyte, M; Echenagusia-Boyra, M; Colón, AL; Reguera-Berenguer, L; Bañares, R; Rincón, D; Matilla-Peña, A. Portal hypertension increases the risk of hepatic decompensation after 90Yttrium radioembolization in patients with hepatocellular carcinoma: a cohort study. THERAPEUTIC ADVANCES IN GASTROENTEROLOGY. 2023; 16. FI: 3.9. Quartile: 1. (Article).



Group Director: **JAVIER PASCAU GONZÁLEZ**  
**AND ARRATE MUÑOZ BARRUTIA**

Organisms involved: **UC3M**

Type: **Emerging Group**

## Research lines

### Axis 1: Biomedical applications of microscopy

- ▶ L1: Analysis of cellular biomechanics
- ▶ L2: Collaboration in the development of advanced methods through open science

### Axis 2: Image-guided processing

- ▶ L1:L1: Image-guided treatment with surgical application
- ▶ L2: Image-guided treatment with application in clinical simulation and training
- ▶ L3: Toxicity reduction in radiotherapy

### Axis 3: Biomedical devices and instrumentation

- ▶ L1: L1: Advanced detectors and geometries for nuclear imaging
- L2: Micro- and nanodevices for biomedical applications

### Axis 4: Biotechnology

- ▶ L1: Accelerating the development of new treatment regimens

Our activity encompasses biomedical signal and image processing, electronic device design, nanoparticle synthesis, artificial intelligence and deep learning at all levels. Therefore, algorithms, methods and technologies from the field of biomedical engineering are combined to solve current problems in biomedicine, always with a focus on unmet clinical needs. In this way, we aim to move away from purely methodological development to offer solutions in touch with existing demands in biomedical research.

## Group members

- **Batres Mongil, Luis:** Other. Management
- **Brooks Claire, Jordan:** R1. First Stage Researcher
- **Calle Muñoz, Melissa:** Other. Management
- **Calvet Seral, Juan :** R2. Recognised Researcher
- **Cubero Gutiérrez, Lucía:** R1. First Stage Researcher
- **Delgado Rodríguez, Pablo:** R1. First Stage Researcher
- **Ferrer Bazaga, Santiago:** R4. Leading Researcher
- **Fuster Barcelo, Caterina:** R2. Recognised Researcher
- **Gómez Cruz, Clara:** R1. First Stage Researcher
- **González Álvarez, Alba:** R2. Recognised Researcher
- **Gutiérrez de Pablo, Laura:** Other. Management
- **López Expósito Patricio, Roberto:** R2. Recognised Researcher
- **Mendoza Losana, Alfonso:** R3. Established Researcher
- **Muñoz Barrutia, Arrate:** R4. Leading Researcher
- **Olivo Marín, Jean Christophe:** R4. Leading Researcher
- **Pascau González Garzón, Javier:** R4. Leading Researcher
- **Pérez Benito, David:** R2. Recognised Researcher
- **Pose Díez de la Lastra, Alicia:** R2. Recognised Researcher
- **Vaquero López, Juan Jose:** R4. Leading Researcher

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         | 5          |                    | 1          |
| National      |                         | 6          |                    | 1          |
| Regional      |                         | 1          |                    |            |



## Not managed by the FIBHGM

- Title: **A4LIFE - Artificial intelligence for image data analysis in the life sciences.** GA - 101057970  
Director: Muñoz Barrutia, María Arrate  
Project type: European research project  
Funding body: European Commission  
Start date: 01/09/2022  
End date: 31/08/2025
- Title: **PRO-ORATICA - PRedictive mOdeling Of RAdiaTion-Induced CARDiotoxicity after breast cancer radiotherapy.** GA - 101026865  
Director: Pascau González Garzón, Javier  
Project type: European research project  
Funding body: European Commission  
Start date: 01/09/2022  
End date: 31/08/2024
- Title: **Cust-MeDD - Custom Medical Device Development. 2020-2023. CONEX-PLUS.** 2019/0097 (H2020-MSCA-COFUND-2017-UE)  
Director: Pascau González Garzón, Javier / González Álvarez, Alba  
Project type: European research project  
Funding body: European Commission  
Start date: 23/11/2020  
End date: 22/11/2023
- Title: **ERA4TB - European Regimen Accelerator for Tuberculosis.** GA - 853989  
Director: Vaquero López, Juan José  
Project type: European research project  
Funding body: European Commission  
Start date: 01/01/2020  
End date: 31/12/2025
- Title: **Real time molecular imager with unsurpassed resolution.** GA - 101099096  
Director: Vaquero López, Juan José  
Project type: European research project  
Funding body: European Commission  
Start date: 01/09/2023  
End date: 28/02/2027
- Title: **Tratamiento personalizado en radioterapia mediante modelado integrado de nuevas restricciones y efectos dosimétricos locales.** AC20/00102  
Director: Pascau González Garzón, Javier  
Project type: ACC. Complementarias  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2023
- Title: **IPADAP - Plataforma de imagen multi-escala para acelerar el desarrollo de fármacos contra infecciones pulmonares.** PID2019-109820RB-I00  
Director: Muñoz Barrutia, María Arrate / Vaquero López, Juan José  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/06/2020  
End date: 29/02/2024
- Title: **DigiMatMed-Acelerando la transformación digital en salud materno-fetal mediante herramientas de simulación y entrenamiento. Accelerating digital transformation in maternal-fetal health through simulation and training tools.** TED2021-129392B-I00  
Director: Pascau González Garzón, Javier / De León Luis, Juan  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/12/2022  
End date: 30/11/2024
- Title: **IN-DEPTH - INtelligent modular DEtector for PET.** PDC2021-121788-I00  
Director: Vaquero López, Juan José  
Project type: Research project  
Funding body: Agencia Estatal de Investigación  
Start date: 01/12/2021  
End date: 31/08/2024
- Title: **Desarrollo de contrastes de TAC específicos de micobacterias para el diagnóstico y seguimiento de la tuberculosis. - TAIN-TB.** PID2022-142343OB-I00



Director: Mendoza Losana, Alfonso / López Expósito, Patricio Roberto  
 Project type: Research project  
 Funding body: Agencia Estatal de Investigación  
 Start date: 01/09/2023  
 End date: 31/08/2027

- Title: **Personalized Planning in Radio Therapy Through Integrative Modeling of Local Dose Effect and New Dosimetric Constraints.** PERME20731PASC  
 Director: Pascau González Garzón, Javier  
 Project type: Research project  
 Funding body: Asociación Española Contra el Cáncer  
 Start date: 01/12/2020  
 End date: 31/12/2024
- Title: **EPUC3M03 Departamento de Bioingeniería e Ingeniería Aeroespacial.** 2020/00385/001  
 Director: Muñoz Barrutia, María Arrate  
 Project type: Research project  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/01/2020  
 End date: 31/12/2024  
 Doctoral theses. Bachelor theses and Master theses
- Title: **Marie Skłodowska-Curie Actions. 2019/0097** (H2020-MSCA-COFUND-2017-UE)  
 Director: Pascau Gonzalez Garzón, Javier  
 Project type: Human resources  
 Funding body: European Commission Research Executive Agency  
 End date:
- Title: **Formación Profesorado Universitario.** FPU19/02854  
 Director: Muñoz Barrutia, María Arrate  
 Project type: Human resources  
 Funding body: MICINN  
 End date:

## Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate                     | Title                                                                               | Name/s Director/s                                             | University | Date Defended |
|-----------|-------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------|------------|---------------|
| Ph Thesis | Alicia Pose Díez de la Lastra | Augmented Reality in Image-Guided Therapy to Improve Surgical Planning and Guidance | Javier Pascau González-Garzón                                 | UC3M       | 13/11/2023    |
| Ph Thesis | Laura Nicolás Sáenz           | A Colour Wheel to Rule them All: Analysing Colour & Geometry in Medical Microscopy  | María Arrate Muñoz Barrutia/<br>Javier Pascau González-Garzón | UC3M       | 06/10/2023    |

## Publications

Total Impact Factor: 57,4

|                                                        | Nº       | IF          |
|--------------------------------------------------------|----------|-------------|
| Own publications                                       | 3        | 3,4         |
| Joint publications                                     | 4        | 54,0        |
| First decile publications                              | 2        | 0,0         |
| First quartile publications                            | 5        | 52,7        |
| Second quartile publications                           | 1        | 3,4         |
| Third quartile publications                            | 1        | 1,3         |
| Fourth quartile publications                           | 0        | 0,0         |
| Nonindexed publications / No IF                        | 1        | —           |
| <b>Total publications (including those without IF)</b> | <b>8</b> | <b>57,4</b> |



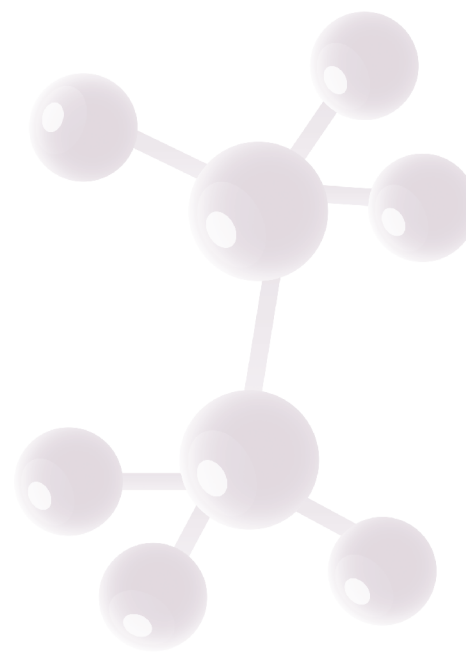
**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Arias-Valcayo, F; Galve, P; Udias, JM; Vaquero, JJ; Desco, M; Herraiz, JL. *Optimizing Point Source Tracking in Awake Rat PET Imaging: A Comprehensive Study of Motion Detection and Best Correction Conditions*. APPLIED SCIENCES-BASEL. 2023; 13(22). FI: 2.5. Quartile: 1. (Article).
- Arias-Valcayo, F; Galve, P; Herraiz, JL; Vaquero, JJ; Desco, M; Udías, JM. *Reconstruction of multi-animal PET acquisitions with anisotropically variant PSF*. BIOMEDICAL PHYSICS & ENGINEERING EXPRESS. 2023; 9(6). FI: 1.3. Quartile: 3. (Article).
- Pérez-Benito, D; Chil, R; Hidalgo-Torres, LA; Vaquero, JJ. *Scintillator Geometrical Considerations for Detectors Based on Hexagonal SiPMs*. IEEE TRANSACTIONS ON RADIATION AND PLASMA MEDICAL SCIENCES. 2023; 7(7) 684-691. FI: 4.6. Quartile: 1. (Article).
- Farina, B; Guerra, ADR; Bermejo-Pelaez, D; Miras, CP; Peral, AA; Madueno, GG; Jaime, JC; Vilalta-Lacarra, A; Pérez, JR; Muñoz-Barrutia, A; Peces-Barba, GR; Maceiras, LS; Gil-Bazo, I; Gómez, MD; Ledesma-Carbayo, MJ. *Integration of longitudinal deep-radiomics and clinical data improves the prediction of durable benefits to anti-PD-1/PD-L1 immunotherapy in advanced NSCLC patients*. JOURNAL OF TRANSLATIONAL MEDICINE. 2023; 21(1). FI: 6.1. Quartile: 1. (Article).
- Maska, M; Ulman, V; Delgado-Rodríguez, P; Gómez-de-Mariscal, E; Necasova, T; Pena, FAG; Ren, TI; Meyerowitz, EM; Scherr, T; Loffler, K; Mikut, R; Guo, TQ; Wang, Y; Allebach, JP; Bao, RN; Al-Shakarji, NM; Rahmon, G; Toubal, IE; Palaniappan, K; Lux, F; Matu. *The Cell Tracking Challenge: 10 years of objective benchmarking*. NATURE METHODS. 2023; 20(7) 1010. FI: 36.1. Quartile: 1. (Article).
- Cubero, L; García-Elcano, L; Mylona, E; Boue-Rafle, A; Cozzarini, C; Gabellini, MGU; Rancati, T; Fiorino, C; de Crevoisier, R; Acosta, O; Pascau, J. *Deep learning-based segmentation of prostatic urethra on computed tomography scans for treatment planning*. PHYSICS & IMAGING IN RADIATION ONCOLOGY. 2023; 26. FI: 3.4. Quartile: 1. (Article).

- Nicolas-Saenz, L; Ledezma, A; Pascau, J; Muñoz-Barrutia, A. *ABANICCO: A New Color Space for Multi-Label Pixel Classification and Color Analysis*. SENSORS. 2023; 23(6). FI: 3.4. Quartile: 2. (Article).

**Publications of the main WOS collection in journals indexed in the Journal Citation Reports without impact factor**

- Cubero, L; Serrano, J; Castelli, J; de Crevoisier, R; Acosta, O; Pascau, J. *EXPLORING UNCERTAINTY FOR CLINICAL ACCEPTABILITY IN HEAD AND NECK DEEP LEARNING-BASED OAR SEGMENTATION*. IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGING. 2023. (Proceedings Paper).





# AREA 2

## CARDIOVASCULAR DISEASES

*Area coordinator:*

**Francisco Fernández-Avilés Díaz**

**C**ardiovascular diseases constitute a major health problem in developed countries, both because of their prevalence and incidence and because of their severity; hence the importance of a research area for cardiovascular diseases in the IISGM. The Area of Cardiovascular Diseases covers all aspects of this modern epidemic, through basic research and very importantly clinical research, including various emerging and associated clinical groups from a variety of hospital services.

A particularly interesting characteristic of this Area is its cooperative spirit. The area coordinator exercises the scientific direction of the Ciber Cardiovascular CIBERCV (Carlos III Health Institute), which integrates 40 centers throughout the country that make up the most powerful structure of cardiovascular research in Spain. Of particular

interest, this area includes basic research groups belonging to the Universidad Complutense and envisages wide-ranging agreements with American universities for the development of an ambitious program for the generation of artificial organs (SABIO Project). In addition to such important ongoing projects, the Area of Cardiovascular Diseases has forged an ambitious set of objectives for the coming years, including promotion of basic research laboratories, increased funding from the European funds, and development of a model for the evaluation and identification of intellectual property products.

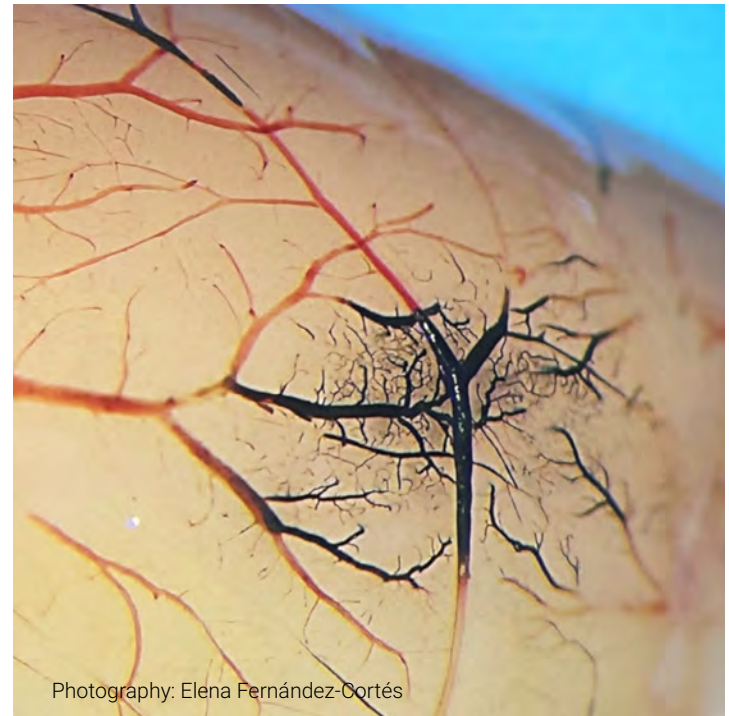
Finally, the Area of Cardiovascular Diseases places particular emphasis on undergraduate education and importantly training for research personnel.



# Groups in AREA **2**

## **CARDIOVASCULAR DISEASES**

- ▶ 2.01. Natural history of heart disease
- ▶ 2.02. Cardiovascular pathophysiology
- ▶ 2.03. Cardiac cellular electrophysiology
- ▶ 2.05. Cardiology and heart transplantation in children
- ▶ 2.06. Blood lipids and cardiovascular risk
- ▶ 2.07. Acute cerebral ischemia. Stroke.



Photography: Elena Fernández-Cortés



Group Director: **FRANCISCO FERNÁNDEZ-AVILÉS DÍAZ**  
/ **JAVIER BERMEJO THOMAS**

Organisms involved: **HGUGM-UCM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Consolidation of research lines in cardiovascular diseases

- ▶ L1: Consolidation of the basic research area.
- ▶ L2: Leadership of national and European research projects.
- ▶ L3: Consolidation of the translational research area of the cellular cardiac electrophysiology group.
- ▶ L4: Maintenance and consolidation of scientific production.
- ▶ L5: Diversification of funding sources through the consolidation of several PIs.

### Axis 2: Strengthening Training

- ▶ L1: Increasing the offer for postgraduate training.
- ▶ L2: Encourage temporary stays of researchers in prestigious laboratories.

### Axis 3: Infrastructure Consolidation

- ▶ L1: Final layout and equipment of the Translational Cardiology Research Laboratory

### Axis 4: I+D+i

- ▶ L1: Development of a model for the evaluation and identification of intellectual property products.
- ▶ L2: Development of spin-off models with the Hospital and the University.

Basic, translational and clinical research on cardiovascular diseases, in collaboration with clinical groups and institutions. Scientific Directorate of the CIBERCV - Centro de Investigación Biomedica en Red en Enfermedades Cardiovasculares (CIBERCV)

## Group members

- **Acosta Ocampo, Alejandra:** R1. First Stage Researcher.
- **Alonso García, Andrés:** R1. First Stage Researcher.
- **Álvarez Zaballos, Sara:** R1. First Stage Researcher.
- **Arenal Maíz, Ángel:** R3. Established Researcher.
- **Atienza Fernández, Felipe:** R3. Established Researcher.
- **Ávila Alonso, Pablo:** R2. Recognised Researcher.
- **Bejarano Arosemena, Roberto Andrés:** R1. First Stage Researcher.
- **Benito Vicente, Yolanda:** R1. First Stage Researcher.
- **Bermejo Fernández, Jaime:** R1. First Stage Researcher.
- **Bermejo Thomas, Javier:** R4. Leading Researcher.
- **Blázquez Bermejo, Zorba:** R2. Recognised Researcher.
- **Carta Bergaz, Alejandro:** R1. First Stage Researcher.
- **Castrodeza Calvo, Javier:** R2. Recognised Researcher.
- **Corisco Beltrán, Rafael:** R1. First Stage Researcher.
- **Delgado Montero, Antonia:** R2. Recognised Researcher.
- **Devesa Cordero, Carolina:** R1. First Stage Researcher.
- **Domingo Gardeta, Tomás:** R1. First Stage Researcher.
- **Elizaga Corrales, Jaime:** R3. Established Researcher.
- **Espinosa Castro, María Ángeles:** R3. Established Researcher.
- **Fernández Ávila, Ana Isabel:** R3. Established Researcher.
- **Fernández Baena, Diego:** R1. First Stage Researcher.
- **Fernández Baza, Ana María.**
- **Fernández Cordón, Clara:** R1. First Stage Researcher.
- **Fernández Santos, M<sup>a</sup> Eugenia:** R3. Established Researcher.
- **Fernández Topham, Javier:** R1. First Stage Researcher.
- **Fernández-Avilés Díaz, Francisco Jesús:** R4. Leading Researcher.
- **Gabaldón Badiola, Álvaro:** R1. First Stage Researcher.

Continued on next page



## Group members (cont.)

- **Galán López, Virgilio:** R1. First Stage Researcher.
- **García Carreño, Jorge:** R1. First Stage Researcher.
- **García del Rey, M<sup>a</sup> del Carmen:** R1. First Stage Researcher.
- **García Montero, Marta:** R1. First Stage Researcher.
- **Garnacho Gómez, Luis Jorge:** R1. First Stage Researcher.
- **Gómez González, Cristina:** R1. First Stage Researcher.
- **Gómez Sánchez, Roberto:** R1. First Stage Researcher.
- **González Mansilla, Ana:** R2. Recognised Researcher.
- **González Torrecilla, Esteban:** R3. Established Researcher.
- **Grigorian Shamajian, Lilian:** R2. Recognised Researcher.
- **Gutiérrez Gálvez, Jeniffer:** R1. First Stage Researcher.
- **Gutiérrez Ibañes, Enrique:** R3. Established Researcher.
- **Juárez Fernández, Miriam:** R2. Recognised Researcher.
- **López-Doriga Costales, Juan:** R1. First Stage Researcher.
- **Martín Manzano, Virginia Milagros:** R1. First Stage Researcher.
- **Martínez Solano, Jorge:** R1. First Stage Researcher.
- **Martínez-Legazpi Aguilo, Pablo:** R3. Established Researcher.
- **Martínez-Selles D'Oliveira Soares, Manuel:** R3. Established Researcher.
- **Méndez Fernández, Irene:** R2. Recognised Researcher.
- **Mombiela Ramírez de Ganuza, Teresa:** R2. Recognised Researcher.
- **Moreno Pena, Pablo:** R1. First Stage Researcher.
- **Ortiz Bautista, Carlos David:** R2. Recognised Researcher.
- **Plasencia Martín, Virginia:** R1. First Stage Researcher.
- **Portoles Hernández, Antonio:** R2. Recognised Researcher.
- **Postigo Esteban, Andrea:** R2. Recognised Researcher.
- **Prieto Arévalo, Raquel:** R3. Established Researcher.

- **Ríos Muñoz, Gonzalo Ricardo:** R2. Recognised Researcher.
- **Rodríguez Crespo, José Fernando:** R1. First Stage Researcher.
- **Rodríguez González, Elena:** R2. Recognised Researcher.
- **Ros Dopico, Santiago:** R1. First Stage Researcher.
- **Sanz Ruiz, Ricardo:** R3. Established Researcher.
- **Soriano Triguero, Javier:** R2. Recognised Researcher.
- **Sierra Fructuoso, Javier.**
- **Sousa Casanovas, Iago:** R2. Recognised Researcher.
- **Suárez Sancho, Susana:** R1. First Stage Researcher.
- **Tamargo Delpón, María Amalia:** R1. First Stage Researcher.
- **Valero Masa, María Jesús:** R2. Recognised Researcher.
- **Vázquez Álvarez, María Eugenia:** R2. Recognised Researcher.
- **Vázquez Castaño, Alexandra:** R1. First Stage Researcher.
- **Vilches Soria, Silvia:** R1. First Stage Researcher.
- **Villa Arranz, Adolfo:** R2. Recognised Researcher.
- **Zatarain Nicolás, Eduardo:** R2. Recognised Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 4                       |            |                    |            |
| National      | 15                      |            | 3                  |            |
| Regional      |                         |            |                    |            |



- Title: **CARDIATEAM-IMI2-821508**. H2020 CARDIATEAM  
Director: Bermejo Thomas, Javier  
Project type: European research project  
Funding body: EU/DG SANCO  
Start date: 01/03/2019  
End date: 28/02/2026
- Title: **H2020 BRAV3 "Regenerative medicine: from new insights to new applications. 874827"**. H2020 BRAV3  
Director: Fernández-Avilés Díaz, Francisco Jesús  
Project type: European research project  
Funding body: EU/DG SANCO  
Start date: 01/01/2020  
End date: 31/12/2024
- Title: **SAVE-COR Stratification of Atrial and Ventricular Arrhythmias based on Electrocardiographic Imaging**. 220385 SAVE-COR  
Director: Atienza Fernández, Felipe  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/06/2022  
End date: 31/12/2024
- Title: **AI Scalable Solution for ST Myocardial Infarction (ASSIST)**. ASSIST 230193  
Director: Martínez-Selles D'oliveira Soares, Manuel  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/07/2023  
End date: 01/07/2025
- Title: **Desarrollo y caracterización de vesículas extracelulares con potencia terapéutica en la insuficiencia cardíaca con función sistólica preservada en modelos animales de cerdo y de ratón**. PI22/00792  
Director: Fernández-Avilés Díaz, Francisco Jesús  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Identificación del sustrato de fibrilación auricular en ritmo sinusal basada en co-localización de mapas auriculares electroanatómicos y de intensidad de señal (MRI). Diferencias de género**. PI22/01619  
Director: Arenal Maíz, Ángel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Evaluación personalizada del riesgo cardiovascular - 1 (PACER1)**. PI21/00274  
Director: Bermejo Thomas, Javier  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: **Rigorous Atrial Analysis in Advanced Interatrial Block (ARABIA)**. PI21/01501  
Director: Martínez-Selles D'oliveira Soares, Manuel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: **Caracterización del sustrato electrofisiológico en pacientes con fibrilación auricular persistente y paroxística. Estudio PAPER AF**. PI20/01618  
Director: Atienza Fernández, Felipe  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2024
- Title: **Inteligencia artificial para la caracterización hemodinámica no invasiva. AI4NHEM**. PI20/00587



Director: Martínez-Legazpi Aguilo, Pablo  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 31/12/2023

- Title: **Reparación cardíaca inducida por vesículas extracelulares cardíacas integradas en hidrogeles de matriz mioárdica descellularizada en un modelo de infarto porcino crónico.** PI19/00161

Director: Fernández-Avilés Díaz, Francisco Jesús  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2020  
 End date: 31/12/2023

- Title: **Caracterización de la fisiología cardiovascular con el Ejercicio en pacientes adultos con circulación de Fontan.** PI19/01604

Director: Prieto Arevalo, Raquel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2020  
 End date: 31/12/2023

- Title: **Ablación radial para control de la Fibrilación auricular persistente (Artist Trial).** PI18/01895

Director: Arenal Maíz, Ángel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2019  
 End date: 30/06/2023

- Title: **Efectos de la inhibición del cotransportador sodio-glucosa-2 sobre los mecanismos de la insuficiencia cardíaca con fracción de eyección preservada del paciente diabético.** PI18/01595

Director: Bermejo Thomas, Javier  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2019  
 End date: 30/06/2023

- Title: **Plataforma integrada para la interpretación de señales de FA en tiempo-real.** DTS21/00064

Director: Arenal Maíz, Ángel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024

- Title: **Estudio prospectivo, multicéntrico y abierto para evaluar la eficacia del esmolol en la identificación precoz de las alteraciones cardiovasculares inducidas por la cirrosis, la diabetes mellitus y los tratamientos cardiotoxicos.** ICI20/00011

Director: Bermejo Thomas, Javier  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 31/12/2024

- Title: **Safety and Efficacy of the Intracoronary administration of Allogeneic human Cardiac Stem Cells in Patients with Ischemic Chronic Heart Failure at High Risk for Sudden Cardiac Death (CaSeC-HF).** PIC18/00024

Director: Fernández-Avilés Díaz, Francisco Jesús  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2019  
 End date: 31/12/2023

- Title: **CARE-ECGI - Terapia de resincronización cardíaca basada en imagen electrocardiográfica.** CPP2021-008562

Director: Atienza Fernández, Felipe  
 Project type: Research project  
 Funding body: MICINN/MINECO  
 Start date: 01/11/2022  
 End date: 31/10/2025

- Title: **Advanced multifunction 3D biofabrication for the generation of computationally modelled human-scale therapeutic cardiac tissues – CARDIOPRINT.** PLEC2021-008127



Director: Fernández-Avilés Díaz, Francisco Jesús / Bermejo Thomas, Javier  
 Project type: Research project  
 Funding body: Ministerio de Economía y Hacienda  
 Start date: 01/12/2021  
 End date: 30/11/2024

- Title: **Río Hortega contract.** CM20/00054  
 Director: Tamargo Delpón, María Amalia  
 Funding body: Instituto de Salud Carlos III  
 Project type: Human resources  
 Start date: 04/01/2021  
 End date: 04/01/2023
- Title: **Intensification contract.** INT22/00025  
 Director: Bermejo Thomas, Javier  
 Project type: Human resources  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2024
- Title: **PFIS Predoctoral contract.** FI22/00165  
 Director: Martínez Solano, Jorge  
 Project type: Human resources  
 Funding body: Instituto de Salud Carlos III  
 Start date: 21/03/2023  
 End date: 31/12/2026

## Industrial and intellectual property registrations

### Industrial property

| Title                                                                                  | Reference*               | Owner                                                                  | Inventors                                                                                                     |
|----------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Sistema y método para la detección automática de patrones electrofisiológicos anómalos | P 2017 31161             | FIBHGM - UC3M                                                          | Gonzalo Ricardo Ríos Muñoz, Antonio Artés Rodríguez, Ángel Arenal Maiz, Francisco Jesús Fernández-Avilés Díaz |
| Catéter y método para la detección de actividad eléctrica en un órgano                 | P 2014 31315             | FIBHGM – Universidad Politécnica de Valencia – Universidad de Michigan | Andreu Martínez, Felipe Atienza, Miguel Rodrigo, Mª Salud Guillem, Omer Berenfeld                             |
| Dispositivo de localización de arritmias cardíacas                                     | P 2014 31597 (3 patents) | FIBHGM - Universidad Politécnica de Valencia                           | Andreu Martínez, Felipe Atienza, Ángel Arenal, Francisco Fernández-Avilés, Mª Salud Guillem                   |
| Mapping and quantifying blood status and thrombus risk in the heart                    | US 62259494 (3 patents)  | FIBHGM – University of California                                      | Juan Carlos del Álamo, Andrew Kahn, Lorenzo Rossini, Javier Bermejo, Pablo Martínez- Legazpi, Raquel Yotti    |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).



## Cooperative Research Structures

| Type (RICORS, CIBER, others) | Name of Network                                                                                       | Role               | Code           |
|------------------------------|-------------------------------------------------------------------------------------------------------|--------------------|----------------|
| CIBER                        | CIBERCV                                                                                               | Coordinating group | CB16/11/00292  |
| Other                        | Red de Formación Interdisciplinaria en Regeneración Cardíaca.                                         | Associated group   | EJIN2017-88719 |
| Other                        | PROGRAMA AVANCELL-CM - Terapias avanzadas de precisión en regeneración y reparación celular y tisular | Coordinating group | S2017/BMD-3692 |
| Other                        | Programa ITACA - CM Investigación Traslacional en Arritmias Cardíacas hereditarias                    | Associated group   | B2017/BMD3738  |
| Other                        | PROGRAMA PREFI-CM - Personalización del Riesgo Embólico mediante el análisis del Flujo Intracardiaco  | Coordinating group | Y2018/BIO-4858 |

## Clinical Practice Guidelines

| Authors                                       | Title                                                                                                      | Journal/Reference                                                                                                                  |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Manuel Martínez-Selles, Francisco Fdez-Avilés | Cardiogenic shock code 2023. Expert document for a multidisciplinary organization that allows quality care | Revista Española de Cardiología. <a href="https://doi.org/10.1016/j.rec.2022.10.014">https://doi.org/10.1016/j.rec.2022.10.014</a> |

## Publications

Total Impact Factor: 456,7

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 35        | 154,1        |
| Joint publications                                     | 54        | 302,6        |
| First decile publications                              | 19        | 0,0          |
| First quartile publications                            | 48        | 363,0        |
| Second quartile publications                           | 21        | 61,7         |
| Third quartile publications                            | 20        | 32,0         |
| Fourth quartile publications                           | 0         | 0,0          |
| Nonindexed publications/No IF                          | 10        | —            |
| <b>Total publications (including those without IF)</b> | <b>99</b> | <b>456,7</b> |

## Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate              | Title                                                                                                   | Name/s Director/s                                                              | University | Date Defended |
|-----------|------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------|---------------|
| Ph Thesis | Alejandro Carta Bergaz | Efecto de las células madre cardíacas sobre el sustrato arritmico epicárdico en un modelo de posinfarto | Ángel Arenal Maiz/ Javier Bermejo Thomas/ Francisco Fernández-Avilés Díaz      | UCM        | 02/02/2023    |
| Ph Thesis | Blanca Alcón Durán     | Índices de estenosis aórtica, mortalidad e incidencia de eventos cardiovasculares                       | Javier Bermejo Thomas/ Pablo Martínez-Legazpi/ Francisco Fernández-Avilés Díaz | UCM        | 02/03/2023    |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Ayesta, A; Valero-Masa, MJ; Vidan, MT; Segovia-Cubero, J; García-Cosío, MD; López-Ibor, JV; Caravaca, P; Luna-López, R; Pérez-Gómez, L; Nuche, J; Martínez-Díaz, J; Delgado, J; Gómez-Bueno, M; Fernández-Cordon, C; López-Azor, JC; Martínez-Selles, M. *Frailty Is Common in Heart Transplant Candidates But Is Not Associated With Clinical Events and Is Reversible After Heart Transplantation*. AMERICAN JOURNAL OF CARDIOLOGY. 2023; 205 28-34. FI: 2.3. Quartile: 2. (Article).
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Organisms involved: **UCM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Obesity-associated cardiovascular and metabolic damage

- ▶ L1: Role of metabolic substrate utilization switching in obesity-associated cardiometabolic damage
- ▶ L2: Role of mitochondrial dysfunction in obesity-associated cardiometabolic damage
- ▶ L3: Role of endoplasmic reticulum stress in obesity-associated cardiometabolic damage
- ▶ L4: Role of autophagy in obesity-associated cardiometabolic damage
- ▶ L5: Impact of mitochondrial transplantation on cardiac function and structure
- ▶ L6: Impact of «Mitochondria-like mitochondrialuterions» on obesity-associated cardiac damage

### Axis 2: Mechanisms involved in cardiovascular damage associated with myocardial ischaemia

- ▶ L1: Role of changing metabolic substrate use in ischaemia-associated cardiometabolic damage
- ▶ L2: Impact of obesity on cardiac alterations associated with myocardial ischaemia.
- ▶ L3: Role of changing metabolic substrate use in cardiometabolic damage associated with myocardial ischaemia.
- ▶ L4: Role of mitochondrial dysfunction in cardiometabolic damage associated with myocardial ischaemia
- ▶ L5: Role of endoplasmic reticulum stress in cardiometabolic damage associated with myocardial ischaemia
- ▶ L6: Role of autophagy in cardiometabolic damage associated with myocardial ischaemia

- ▶ L7: Impact of mitochondrial transplantation on cardiac function and structure
- ▶ L8: Impact of «Mitochondria-like mitochondrialuterions» on cardiometabolic damage associated with myocardial ischaemia

### Axis 3: Mechanisms involved in damage associated with cardiorenal syndrome

- ▶ L1: Role of mitochondrial dysfunction in renal damage associated with cardiorenal syndrome
- ▶ L2: Role of endoplasmic reticulum stress in renal damage associated with cardiorenal syndrome
- ▶ L3: Impact of mitochondrial transplantation on renal damage associated with cardiorenal syndrome

The core of the project research team is made up of researchers from the Cardiovascular and Metabolic Pathophysiology Group of obesity of the Department of Physiology School of Medicine, UCM under the coordination of Victoria Cachofeiro.

The main objective of the group is to achieve a better understanding of the molecular and cellular mechanisms involved in the functional, structural and mechanical alterations of the cardiovascular system associated with different risk factors including obesity.

To carry out our research, we use various experimental approaches: animal models, in vivo and ex vivo experiments and cell studies combining physiological, Pharmacological, molecular, histological and imaging techniques in which the group has a great experience as endorsed by our publications.

In addition, we try to transfer the knowledge to human pathology through the collaboration with Dr. Luaces and Dr. Islas from the Cardiology Department and Dr. Ramchandani from the Cardiac Surgery Department of the Hospital Clínico San Carlos.



## Group members

- **Bartolomé Pascual, María Visitación:** R3. Established Researcher.
- **Cachafeiro Ramos, Victoria:** R4. Leading Researcher.
- **Cuesta Garrido, María:** R1. First Stage Researcher.
- **Delgado Valero, Beatriz:** R1. First Stage Researcher.
- **Jiménez González, Sara:** R1. First Stage Researcher.
- **Jurado López, Raquel:** R1. First Stage Researcher.
- **Martínez Martínez, Ernesto:** R4. Leading Researcher.
- **Montoro Garrido, Alejandro:** R1. First Stage Researcher.
- **Romero Miranda, Ana:** R2. Recognised Researcher.
- **Vasconcelos de Sousa Neto, Francisco Das Chagas:** R1. First Stage Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Cooperative Research Structures

| Type (RICORS, CIBER, others) | Name of Network | Role               | Code          |
|------------------------------|-----------------|--------------------|---------------|
| CIBER                        | CIBERCV         | Coordinating group | CB16/11/00286 |

## Publications

Total Impact Factor: 6,9

|                                                        | Nº       | IF         |
|--------------------------------------------------------|----------|------------|
| Own publications                                       | 0        | 0,0        |
| Joint publications                                     | 1        | 6,9        |
| First decile publications                              | 1        | 0,0        |
| First quartile publications                            | 1        | 6,9        |
| Second quartile publications                           | 0        | 0,0        |
| Third quartile publications                            | 0        | 0,0        |
| Fourth quartile publications                           | 0        | 0,0        |
| Nonindexed publications/No IF                          | 0        | –          |
| <b>Total publications (including those without IF)</b> | <b>1</b> | <b>6,9</b> |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Puertas-Umbert, L; Varona, S; Ballester-Servera, C; Alonso, J; Aguilo, S; Orriols, M; Martínez-Martínez, E; Rodríguez-Sinovas, A; Martínez-González, J; Rodríguez, C. *Activation of Wnt/beta-catenin signaling in abdominal aortic aneurysm: A potential therapeutic opportunity?*. GENES & DISEASES. 2023; 10(3) 639-642. FI: 6.9. Quartile: 1. (Editorial Material).



Group Director: **Eva Delpón Mosquera**

Organisms involved: **UCM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Cardiac cellular pharmacology and electrophysiology

- ▶ L1: Identification of acquired alterations in cellular electrical properties (electrical remodelling) responsible for arrhythmias in patients with heart failure (HF).
- ▶ L2: Regulation of cardiac electrical properties at the cellular level.

The Cardiac Cell Electrophysiology group has been part of the Instituto de Investigación Sanitaria Gregorio Marañón (IiSGM) since its foundation. It is a small academic group (we carry out non-clinical experimental activity) with a clear translational vocation and whose headquarters are located in the Faculty of Medicine of the Complutense University of Madrid. The group was created in the early 1970s by Prof. Juan Tamargo Menéndez and is currently directed by Dr. Eva Delpón with the active collaboration of Dr. Ricardo Caballero. Its continuous evolution and scientific and technological adaptation have allowed it to become a reference and recognised group in the area of cardiac cellular electrophysiology at a national and international level for many years. The general objectives of our lines of research have been and/or are:

1. The identification of electrophysiological alterations of electrical remodelling produced by heart failure (HF) with reduced ejection fraction (HFrEF) or preserved ejection fraction (HFpEF) and design of an advanced targeted therapy for the treatment of ventricular arrhythmias in patients with HF
2. The identification of new genes responsible for inherited primary arrhythmogenic syndromes, as well as the functional study of

the electrophysiological repercussions of these mutations at the molecular, cellular [in cardiomyocytes differentiated from human induced pluripotent stem cells (iPSCs)], and in vivo levels.

3. The analysis of the biology and regulation of cardiac ion channels by cellular mediators, drugs, microRNAs, etc., as well as the consequences of their interaction with other channels and anchor proteins.

## Group members

- **Caballero Collado, Ricardo:** R3. Established Researcher.
- **Cámara Checa, Anabel:** R1. First Stage Researcher.
- **Delpón Mosquera, Eva:** R4. Leading Researcher.
- **Gómez García, Ricardo:** R3. Established Researcher.
- **Pérez Martín, Sara:** R1. First Stage Researcher.
- **Rapun Jiménez, Josu:** R1. First Stage Researcher.
- **Tamargo Menéndez, Juan:** R3. Established Researcher.
- **Vázquez Ávila, Sara.**

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      |                         |            |                    | 1          |
| Regional      |                         | 1          |                    |            |



### Not managed by the FIBHGM

- Title: Investigación Traslacional de Arritmias Cardiacas hereditarias (ITACA).** B2017/BMD-3738  
 Director: Delpon Mosquera, Eva  
 Project type: Research project  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/01/2018  
 End date: 31/12/2026
- Title: Pre-doctoral contracts for the training of PhDs.** PRE2021-098033  
 Director: Delpón Mosquera, Eva/Caballero Collado, Ricardo  
 Project Type: Human Resources  
 Funding Body: Micinn  
 End Date

### Cooperative Research Structures

| Type (RICORS, CIBER, others) | Name of Network | Role               | Code          |
|------------------------------|-----------------|--------------------|---------------|
| CIBER                        | CIBERCV         | Coordinating group | CB16/11/00303 |

### Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate            | Title                                                                                                                           | Name/s Director/s              | University | Date Defended |
|-----------|----------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------|---------------|
| Ph Thesis | Marcos Rubio Alarcón | El factor de transcripción Zfhx3 regula la expresión del gen SCN5A y la densidad de la corriente de sodio (INa) en el miocardio | Eva Delpón / Ricardo Caballero | UCM        | 17/02/2023    |
| Ph Thesis | Teresa Crespo García | Respuesta farmacológica y estudio funcional de los canales KATP con mutaciones asociadas al Síndrome de Cantú                   | Eva Delpón / Ricardo Caballero | UCM        | 11/07/2023    |

### Clinical Practice Guidelines

| Authors                                                                                                                                                                                                                                                                                                                                                                                      | Title                                                                                                                                                                                                                                                                              | Journal/Reference                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Savelieva I, Fumagalli S, Kenny RA, Anker S, Benetos A, Boriani G, Bunch J, Dagres N, Dubner S, Fauchier L, Ferrucci L, Israel C, Kamel H, Lane DA, Lip GYH, Marchionni N, Obel I, Okumura K, Olshansky B, Potpara T, Stiles MK, Tamargo J, Ungar A, Kosiuk J, Larsen TB, Dinov B, Estner H, García R, Moscoso Costa FM, Lampert R, Lin YJ, Chin A, Rodriguez HA, Strandberg T, Grodzicki T. | EHRA expert consensus document on the management of arrhythmias in frailty syndrome, endorsed by the Heart Rhythm Society (HRS), Asia Pacific Heart Rhythm Society (APHRS), Latin America Heart Rhythm Society (LAHRS), and Cardiac Arrhythmia Society of Southern Africa (CASSA). | Europace. 2023;25(4):1249-1276.                                   |
| Pedro-Botet J, Barrios V, Sánchez-Margalet V, Tamargo J, Arrieta F, Gámez JM, Gimeno-Orna JA, Escobar C, Gómez-Doblas JJ, Pérez A; Working Groups of the Sociedad Española de Cardiología and Cardiovascular Disease of the Sociedad Española de Diabetes.                                                                                                                                   | Treatment of hypertriglyceridaemia with icosapent ethyl in patients with high/very high cardiovascular risk. Consensus document of the Sociedad Española de Cardiología [Spanish Society of Cardiology] and the Sociedad Española de Diabetes [Spanish Diabetes Society].          | Endocrinol Diabetes Nutr (Engl Ed). 2023 MARZO ;70 Suppl 1:51-62. |

### Publications

Total Impact Factor: 73,0

|                                                        | Nº       | IF          |
|--------------------------------------------------------|----------|-------------|
| Own publications                                       | 6        | 62,4        |
| Joint publications                                     | 2        | 10,6        |
| First decile publications                              | 5        | 0,0         |
| First quartile publications                            | 6        | 66,2        |
| Second quartile publications                           | 2        | 6,8         |
| Third quartile publications                            | 0        | 0,0         |
| Fourth quartile publications                           | 0        | 0,0         |
| Nonindexed publications/No IF                          | 0        | —           |
| <b>Total publications (including those without IF)</b> | <b>8</b> | <b>73,0</b> |



### **Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Tamargo, J; Agewall, S. Concerns about aortic aneurysm or dissection risk should not cease fluoroquinolone use when clinically indicated. EUROPEAN HEART JOURNAL. 2023; 44(42) 4485-4487. FI: 37.6. Quartile: 1. (Editorial Material).
- Tamargo, J; Agewall, S; Borghi, C; Ceconi, C; Cerbai, E; Dan, GA; Ferdinandy, P; Grove, EL; Rocca, B; Sulzgruber, P; Semb, AG; Sossalla, S; Niessner, A; Kaski, JC; Dobrev, D. New pharmacological agents and novel cardiovascular pharmacotherapy strategies in 2022. EUROPEAN HEART JOURNAL-CARDIOVASCULAR PHARMACOTHERAPY. 2023; 9(4) 353-370. FI: 5.3. Quartile: 1. (Review).
- Drexel, H; Tamargo, J; Kaski, JC; Lewis, BS; Saely, CH; Fraunberger, P; Dobrev, D; Komiyama, M; Plattner, T; Agewall, S; Hasegawa, K. Triglycerides revisited: is hypertriglyceridaemia a necessary therapeutic target in cardiovascular disease?. EUROPEAN HEART JOURNAL-CARDIOVASCULAR PHARMACOTHERAPY. 2023; 9(6) 570-582. FI: 5.3. Quartile: 1. (Review).
- Iguchi, M; Tamargo, J; Hasegawa, K. Are NOACs always the best strategy in elderly AF patients?. EUROPEAN HEART JOURNAL-CARDIOVASCULAR PHARMACOTHERAPY. 2023; 10(2) 100-102. FI: 5.3. Quartile: 1. (Editorial Material).
- Tamargo, J; Caballero, R; Mosquera, ED. Sex and gender differences in the treatment of arterial hypertension. EXPERT REVIEW OF CLINICAL PHARMACOLOGY. 2023; 16(4) 329-347. FI: 3.6. Quartile: 2. (Review).
- Tamargo, J. How important it is to know the preferences of the diabetic patient. INTERNATIONAL JOURNAL OF CARDIOLOGY. 2023; 370 425-426. FI: 3.2. Quartile: 2. (Editorial Material).
- Crespo-García T; Rubio-Alarcón M; Cámara-Checa A; Dago M; Rapún J; Nieto-Marín P; Marín M; Cebrián J; Tamargo J; Delpón E; Caballero R. A Cantú syndrome mutation produces dual effects on KATP channels by disrupting ankyrin B regulation. JOURNAL OF GENERAL PHYSIOLOGY. 2023; 155(1). FI: 3.3. Quartile: 1. (Article).
- Cámara-Checa, A; Perin, F; Rubio-Alarcón, M; Dago, M; Crespo-García, T; Rapún, J; Marín, M; Cebrián, J; Gómez, R; Bermúdez-Jiménez, F; Monserrat, L; Tamargo, J; Caballero, R; Jiménez-Jáimez, J; Delpón, E. A gain-of-function HCN4 mutant in the HCN domain is responsible for inappropriate sinus tachycardia in a Spanish family. PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA. 2023; 120(49). FI: 9.4. Quartile: 1. (Article).



Group Director: **CONSTANCIO MEDRANO LÓPEZ**

Organisms involved: **HGUGM**

Type: **Emerging Group**

## Research lines

### Axis 1: Cardiac transplantation in children

- ▶ L 1: Optimising and reducing anti-rejection therapies

### Axis 2: Myocardopathy in infancy

- ▶ L 1: Genotype-phenotype correlation
- ▶ L 2: Development of advanced imaging techniques (speckel tracking echocardiography)

### Axis 3: Respiratory infections and congenital heart disease

- ▶ L1: Impact on heart disease population

### Axis 4: Drugs in paediatric paediatric cardiology

- ▶ L1: Utility and safety of cardiovascular drugs in childhood

### Axis 5: Paediatric cardiac rehabilitation (collaboration with Children's Rehabilitation)

- ▶ L1: Improving quality of life

### Axis 6: Cell therapy in paediatric cardiology

- ▶ L1: New therapies in advanced heart failure

### Axis 7: Innovation in paediatric and congenital interventional cardiology congenital cardiac interventionism

- ▶ L1: New devices adapted to congenital heart disease

### Axis 8: Innovation in paediatric and congenital cardiac surgery

- ▶ L1: New mini-invasive techniques are safe, decrease morbidity

### Axis 9: Telemedicine

- ▶ L1: Tool to optimise the follow-up of patients and collaboration with other centres/professionals

### Axis 10: Rasopathies (in collaboration with Molecular Biochemistry: Dra. Begoña Ezquieta)

- ▶ L1: Improving knowledge of the disease

### Axis 11: International Cooperation

- ▶ L1: Training as a tool for development

### Axis 12: Innovation in Infant Electrophysiology

- ▶ L1: Optimising paediatric electrophysiological techniques and devices

### Axis 13: Paediatric cardiology care

- ▶ L1: Optimising access to peripheral pathways
- ▶ L2: Music therapy

The group encompasses the research and innovative activity of the Children's Heart Area, which includes paediatric cardiology and cardiac surgery. During 2016 the group of Dr. B. Ezquieta joined the group in the field of Rasopathies. New lines have been opened in the field of Cardiac Transplantation and in Microbiology and Nursing, and international cooperation has been reactivated. Scientific production has increased, especially in the areas of familiar cardiopathies, cardiac surgery and innovation in paediatric cardiac intervention.





## Group members

- **Alcaide Bazán, Paola:** R1. First Stage Researcher.
- **Alcaraz, María Teresa.**
- **Álvarez García-Roves, Reyes.**
- **Álvarez Martín, Teresa.**
- **Arriba Domenech, María:** R2. Recognised Researcher.
- **Ballesteros Tejerizo, Fernando:** R1. First Stage Researcher.
- **Calle Valda Alta Corazón, Mabel.**
- **Cambra Conejero, Ana.**
- **Camino López, Manuela.**
- **Camuña Correa, José Ignacio.**
- **Centeno Jiménez, Mirian.**
- **Cobos Hinojal, Susana.**
- **Cuenca Yunta, Alejandra.**
- **Díaz Cesar, María.**
- **Domarco Manrique, Alejandro.**
- **Ezquieta Zubicaray, Begoña:** R3. Established Researcher
- **Ferrer Sánchez, María Soledad.**
- **Gil Jaurena, Juan Miguel:** R1. First Stage Researcher.
- **Gil Villanueva, Nuria:** R1. First Stage Researcher.
- **López Blázquez, María:** R1. First Stage Researcher.
- **Martín Mayoral, Anabel:** R1. First Stage Researcher.
- **Medrano López, Constancio:** R4. Leading Researcher.
- **Muñoz-Pacheco Román, Rafael.**
- **Panadero Carlavilla, María Esther.**
- **Pardo Pardo, Carlos Andrés.**
- **Pérez-Caballero Martínez, Ramón.**
- **Pinero Díaz, Gloria Isabel.**

- **Pita Fernández, Ana.**
- **Relaño García, Cristina.**
- **Rodríguez Ogando, Alejandro.**
- **Solana Gracia, Ruth.**
- **Zunzunegui Martínez, José Luis:** R1. First Stage Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Publications

Total Impact Factor: 40,7

|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 7         | 5,6         |
| Joint publications                                     | 8         | 35,1        |
| First decile publications                              | 1         | 0,0         |
| First quartile publications                            | 6         | 30,0        |
| Second quartile publications                           | 2         | 3,0         |
| Third quartile publications                            | 4         | 4,8         |
| Fourth quartile publications                           | 3         | 2,9         |
| Nonindexed publications/No IF                          | 0         | –           |
| <b>Total publications (including those without IF)</b> | <b>15</b> | <b>40,7</b> |



## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Figueras, LM; Pacheco, RM; González, DG; Domènech, MA; Zubicaray, BE. *Molecular characterization of the new clinical entity associated with congenital adrenal hyperplasia: the CAH-X syndrome in the Spanish population*. ADVANCES IN LABORATORY MEDICINE-AVANCES EN MEDICINA DE LABORATORIO. 2023; 4(3) 258-267. FI: 1.1. Quartile: 4. (Article).
- Figueras, LM; Pacheco, RM; González, DG; Domènech, MA; Zubicaray, BE. *Molecular characterization of the new clinical entity related to congenital adrenal hyperplasia, CAH-X syndrome in the Spanish population*. ADVANCES IN LABORATORY MEDICINE-AVANCES EN MEDICINA DE LABORATORIO. 2023; 4(3) 268-278. FI: 1.1. Quartile: 4. (Article).
- Toledano-Revenga, J; Correa, JIC; Fernández, LG; Navazo, SD. *Cortical hyperostosis secondary to chronic treatment with prostaglandins*. ANALES DE PEDIATRIA. 2023; 99(1) 69-70. FI: 1.5. Quartile: 2. (Editorial Material).
- Centeno-Malfaz, F; Morais-López, A; Caro-Barri, A; Pena-Quintana, L; Gil-Villanueva, N; Redecillas-Ferreiro, S; Marcos-Alonso, S; Ros-Arnal, I; Tejero, MA; Sánchez, CS; Leis, R. *Nutrition in congenital heart disease: Consensus document*. ANALES DE PEDIATRIA. 2023; 98(5) 373-383. FI: 1.5. Quartile: 2. (Article).
- Montana-Jiménez, LP; Aristizabal, AM; Mosquera-Álvarez, W; Gutiérrez-Gil, J; Ponce-Bravo, LE; Beltran, E; Mejía-Quiñones, V; Zunzunegui, JL. *Management of right ventricular outflow tract with percutaneous Melody valve implantation in pediatric patients: experience in a high complexity center in Colombia*. ARCHIVOS DE CARDIOLOGIA DE MEXICO. 2023; 94(1) 7-14. FI: 0.7. Quartile: 4. (Article).
- Menendez, JJ; Sánchez-Galindo, AC; Balcells, J; Tejero-Hernández, MA; Ferrer-Barba, A; Ibiza-Palacios, E; Medrano-López, C; Gran, F; Frias-Pérez, MA; García-Vieites, M; Cano-Sánchez, A; Polo, L; Gil-Jaurena, JM; Abella, RF; Merino-Cejas, C; Martínez-Benda. *Short- and long-term survival of children treated with ventricular assist devices in Spain, based on 15 years' experience*. EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY. 2023; 63(2). FI: 3.1. Quartile: 1. (Article).
- Pérez-Pérez, A; Vigil-Vázquez, S; Gutiérrez-Velez, A; Solis-García, G; López-Blázquez, M; Martínez, JLZ; López, CM; Gil-Jaurena, JM; de Agustin-Asensio, JC; Sánchez-Luna, M. *Chylothorax in newborns after cardiac surgery: a rare complication?*. EUROPEAN JOURNAL OF PEDIATRICS. 2023; 182(4) 1569-1578. FI: 3. Quartile: 1. (Article).
- Jiménez-Ubieto, A; Martín-Muñoz, A; Poza, M; Dorado, S; García-Ortiz, A; Revilla, E; Sarandeses, P; Ruiz-Heredia, Y; Baumann, T; Rodríguez, A; Calbacho, M; Sánchez, PM; Pina, JMS; García-Sancho, AM; Figaredo, G; Rufian, L; Rodríguez, M; Carneros, L; Marti. *Personalized monitoring of circulating tumor DNA with a specific signature of trackable mutations after chimeric antigen receptor T-cell therapy in follicular lymphoma patients*. FRONTIERS IN IMMUNOLOGY. 2023; 14. FI: 5.7. Quartile: 1. (Article).
- Carcavilla, A; Cambra, A; Santome, JL; Seidel, V; Cruz, J; Alonso, M; Pozo, J; Valenzuela, I; Guillén-Navarro, E; Santos-Simarro, F; González-Casado, I; Rodríguez, A; Medrano, C; López-Siguero, JP; Ezquieta, B. *Genotypic Findings in Noonan and Non-Noonan RASopathies and Patient Eligibility for Growth Hormone Treatment*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(15). FI: 3. Quartile: 1. (Article).
- Bernaldo-de-Quirós, E; Camino, M; Martínez-Bonet, M; Gil-Jaurena, JM; Gil, N; Hernández-Flórez, D; Fernández-Santos, ME; Butragueño, L; Dijke, IE; Levings, MK; West, LJ; Pion, M; Correa-Rocha, R. *First-in-human therapy with Treg produced from thymic tissue (thyTreg) in a heart transplant infant*. JOURNAL OF EXPERIMENTAL MEDICINE. 2023; 220(12). FI: 12.6. Quartile: 1. (Article).
- Martín, EL; Moreno, MJD; Zubicaray, BE. *CYP21A2 <i>and</i> CYP11B1 <i>gene analyses in a virilized newborn female with congenital adrenal hyperplasia</i>*. MEDICINA CLINICA. 2023; 161(10) 448-449. FI: 2.6. Quartile: 1. (Letter).
- Núñez, FR; Pardeiro, CA; Albert, BI; Álvarez-Fuente, M; Barreiro, VB; Tejerizo, FB; Betrian-Blasco, P; Sánchez, FC; López, JME; González, LF; Linde, DH; Moreno, MR; Cebada, FS; Sanz-Ruiz, R; Arguelles, JIZ. *Dosimetric parameters in congenital cardiac catheterizations in Spain: the GTH-SECPCC Radcong-21 multicenter registry*. REC-INTERVENTIONAL CARDIOLOGY. 2023; 5(4) 254-262. FI: 1.2. Quartile: 3. (Article).



- Santos, PE; Ballesteros, F; Rodríguez, A; Zunzunegui, JL. *Use of a pediatric risk score for cardiac catheterization in a Spanish population with congenital heart disease*. REC-INTERVENTIONAL CARDIOLOGY. 2023; 6(1). FI: 1.2. Quartile: 3. (Article).
- Tejerizo, FB; Sánchez, FC; Freixa, X; Amat-Santos, IJ; Domingo, EB; Blasco, PB; Mata, RB; Carrasco, JI; Marin, MJD; Fernández, MF; Jaume, AG; Albert, BI; Pérez, MJN; Pineda, SO; Núñez, FR; Gila, JS; Sanz-Ruiz, R; Argulles, JIZ. *Spanish cardiac catheterization in congenital heart diseases registry. Second official report from the ACI-SEC and the GTH-SECPCC (2021)*. REC-INTERVENTIONAL CARDIOLOGY. 2023; 5(3) 185-192. FI: 1.2. Quartile: 3. (Article).
- Salas-Mera, D; Pardeiro, CA; Domingo, EJB; Baladrón, AS; Martínez, JLZ; Cebada, FS; Aguado, FGL. *The PULSTA valve in native right ventricular outflow tract: initial experience in 3 Spanish hospitals*. REC-INTERVENTIONAL CARDIOLOGY. 2023. FI: 1.2. Quartile: 3. (Article).





Group Director: **LUIS ANTONIO ÁLVAREZ-SALA WALTHER**

Organisms involved: **HGUGM**

Type: **Emerging Group**

## Research lines

- ▶ L1: Prevalence of subaneurysmal dilations of abdominal aorta in a cohort of hypertensive patients and predictive value of micro-RNA.
- ▶ L2: Effects of pectin obtained from the Canary Islands banana on mitochondrial biogenesis

## Group members

- **Álvarez-Sala Walther, Luis Antonio:** R4. Leading Researcher.
- **Amodeo Oblitas, Christian Mario:** R1. First Stage Researcher.
- **Bello Martínez, Elena.**
- **Cabrera Aguilar, Francisco Javier.**
- **Conthe Gutiérrez, Pedro.**
- **De Miguel Yanes, Jose M<sup>a</sup>.**
- **Del Toro Cervera, Jorge.**
- **Demelo Rodríguez, Pablo.**
- **Galeano Valle, Francisco.**
- **Millán Núñez-Cortés, Jesús.**
- **Moragón Ledesma, Sergio.**
- **Ordieres Ortega, Lucía:** R1. First Stage Researcher.
- **Pérez de Oteyza, Carlos.**
- **Pérez Rus, Gloria.**
- **Recarte García-Andrade, Carlos.**
- **Toledo Samaniego, Nerea:** R1. First Stage Researcher.
- **Torres do Rego, Ana.**
- **Valdés Gross, Inés.**

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Predicción de complicaciones precoces en pacientes con embolia pulmonar aguda sintomática mediante mención de selectina-P plasmática y otros biomarcadores inflamatorios y cardiacos en sangre.** FERP21/01

Director: Álvarez-Sala Walther, Luis Antonio

Project type: Research project

Funding body: Fundación Eugenio Rodríguez Pascual

Start date: 01/01/2022

End date: 31/12/2023

## Publications

Total Impact Factor: 70,7

|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 10        | 23,0        |
| Joint publications                                     | 13        | 47,7        |
| First decile publications                              | 2         | 0,0         |
| First quartile publications                            | 12        | 49,7        |
| Second quartile publications                           | 4         | 10,7        |
| Third quartile publications                            | 5         | 9,2         |
| Fourth quartile publications                           | 2         | 1,1         |
| Nonindexed publications/No IF                          | 5         | –           |
| <b>Total publications (including those without IF)</b> | <b>28</b> | <b>70,7</b> |



## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Mora, D; Mateo, J; Nieto, JA; Bikdeli, B; Yamashita, Y; Barco, S; Jiménez, D; Demelo-Rodríguez, P; Rosa, V; Yoo, HHB; Sadeghipour, P; Monreal, M. *Machine learning to predict major bleeding during anticoagulation for venous thromboembolism: possibilities and limitations*. BRITISH JOURNAL OF HAEMATOLOGY. 2023; 201(5) 971-981. FI: 5.1. Quartile: 1. (Article).
- López-de-Andrés A; Jiménez-García R; Hernández-Barrera V; Carabantes-Alarcon D; Zamorano-Leon JJ; Palanco RO; Del-Barrio JL; de-Miguel-Díez J; de-Miguel-Yanes JM; Cuadrado-Corrales N. *Temporal trends and outcomes of heart transplantation in Spain (2002-2021): propensity score matching analysis to compare patients with and without type 2 diabetes*. CARDIOVASCULAR DIABETOLOGY. 2023; 22(1) 266-266. FI: 8.5. Quartile: 1. (Article).
- Pascual, V; Díaz, J; Núñez-Cortés, J; Pérez-Martínez, P. *Nutritional recommendations in the prevention and treatment of atherogenic dyslipidemia*. CLINICA E INVESTIGACION EN ARTERIOSCLEROSIS. 2023; 35(3) 155-163. FI: 1.9. Quartile: 3. (Article).
- Pinto, X; Fanlo, M; Esteve, V; Millan, J; Grp Trabajo Dislipemia Aterogenica; Soc Espanola Arteriosclerosis SEA. *Remnant cholesterol, vascular risk, and prevention of atherosclerosis*. CLINICA E INVESTIGACION EN ARTERIOSCLEROSIS. 2023; 35(4) 206-217. FI: 1.9. Quartile: 3. (Review).
- Nazara, C; Argueeso, RM; Pedro-Botet, J; Pinto, X; Millan, J; Seijo, MP; Fernández, PA; Ameneiros, ME; del Álamo, A; Rodríguez, A; Díaz-Peromingo, JA; Freire, MRV; Muniz, J; Pérez-Castro, TR; Díaz-Díaz, JL; Reino, AP. *Prevalence of atherogenic dyslipidemia, related factors and level of lipid control in the general population of Galicia. GALIPEMIAS study*. CLINICA E INVESTIGACION EN ARTERIOSCLEROSIS. 2023; 35(4) 178-184. FI: 1.9. Quartile: 3. (Article).
- García, TPP; Pérez, SC; Ordieres-Ortega, L. *Tuberous sclerosis*. GALICIA CLINICA. 2023; 84(3). FI: 0.1. Quartile: 4. (Article).
- Demelo-Rodríguez, P; Galeano-Valle, F; Proietti, M. *Use of Oral Anticoagulant Drugs in Patients with Pulmonary Hypertension*. HEART FAILURE CLINICS. 2023; 19(1) 97-106. FI: 2.5. Quartile: 2. (Article).
- Lozano-Ros, A; Martínez-Ginés, ML; García-Domínguez, JM; Salvador-Martín, S; Goicochea-Briceño, H; Cuello, JP; Meldaña-Rivera, A; Higuera-Hernández, Y; Sanjurjo-Sáez, M; Álvarez-Sala-Walther, LA; López-Fernández, LA. *Changes in the Expression of TGF-Beta Regulatory Pathway Genes Induced by Vitamin D in Patients with Relapsing-Remitting Multiple Sclerosis*. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(19). FI: 4.9. Quartile: 1. (Article).
- Prieto-García, A; Peligros, MI; Tamayo, IP; Zubeldia, JM; Álvarez-Sala, L; Lavilla, C. *Long-term use of mepolizumab in a case of chronic eosinophilic pneumonia: extending interval dosing*. JOURNAL OF ASTHMA. 2023; 61(1) 69-71. FI: 1.7. Quartile: 3. (Editorial Material).
- Marco-Benedí, V; Cenarro, A; Vila, A; Real, JT; Tamarit, JJ; Walther, LAAS; Díaz-Díaz, JL; Perea, V; Civeira, F; Vaz, AJV. *Impact of conducting a genetic study on the management of familial hypercholesterolemia*. JOURNAL OF CLINICAL LIPIDOLOGY. 2023; 17(6) 717-731. FI: 3.6. Quartile: 2. (Article).
- Lorenzo-Almoros, A; Cerrada, JC; Walther, LAAS; Bailon, MM; González, OL. *Atrial Fibrillation and Diabetes Mellitus: Dangerous Liaisons or Innocent Bystanders?*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(8). FI: 3. Quartile: 1. (Review).
- de-Miguel-Yanes, JM; López-de-Andrés, A; Jiménez-García, R; Zamorano-Leon, JJ; Carabantes-Alarcon, D; Hernández-Barrera, V; De-Miguel-Díez, J; Carricondo, F; Romero-Gómez, B; Cuadrado-Corrales, N. *Observational Study of the Association between Atrial Fibrillation and In-Hospital Mortality during Hospitalization for Solid Organ Transplants in Spain from 2004 to 2021*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(22). FI: 3. Quartile: 1. (Article).
- Breton, I; Ballesteros-Pomar, MD; Calle-Pascual, A; Álvarez-Sala, LA; Rubio-Herrera, MA. *Micronutrients in Pregnancy after Bariatric Surgery: A Narrative Review*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(16). FI: 3. Quartile: 1. (Review).
- De-Miguel-Yanes, JM; López-de-Andrés, A; Jiménez-García, R; Zamorano-Leon, JJ; Carabantes-Alarcon, D; Omana-Palanco, R; Hernández-Barrera, V; del-Barrio, JL; de-Miguel-Díez, J; Cuadrado-Corrales, N. *Association between Hospital-Acquired Pneumonia and In-Hospital Mortality in Solid*



*Organ Transplant Admissions: An Observational Analysis in Spain, 2004-2021.* JOURNAL OF CLINICAL MEDICINE. 2023; 12(17). FI: 3. Quartile: 1. (Article).

- Huespe, IA; Ferraris, A; Lalueza, A; Valdez, PR; Peroni, ML; Cayetti, LA; Mirofsky, MA; Boietti, B; Gómez-Huelgas, R; Casas-Rojo, JM; Anton-Santos, JM; Núñez-Cortés, JM; Lumberras, C; Ramos-Rincon, JM; Barrio, NG; Pedrera-Jiménez, M; Martín-Escalante, MD;. *COVID-19 vaccines reduce mortality in hospitalized patients with oxygen requirements: Differences between vaccine subtypes. A multicontinental cohort study.* JOURNAL OF MEDICAL VIROLOGY. 2023; 95(5). FI: 6.8. Quartile: 1. (Article).
- Oblitas, CM; Santos-Martínez, A; Moreno-Mijares, S; Cuenca-Carvajal, C. «Weight Loss Syndrome»: A Case of Olmesartan-Associated Enteropathy. JOURNAL OF PHARMACY PRACTICE. 2023; 36(1) 7-9. FI: 1. Quartile: 4. (Letter).
- Climent, E; Millan, J; Ascaso, JF; Suárez-Tembra, M; Morillas, C; Civeira, F; Bellon, JM; Pedro-Botet, J. *Atherogenic dyslipidaemia in type 2 diabetes mellitus: The PREDISAT study.* LIPIDS. 2023; 58(4) 197-206. FI: 1.8. Quartile: 3. (Article).
- Demelo-Rodríguez P; López-Rubio M; Oblitas CM; Lago-Rodríguez MO; Gálvez-Rojas-Martín L; Galeano-Valle F. *Clinical characteristics and presentation form in patients with venous thromboembolism and negative or weakly positive D-dimer.* MEDICINA CLINICA. 2023; 160(6) 253-257. FI: 2.6. Quartile: 1. (Article).
- Demelo-Rodríguez, P; Ordieres-Ortega, L; Oblitas, CM. *Mesenteric venous thrombosis.* MEDICINA CLINICA. 2023; 160(9) 400-406. FI: 2.6. Quartile: 1. (Review).
- Demelo-Rodríguez, P; Alonso-Beato, R; Jara-Palomares, L; Galeano-Valle, F; Bura-Riviere, A; Visonà, A; Francisco, I; Vidal, G; López-Ruiz, A; Monreal, M. *COVID-19-associated venous thromboembolism: risk of recurrence and major bleeding.* RESEARCH AND PRACTICE IN THROMBOSIS AND HAEMOSTASIS. 2023; 7(7). FI: 3.4. Quartile: 1. (Article).
- Gómez-Antúnez, M; Muino-Miguez, A; Bacete-Cebrian, M; Rubio-Rivas, M; Ramos, JML; Tejido, SD; Peris-García, J; López-Caleya, JF; Casas-Rojo, JM; Núñez-Cortés, JM. *Patients with COPD hospitalized due to*

*COVID-19 in Spain: a comparison between the first and second wave.* REVISTA CLINICA ESPAÑOLA. 2023; 223(5) 298-309. FI: 2.3. Quartile: 2. (Article).

- Galeano-Valle, F; Oblitas, CM; González-San-Narciso, C; Esteban-San-Narciso, B; Lafuente-Gómez, G; Demelo-Rodríguez, P. *Cerebral venous thrombosis in adults: A case series of 35 patients from a tertiary hospital.* REVISTA CLINICA ESPAÑOLA. 2023; 223(7) 423-432. FI: 2.3. Quartile: 2. (Article).
- Casas-Rojo, JM; Antón-Santos, JM; Millán-Núñez-Cortés, J; Gómez-Huelgas, R; Ramos-Rincón, JM; Rubio-Rivas, M; Corrales-González, MA; Fernández-Madera-Martínez, MR; Beato-Pérez, JL; Arnalich-Fernández, F; Gállego-Lezaun, C; Pérez-Martínez, P; Molinos-Castr. *Mortality reduction in older COVID-19-patients hospitalized in Spain during the second pandemic wave from the SEMI-COVID-19 Registry.* SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- López-de-Andrés, A; Jiménez-García, R; Carabantes-Alarcon, D; Hernández-Barrera, V; De-Miguel-Yanes, JM; De-Miguel-Diez, J; Zamorano-Leon, JJ; Del-Barrio, JL; Cuadrado-Corrales, N. *Use of Cardiac Procedures in People with Diabetes during the COVID Pandemic in Spain: Effects on the In-Hospital Mortality.* INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH. 2023; 20(1). (Article).

## Other publications

- López-Rubio M; Gómez-Tórtola A; Sousa-Casasnovas I; García-Carreño J; Vales-Montero M; Oblitas CM; Demelo-Rodríguez P; Galeano-Valle F. *A Rare Case of Stroke as a Complication After Percutaneous Mechanical Thrombectomy in a Patient with Intermediate-High Risk Pulmonary Embolism and Patent Foramen Ovale.* EUROPEAN JOURNAL OF CASE REPORTS IN INTERNAL MEDICINE. 2023; 10(7) 3816-3816. (Article).
- Alonso-Beato R; Lago-Rodríguez MO; López-Rubio M; Gómez-Tórtola A; García-Fernández-Bravo I; Oblitas CM; Galeano-Valle F; Demelo-



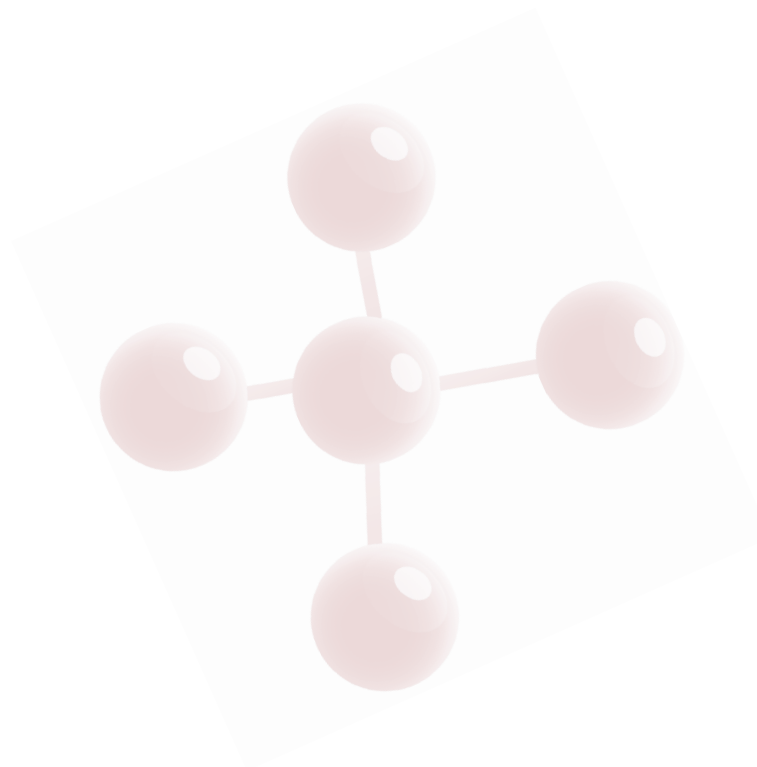


Rodríguez P. *Riesgo de recurrencia de la trombosis en pacientes con tromboembolia venosa asociada a COVID-19 y a cirugía*. REVISTA CLINICA ESPAÑOLA. 2023; 223(5) 255-261. (Article).

- Gómez-Antúnez M; Muiño-Míguez A; Bacete-Cebrián M; Rubio-Rivas M; Lebrón Ramos JM; de Cossío Tejido S; Peris-García JJ; López-Caleya JF; Casas-Rojo JM; Millán Núñez-Cortés J. *Patients with COPD hospitalized due to COVID-19 in Spain: a comparison between the first*

*and second wave*. REVISTA CLÍNICA ESPAÑOLA. 2023; 223(5) 298-309. (Article).

- Alonso-Beato R; Lago-Rodríguez MO; López-Rubio M; Gómez-Tórtola A; García-Fernández-Bravo I; Oblitas CM; Galeano-Valle F; Demelo-Rodríguez P. *Risk of thrombosis recurrence among patients with COVID-19 and surgery-associated venous thromboembolism*. REVISTA CLÍNICA ESPAÑOLA. 2023; 223(5) 255-261. (Article).







Group Director: **ANTONIO GIL NÚÑEZ**

Organisms involved: **HGUGM**

Type: **Emerging group**

## Research lines

- ▶ L1: Epidemiologic, clinical, and therapeutic aspects of cerebral ischemic disease.
- ▶ L2: WEBICTUS II
- ▶ L3: Diagnosis and therapy in cardioembolic cerebral ischemia.
- ▶ L4: CAOS study
- ▶ L5: Neurologic intervention in acute stroke.
- ▶ L6: Teleictus for area.
- ▶ L7: Study on stroke code for delay times
- ▶ L8: ESUS GM study
- ▶ L9: Implementation of IV thrombolysis in central retinal artery occlusion
- ▶ L10: TechnoNoteplase Implantation in IV Thrombolysis
- ▶ L11: Advanced Practice Nurse for Continued Care in Secondary Prevention

**R**esearch group of the Vascular Neurology Section - Stroke Center on all aspects of cerebrovascular disease with participation in multidisciplinary and multicenter studies

## Group members

- **Díaz Otero, Fernando:** R2. Recognised Researcher.
- **Fernández Bullido, Yolanda:** R2. Recognised Researcher.
- **García Pastor, Andrés:** R3. Established Researcher.
- **Gil Nuñez, Antonio:** R4. Leading Researcher.
- **Iglesias Mohedano, Ana María:** R3. Established Researcher.
- **Vales Montero, Marta:** R3. Established Researcher.
- **Vázquez Alen, Pilar:** R2. Recognised Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Publications

Total Impact Factor: 17,8

|                                                        | Nº       | IF          |
|--------------------------------------------------------|----------|-------------|
| Own publications                                       | 1        | 5,7         |
| Joint publications                                     | 3        | 12,1        |
| First decile publications                              | 2        | 0,0         |
| First quartile publications                            | 2        | 13,4        |
| Second quartile publications                           | 2        | 4,4         |
| Third quartile publications                            | 0        | 0,0         |
| Fourth quartile publications                           | 0        | 0,0         |
| Nonindexed publications/No IF                          | 2        | –           |
| <b>Total publications (including those without IF)</b> | <b>6</b> | <b>17,8</b> |



**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- de Castro, PD; López, MV; Núñez, AG; Pascual, AC; Herrero, MCM. Acute recanalization treatments in postnatal paediatric ischaemic arterial stroke. Paediatric stroke code. ANALES DE PEDIATRIA. 2023; 99(1) 44-53. FI: 1.5. Quartile: 2. (Article).
- García-Pastor, A; Iglesias-Mohedano, A; Gil-Núñez, A. The Impact of Full Collapse on the Risk of Ischaemic Stroke in Patients with Carotid Near Occlusion. EUROPEAN JOURNAL OF VASCULAR AND ENDOVASCULAR SURGERY. 2023; 66(1) 4-6. FI: 5.7. Quartile: 1. (Editorial Material).
- Gutiérrez-Zuniga, R; Lecinana, MAD; Delgado-Mederos, R; Gallego-Cullere, J; Rodríguez-Yanez, M; Martínez-Zabaleta, M; Freijo, M; Portilla, JC; Gil-Núñez, A; Sebastian, JD; Lisbona, A; Díez-Tejedor, E; Fuentes, B. Beyond hyperglycemia: glycaemic variability as a prognostic factor after acute ischemic stroke. NEUROLOGIA. 2023; 38(3) 150-158. FI: 2.9. Quartile: 2. (Article).
- Marto JP; Strambo D; Ntaios G; Nguyen TN; Herzig R; Czlonkowska A; Demeestere J; Mansour OY; Salerno A; Wegener S; Baumgartner P; Cereda CW; Bianco G; Beyeler M; Arnold M; Carrera E; Machi P;

Altersberger V; Bonati L; Gensicke H; Bolognese M; Peters N; We. Safety and Outcome of Revascularization Treatment in Patients With Acute Ischemic Stroke and COVID-19 The Global COVID-19 Stroke Registry. NEUROLOGY. 2023; 100(7) 739-750. FI: 7.7. Quartile: 1. (Article).

**Other publications**

- López-Rubio M; Gómez-Tórtola A; Sousa-Casasnovas I; García-Carreño J; Vales-Montero M; Oblitas CM; Demelo-Rodríguez P; Galeano-Valle F. A Rare Case of Stroke as a Complication After Percutaneous Mechanical Thrombectomy in a Patient with Intermediate-High Risk Pulmonary Embolism and Patent Foramen Ovale. EUROPEAN JOURNAL OF CASE REPORTS IN INTERNAL MEDICINE. 2023; 10(7) 3816-3816. (Article).
- Gutiérrez-Zúñiga R; Alonso de Leciñana M; Delgado-Mederos R; Gállego-Cullere J; Rodríguez-Yáñez M; Martínez-Zabaleta M; Freijo M; Portilla JC; Gil-Núñez A; Díez Sebastián J; Lisbona A; Díez-Tejedor E; Fuentes B. Beyond hyperglycemia: glycaemic variability as a prognostic factor after acute ischemic stroke. NEUROLOGIA (BARCELONA, SPAIN). 2023; 38(3) 150-158. (Article).



# AREA 3

## NEUROSCIENCE AND MENTAL HEALTH

*Area coordinator:*  
**Celso Arango López**

One of the main research lines in the area of neuroscience is the study of the etiology and pathogenesis of neurodevelopmental disorders, such as autism spectrum disorders, schizophrenia, and other psychotic disorders.

The psychiatry group of this area participates and collaborates in national and international multicenter projects associated with environmental and genetic risk factors, functional and structural imaging studies, and intermediate mechanisms such as the search for endophenotypes and the biological bases of neuropsychology.

The relevance of the work carried out resides in the group's ability to perform longitudinal studies of unusual types of patients, such as those with early-onset first psychotic episodes or children and adolescents at risk of severe psychiatric disease. Research to date has been multidisciplinary and translational and oriented toward resolving findings associated with the clinical activity of these diseases. In fact, currently established clinical programs for these diseases are being investigated

and benefiting from close coordination between clinical practice and research. One of the main associated research lines concerns developmental neuropsychopharmacology, which includes projects on pharmacogenetics and pharmacovigilance, as well as phase II/III clinical trials financed using competitive public funds and private funds.

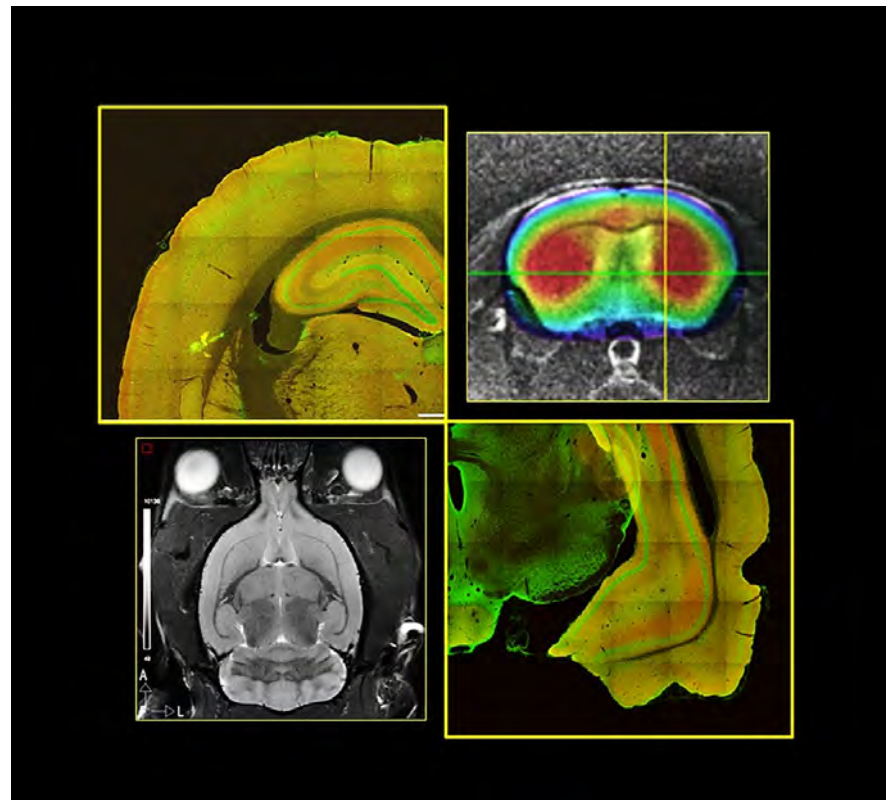
Finally, a further 2 lines of interest for this group are research on the empirical evaluation of psychotherapeutic approaches during early-onset first psychotic episodes and research into quality of services and evaluation of programs.

The success of the group has been particularly apparent in recent European calls for projects and its coordination of the Centro de Investigación Biomédica en Red de Salud Mental (CIBERSAM [Networked Center for Biomedical Research in Mental Health]). Furthermore, activity in neuroscience and mental health has been increasing in several emerging groups in fields such as neuroimmunology and movement disorders.

# Groups in AREA **3**

## NEUROSCIENCE AND MENTAL HEALTH

- ▶ 3.01. Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment
- ▶ 3.03B. Neurological diseases



Photography: Natalia Miguel Ramiro



Group Director: **CELSO ARANGO LÓPEZ**

Organisms involved: **HGUGM / UCM**

Type: **Consolidated Group**

### Research lines

#### Axis 1: Strengthening research networks and partnerships in neurosciences

- ▶ L1: Consolidation of a network for the evaluation of new therapeutic strategies in Autism Spectrum Disorders.
- ▶ L2: More efficient integration of the basic research developed at UCM and the clinical research developed at HGUGM through collaborative projects and the use of animal models.
- ▶ L3: Increasing the capacity and complementarity of our group within CIBERSAM to achieve the CIBERSAM to increase the number of samples needed to achieve significant results in collaborative studies. Achieve significant results in collaborative studies.

#### Axis 2: Consolidation of neurosciences research lines

- ▶ L1: Consolidation of the line of research into populations at high risk of developing mental disorders and neurodevelopmental disorders.
- ▶ L2: Expansion of additional sources of funding; regional, national and international.
- ▶ L3: Increase in scientific production in the Neurodevelopmental Disorders programme.
- ▶ L4: Increase scientific production in basic research.
- ▶ L5: Continue and promote translational and collaborative research in schizophrenia and other psychoses.

#### Axis 3: Consolidation of the neuroscience curriculum

- ▶ L1: Consolidation of the group's teaching plan with a stable offer of courses, stays and doctoral thesis preparation.

#### Axis 4: Consolidation of infrastructures

- ▶ L1: Expansion of the structures and equipment of the Laboratory space; consolidation of the Psychiatry Laboratory.

The group "Neurobiological and psychological bases of mental disorders. Neurodevelopmental disorders", led by Dr. Celso Arango, has developed a prolific research activity in collaboration with national and international groups in recent years. This group is one of the few that has achieved international recognition in the field of childhood- and adolescent-onset schizophrenia and early-onset psychosis, as well as in neuropsychopharmacology in neurodevelopmental disorders. The quality of its scientific output is reflected in the number of externally evaluated projects funded by competitive calls from public and private institutions, predoctoral and postdoctoral researchers with contracts financed by competitive public funds, publications and collaborations, including the development of several novel lines of research in collaboration with other departments of the Hospital and the IISGM (e.g. biochemistry, medical imaging, experimental medicine, cardiology, genetics and nutrition, among others).

The research team also has extensive experience in research training through a systematic training scheme with regular quality controls as part of the EFQM quality assurance programme implemented in the Department of Child and Adolescent Psychiatry, Institute of Psychiatry and Mental Health, which has achieved a "+500" rating in the EFQM programme.

Several members of the group participate or have participated in 10 projects funded by the European Union's Seventh Framework Programme, including one project funded by the "European Funding Network for Neuroscience Research (ERANET-NEURON)", 3 projects funded by the Horizon 2020 Innovative Medicines Call, 4 under the Staying Healthy programme (2021) and four projects funded by the US National Institute of Health (NIH).

The group has published numerous articles in high impact journals (e.g. Nature, Nature Genetics, PNAS, American Journal of Psychiatry, JAMA, Lancet Psychiatry, British Journal of Psychiatry, Schizophrenia Bulletin, Journal of the American Academy of Child and Adolescent Psychiatry, etc.) in the fields of schizophrenia, autism spectrum disorders and other neurodevelopmental disorders. His scientific activity has also been translated into clinical practice through several clinical trials and the development and publication of clinical practice guidelines for the management of children and adolescents with neurodevelopmental disorders and other conditions such as psychosis, bipolar disorder and autism spectrum disorder.

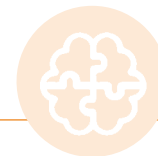


### Group members

- **Abregu Crespo, Renzo:** R1. First Stage Researcher.
- **Abrokwa Acheampong, Hayford:** R1. First Stage Researcher.
- **Andrés Camazón, Pablo:** R1. First Stage Researcher.
- **Andreu Bernabeu, Álvaro:** R1. First Stage Researcher.
- **Arango López, Celso:** R4. Leading Researcher.
- **Arango Victoria, Manuel Jovino.**
- **Ayora Rodríguez, Miriam Valle:** R1. First Stage Researcher.
- **Baeza Muñoz, Cristina:** R1. First Stage Researcher.
- **Baltasar Tello, Itziar:** R1. First Stage Researcher.
- **Barcenilla González, Miguel Ángel.**
- **Barrigón Estevez, María Luisa:** R2. Recognised Researcher.
- **Boada Muñoz, Leticia:** R1. First Stage Researcher.
- **Boi, Sara:** R1. First Stage Researcher.
- **Bravo Sánchez, Marta:** R1. First Stage Researcher.
- **Burdeus Olavarrieta, Mónica:** R1. First Stage Researcher.
- **Calvo Calvo, Ana Belén:** R2. Recognised Researcher.
- **Camacho Rubio, Javier:** R1. First Stage Researcher.
- **Carballo Belloso, Juan José:** R3. Established Researcher.
- **Caserini, Chiara:** R1. First Stage Researcher.
- **Cavone, Vito:** R1. First Stage Researcher.
- **Cerezo Román, Lourdes:** R1. First Stage Researcher.
- **Civeira Marín, Ignacio:** R1. First Stage Researcher.
- **Colomar Molla, Laura:** R1. First Stage Researcher.
- **Conejo Galindo, Javier:** R1. First Stage Researcher.
- **Corral Zarapuz, Azucena.**
- **Cotobal Martín, Francisco Javier:** R2. Recognised Researcher.
- **Cuesta Santamaría, María Luisa:** R1. First Stage Researcher.
- **Cunillera Llorente, Alicia:** R1. First Stage Researcher.
- **De Diego Ruiz, Héctor:** R1. First Stage Researcher.
- **De Fresno Cerezo, Rafael:** R1. First Stage Researcher.
- **De Matteis, Mario:** R1. First Stage Researcher.
- **De Portugal Fernández del Rivero, Enrique:** R2. Recognised Researcher.

- **Delgado Lacosta, Carlos:** R2. Recognised Researcher.
- **Dorado Martínez, María Luisa:** R2. Recognised Researcher.
- **Durán Cutilla, Manuel:** R1. First Stage Researcher.
- **Echevarría Bruno, Ana:** R1. First Stage Researcher.
- **Esguevillas Cuesta, Álvaro:** R2. Recognised Researcher.
- **Espliego Felipe, Ana:** R1. First Stage Researcher.
- **Fadón Martín, Patricia:** R1. First Stage Researcher.
- **Fernández Vallejo, Inés:** R1. First Stage Researcher.
- **Ferre Navarrete, Francisco:** R3. Established Researcher.
- **Ferrer Quintero, Marta:** R2. Recognised Researcher.
- **Galván García, Joaquín:** R1. First Stage Researcher.
- **García Alcón, Alicia:** R2. Recognised Researcher.
- **García Cabeza, Ignacio:** R2. Recognised Researcher.
- **Garibi Pérez, Ainhoa:** R2. Recognised Researcher.
- **Garriz Luis, Alexandra:** R1. First Stage Researcher.
- **Gil Molina, Santiago:** R2. Recognised Researcher.
- **González Lois, Noemí:** R1. First Stage Researcher.
- **González Luis, Julio:** R2. Recognised Researcher.
- **González Peñas, Javier:** R2. Recognised Researcher.
- **Guil Gallego, Ana:** R1. First Stage Researcher.
- **Gurriarán Bas, Xaquín:** R2. Recognised Researcher.
- **Hernández Álvarez, Fabian:** R1. First Stage Researcher.
- **Hernández Jurdado, Patricia:** R2. Recognised Researcher.
- **Hoddan Caudevilla, Ricardo Miguel:** R2. Recognised Researcher.
- **Huertas Patón, Abigail:** R1. First Stage Researcher.
- **Huete Diego, Miguel A.**
- **Janssen Jeucken, Joost:** R3. Established Researcher.
- **Laorden Nieto, Alejandra Teresa:** R2. Recognised Researcher.
- **Llorente Sarabia, Cloe:** R1. First Stage Researcher.
- **Logo Lendo, Nermína:** R1. First Stage Researcher.
- **López Moreno, Laura:** R1. First Stage Researcher.
- **López Morinigo, Javier David:** R2. Recognised Researcher.
- **Lucas Sánchez, María:** R1. First Stage Researcher.

Continued on next page



### Group members (Cont.)

- **Magaz Muñoz, Ana María:** R1. First Stage Researcher.
- **Marín Camuñas, Ana María:** R1. First Stage Researcher.
- **Martín Martínez, Nuria:** R1. First Stage Researcher.
- **Martín Rodríguez, Lucía:** R1. First Stage Researcher.
- **Martínez Díaz-Caneja, María Covadonga:** R3. Established Researcher.
- **Martínez Rodríguez, Kenia:** R2. Recognised Researcher.
- **Martínez Villar, Sofía:** R1. First Stage Researcher.
- **Mayoral Aragón, María:** R2. Recognised Researcher.
- **Mendez Hernández, María Andreína:** R2. Recognised Researcher.
- **Merchán Naranjo, Jessica:** R2. Recognised Researcher.
- **Merchán Ribera, Susana.**
- **Monleón Pérez, Nieves:** R1. First Stage Researcher.
- **Mora Perdiguero, Alberto:** R1. First Stage Researcher.
- **Morán Moya, Purificación.**
- **Moreno Ruiz, Carmen:** R3. Established Researcher.
- **Morillas Muñoz, Aida:** R1. First Stage Researcher.
- **Mota Molina, Macarena:** R1. First Stage Researcher.
- **Munilla Suárez, Estrella:** R1. First Stage Researcher.
- **Obeso Martín, Ignacio:** R3. Established Researcher.
- **Olmeda García, María Soledad:** R1. First Stage Researcher.
- **Ordás Díaz, Celia:** R1. First Stage Researcher.
- **Panadero Gómez, Rocío:** R1. First Stage Researcher.
- **Parellada Redondo, María José:** R3. Established Researcher.
- **Parrilla Carrasco, Sara:** R1. First Stage Researcher.
- **Parro Torres, Carlos:** R2. Recognised Researcher.
- **Penzol Alonso, María José:** R1. First Stage Researcher.
- **Peña Granger, María Mercedes:** R1. First Stage Researcher.
- **Picouto González, María Dolores:** R2. Recognised Researcher.
- **Pina Camacho, Laura:** R3. Established Researcher.
- **Ramírez Cardesín, María.**
- **Rapado Castro, Marta:** R3. Established Researcher.
- **Recio Lamparero, Sandra.**

- **Rivas Cambronero, Eva:** R1. First Stage Researcher.
- **Rivas Rodríguez, María del Mar.**
- **Rodríguez Castro, Raquel:** R1. First Stage Researcher.
- **Rodríguez Latorre, Pamela.**
- **Rodríguez Toscano, Elisa:** R2. Recognised Researcher.
- **Rojas Olmos, Julián Francisco.**
- **Roldán Díaz, Laura:** R2. Recognised Researcher.
- **Romero Polonio, Cristina:** R1. First Stage Researcher.
- **Roncero Rodríguez, María Soledad:** R1. First Stage Researcher.
- **Salas Pérez, Sara.**
- **Salazar de Pablo, Gonzalo:** R2. Recognised Researcher.
- **San José Cáceres, Antonia:** R2. Recognised Researcher.
- **Sánchez Cámara, Ana:** R1. First Stage Researcher.
- **Sánchez Díaz, Emilio Ignacio:** R1. First Stage Researcher.
- **Sánchez Gutiérrez, Teresa:** R2. Recognised Researcher.
- **Santos Fernández, Laura:** R1. First Stage Researcher.
- **Schnack, Hugo:** R2. Recognised Researcher.
- **Sepúlveda Palomo, Marta:** R1. First Stage Researcher.
- **Sevilla Cermeño, Laura:** R2. Recognised Researcher.
- **Sevillano Bermejo, Ana.**
- **Sipos Gálvez, Lourdes:** R1. First Stage Researcher.
- **Solis Olcese, Andrea Ximena:** R1. First Stage Researcher.
- **Stella, Carol:** R1. First Stage Researcher.
- **Szerman Bolotner, Néstor:** R1. First Stage Researcher.
- **Torrero Alía, María.**
- **Urbiola Merina, Elena:** R1. First Stage Researcher.
- **Valencia Agudo, Fátima:** R1. First Stage Researcher.
- **Verdura Vizcaíno, José Ernesto:** R2. Recognised Researcher.
- **Vicente Moreno, Raquel Pilar:** R1. First Stage Researcher.
- **Vicente Sánchez, Isabel:** R1. First Stage Researcher.
- **Vidal de la Fuente, Jorge:** R1. First Stage Researcher.





### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | 3                       |            |                    |            |
| European      | 6                       |            |                    |            |
| National      | 14                      |            | 9                  | 1          |
| Regional      |                         |            |                    |            |

- Title: **Laboratory for Early Psychosis Research (LEAP)**. NIH-2021/FEP-CAUSAL  
Director: Arango López, Celso  
Project type: Research project  
Funding body: National Institutes of Health (NIH)  
Start date: 01/11/2021  
End date: 30/06/2023
- Title: **ProNET: Psychosis-Risk Outcomes Network**. NIH-2020/ProNet  
Director: Arango López, Celso  
Project type: Research project  
Funding body: National Institutes of Health (NIH)  
Start date: 08/09/2020  
End date: 30/06/2025
- Title: **The impact of social isolation on aging health in schizophrenia**. NIH-2022/Aging  
Director: Arango López, Celso  
Project type: Research project  
Funding body: National Institutes of Health (NIH)  
Start date: 15/08/2022  
End date: 31/05/2027
- Title: **BOOTSTRAP. Boosting Societal Adaptation and Mental Health in a Rapidly Digitalising, Post-Pandemic. Europe**. HE BOOTSTRAP 101080238-1  
Director: Moreno Ruiz, Carmen  
Project type: European research project  
Funding body: EU/PRG. MARCO

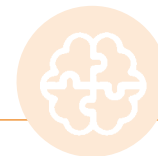
Start date: 01/07/2023

End date: 30/06/2028

- Title: **Collaborative Network for European Clinical Trials For Children ("c4c")**. H2020 c4c-777389  
Director: Moreno Ruiz, Carmen  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/05/2019  
End date: 30/04/2025
- Title: **FAMILY: Running in the FAMILY - Understanding and predicting the intergenerational transmission of mental illness**. HE FAMILY 101057529  
Director: Moreno Ruiz, Carmen  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/10/2022  
End date: 30/09/2027
- Title: **H2020 Autism Innovative Medicine Studies – 2 – Trials. The overall goal of this project is to improve patient outcomes. To do this we will create a pipeline for developing, testing and implementing new treatments for ASD with stakeholder involvement at each stage.** H2020 AIMS-2-TRIALS  
Director: Arango López, Celso  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/05/2018  
End date: 31/05/2025
- Title: **Psych-STRATA: Stratified Treatment Algorithm in Psychiatry: A program on stratified pharmacogenomics in severe mental illness**. HE Psych-STRATA 101057454  
Director: Moreno Ruiz, Carmen  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/10/2022  
End date: 30/09/2027



- Title: **Youth-GEMs: Gene Environment interactions in Mental health trajectories of Youth.** HE Youth-GEMs 101057182  
 Director: Martínez Díaz-Caneja, María Covadonga / Arango López, Celso  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/06/2022  
 End date: 31/05/2027
- Title: **Interacciones genes-ambiente en las trayectorias de salud mental de los jóvenes.** PI22/01824  
 Director: Arango López, Celso  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
- Title: **Utilizando modelado normativo longitudinal para el análisis de subgrupos de pacientes con primero episodio psicosis.** PI22/01621  
 Director: Janssen Jeucken, Joost  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
- Title: **Bases etiopatológicas de la disregulación emocional en adolescentes con depresión.** PI21/01929  
 Director: Moreno Ruiz, Carmen  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: **Identificando los correlatos de neuroimagen de la función ejecutiva a lo largo del continuum de la psicosis: Un estudio en adolescentes y adultos jóvenes.** PI21/00701  
 Director: Rapado Castro, Marta  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: **Interacción Gen x ambiente en hijos de pacientes con esquizofrenia o trastorno bipolar.** PI21/01694  
 Director: Moreno Pardillo, María Dolores  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: **Estudio longitudinal de una cohorte representativa: superando la heterogeneidad clínica y biológica en primeros episodios psicóticos.** PI20/00721  
 Director: Martínez Díaz-Caneja, María Covadonga  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 30/06/2025
- Title: **Mecanismos epigénicos implicados en la génesis y curso de trastornos del neurodesarrollo en prematuros extremos: estudio de seguimiento a 4 años.** PI20/01342  
 Director: Pina Camacho, Laura  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 30/06/2025
- Title: **Bases neurobiológicas de las trayectorias diferenciales de los Trastornos del Espectro Autista.** PI20/01382  
 Director: Parellada Redondo, María José  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 30/06/2025
- Title: **Enfoque integral y traslacional para el diagnóstico genético de TEA. Caracterización clínica.** PI19/01024  
 Director: Arango López, Celso  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III



Start date: 01/01/2020

End date: 30/06/2024

- Title: **Estudio longitudinal de marcadores oxidativos y neuroinflamatorios de la función cognitiva en primeros episodios de psicosis adolescente.** PI18/00753

Director: Rapado Castro, Marta

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2019

End date: 30/06/2023

- Title: **Características comunes y diferenciales en hijos de pacientes con esquizofrenia diagnosticados de TDAH, hijos de padres sanos diagnosticados de TDAH y controles.** PI18/01119

Director: Moreno Pardillo, Maria Dolores

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2019

End date: 30/06/2023

- Title: **Estudio de seguimiento de niños y adolescentes con diabetes mellitus tipo 1: mecanismos epigenéticos y comorbilidad afectiva.** PI18/01819

Director: Carballo Belloso, Juan José

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2019

End date: 30/06/2023

- Title: **Estudio integral de variación genética y molecular de una cohorte española de trastornos del espectro autista y diseño de algoritmos de diagnóstico genético y de biotipos terapéuticos. Cohorte ESTEA.** PMP21/00051

Director: Parellada Redondo, María José

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2022

End date: 31/12/2025

- Title: **Impacto de las alteraciones del sueño en el patrón de disregulación emocional de los adolescentes con depresión, y su posible asociación con el riesgo de autolesiones.** AEPNYA22/01

Director: Sevilla Cermeño, Laura María

Project type: Research project

Funding body: Asociación Española de Psiquiatría de la Infancia y la Adolescencia (Aepnya)

Start date: 01/02/2023

End date: 31/01/2025

- Title: **Sara Borrell contract.** CD20/00118

Director: González Peñas, Javier

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 31/12/2023

- Title: **Río Hortega contract.** CM20/00114

Director: Andreu Bernabéu, Álvaro

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 29/01/2021

End date: 28/01/2023

- Title: **Juan Rodés contract.** JR19/00024

Director: Martínez Díaz-Caneja, María Covadonga

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 29/01/2020

End date: 28/01/2024

- Title: **PFIS Predoctoral contract.** FI18/00233

Director: Burdeus Olavarrieta, Mónica

Project type: Human resources

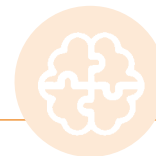
Funding body: Instituto de Salud Carlos III

Start date: 01/01/2019

End date: 31/05/2023

- Title: **Intensification contract.** INT22/00063

Director: Moreno Ruiz, Carmen



Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2023

End date: 31/12/2024

- Title: **Formación Profesorado Universitario.** FPU17/06467

Director: Colomar Molla, Laura

Project type: Human resources

Funding body: Ministerio de Economía y Hacienda

Start date: 26/10/2018

End date: 25/03/2023

- Title: **Formación Profesorado Universitario.** FPU19/06752

Director: Panadero Gómez, Rocío

Project type: Human resources

Funding body: Ministerio de Economía y Hacienda

Start date: 01/12/2021

End date: 30/11/2025

- Title: **Formación Profesorado Universitario.** FPU20/07486

Director: Abrokwa Acheampong, Hayford

Project type: Human resources

Funding body: Ministerio de Economía y Hacienda

Start date: 13/12/2021

End date: 12/12/2025

- Title: **Formación Profesorado Universitario.** FPU19/06877

Director: Martín Martínez, Nuria

Project type: Human resources

Funding body: Ministerio de Economía y Hacienda

Start date: 31/10/2020

End date: 31/10/2024

### **Not managed by the FIBHGM**

- Title: **Ramón y Cajal Contract.**

Director: Rapado Castro, Marta

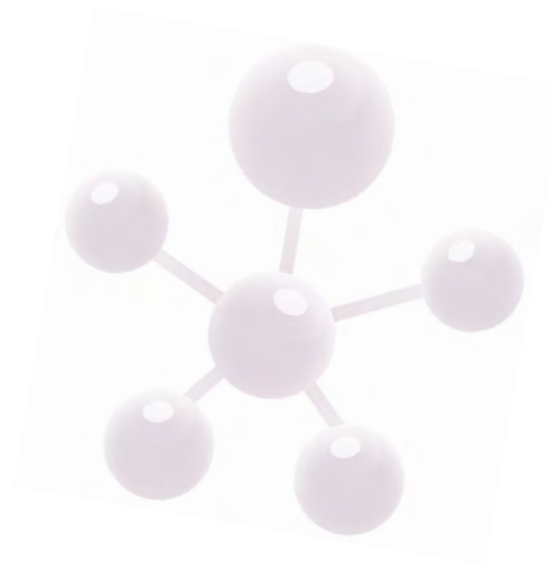
Project Type: Human Resources

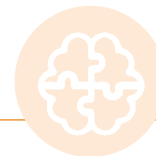
Funding Body: Micinn

End Date

### Cooperative Research Structures

| Type (RICORS, CIBER, others) | Name of Network                                      | Role                    | Code          |
|------------------------------|------------------------------------------------------|-------------------------|---------------|
| Other                        | Ambiente y genes en esquizofrenia                    | Coordinating group      | AGES-CM3      |
| CIBER                        | CIBERSAM                                             | Coordinating group      | CB/07/09/0023 |
| Other: c4c research network  | conect4children                                      | Expert advice group     | c4c           |
| Other: ECNP Network          | Networks Board and Taskforce - ECNP ECNP Network     | Thematic Working Groups |               |
| Other: ECNP Network          | Child and Adolescent Neuropsychopharmacology Network | Thematic Working Groups |               |





### Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate                 | Title                                                                                                                                      | Name/s Director/s                         | University | Date Defended |
|-----------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------|---------------|
| Ph Thesis | José Manuel Rubio Lorente | Correlatos clínicos y neurobiológicos de la recurrencia de psicosis en personas con esquizofrenia adherentes al tratamiento                | Celso Arango                              | UCM        | 16/05/2023    |
| Ph Thesis | Carol Stella              | Análisis de la variación genética de predisposición a trastornos psiquiátricos en rutas de regulación de la expresión génica por microRNAs | Celso Arango/<br>Javier González Peñas    | UCM        | 14/07/2023    |
| Ph Thesis | Aina Sastre Buades        | Cognición y conducta suicida en psicosis y depresión                                                                                       | María Luisa Barrigón/ Enrique Baca García | UAM        | 05/05/2023    |
| Ph Thesis | Fabián Hernández Álvarez  | Estrés oxidativo e inflamación en trastorno bipolar de inicio temprano                                                                     | Celso Arango/<br>Carmen Moreno            | UCM        | 01/11/2023    |
| Ph Thesis | Mónica Burdeus            | Caracterización clínica de los trastornos del neurodesarrollo asociados con sinaptopatías: El caso del síndrome de Phelan-McDermid         | María José Parellada                      | UAM        | 18/12/2023    |

### Clinical Practice Guidelines

| Authors                                                                                                                                                      | Title                                                                                                  | Journal/Reference                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Bouza E, Arango C, Moreno C, Gracia D, Martín M, Pérez V, Lázaro L, Ferre F, Salazar G, Tejerina-Picado F, Navio M, Granda Revilla J, Palomo E, Gil-Monte PR | Impact of the COVID-19 pandemic on the mental health of the general population and health care workers | Revista española de quimioterapia. Doi: 10.37201/req/018.2023. Epub 2023 Feb 21. PMID: 36800778; PMCID: PMC10066913. |

| Authors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Title                                                                                                                                                                                                   | Journal/Reference                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Cortese S, Besag FM, Clark B, Hollis C, Kilgariff J, Moreno C, Nicholls D, Wilkinson P, Woodbury-Smith M, Sharma A.                                                                                                                                                                                                                                                                                                                                                                        | Common practical questions - and answers - at the British Association for Psychopharmacology child and adolescent psychopharmacology course                                                             | Journal of psychopharmacology. Doi: 10.1177/02698811221140005. Epub 2022 Dec 7. PMID: 36476096; PMCID: PMC9912307. |
| Rojnic Kuzman M, Slade M, Puschner B, Scanferla E, Bajic Z, Courtet P, Samochowiec J, Arango C, Vahip S, Taube M, Falkai P, Dom G, Izakova L, Carpiniello B, Bellani M, Fiorillo A, Skugarevsky O, Mihaljevic-Peles A, Telles-Correia D, Novais F, Mohr P, Wancata J, Hultén M, Chkonia E, Balazs J, Beezhold J, Lien L, Mihaljovic G, Delic M, Stoppe G, Racetovic G, Babic D, Mazaliauskiene R, Cozman D, Hjerrild S, Chihai J, Flannery W, Melartin T, Maruta N, Soghoyan A, Gorwood P. | Clinical decision-making style preferences of European psychiatrists: Results from the Ambassadors survey in 38 countries                                                                               | European psychiatry. Doi: 10.1177/j.eurpsy.2022.2330. PMID: 36266742; PMCID: PMC9706307.                           |
| Mendez MA, Oakley B, Canitano R, San José-Cáceres A, Tinelli M, Knapp M, Cusack J, Parellada M, Violland P, Derk Plas JR, Canal-Bedia R, Bejarano-Martín A, Murphy DGM, Quidbach V, Arango C.                                                                                                                                                                                                                                                                                              | Autism care pathway in Europe                                                                                                                                                                           | European psychiatry. Doi: 10.1177/j.eurpsy.2023.2435. PMID: 37694810; PMCID: PMC10594203.                          |
| Arango C, Fagioli A, Gorwood P, Kane JM, Díaz-Mendoza S, Sahota N, Correll CU.                                                                                                                                                                                                                                                                                                                                                                                                             | Delphi panel to obtain clinical consensus about using long-acting injectable antipsychotics to treat first-episode and early-phase schizophrenia: treatment goals and approaches to functional recovery | BMC Psychiatry. Doi: 10.1186/s12888-023-04928-0. PMID: 37344763; PMCID: PMC10286361.                               |
| van Eeghen AM, Stemkens D, Fernández-Fructuoso JR, Maruani A, Hadzsiev K; ERN ITHACA Guideline Working Group; European Phelan-McDermid syndrome guideline consortium; van Balkom IDC.                                                                                                                                                                                                                                                                                                      | Consensus recommendations on organization of care for individuals with Phelan-McDermid syndrome                                                                                                         | European journal of medical genetics. Doi: 10.1016/j.ejmg.2023.104747. Epub 2023 Mar 30. PMID: 37003574.           |
| San José Cáceres A, Landlust AM, Carbin JM; European Phelan-McDermid Syndrome consortium; Loth E.                                                                                                                                                                                                                                                                                                                                                                                          | Consensus recommendations on sleeping problems in Phelan-McDermid syndrome                                                                                                                              | European journal of medical genetics. Doi: 10.1016/j.ejmg.2023.104750. Epub 2023 Mar 23. PMID: 36963463.           |



| Publications                                           | Total Impact Factor: 659,1 |              |
|--------------------------------------------------------|----------------------------|--------------|
|                                                        | Nº                         | IF           |
| Own publications                                       | 27                         | 129,4        |
| Joint publications                                     | 73                         | 529,7        |
| First decile publications                              | 52                         | 0,0          |
| First quartile publications                            | 72                         | 590,1        |
| Second quartile publications                           | 19                         | 52,6         |
| Third quartile publications                            | 8                          | 15,4         |
| Fourth quartile publications                           | 1                          | 1,0          |
| Nonindexed publications/No IF                          | 8                          | —            |
| <b>Total publications (including those without IF)</b> | <b>108</b>                 | <b>659,1</b> |

#### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Verdolini, N; Mezquida, G; Valli, I; García-Rizo, C; Cuesta, M; Vieta, E; Bioque, M; Lobo, A; González-Pinto, A; Pina-Camacho, L; Corripio, I; Garriga, M; Baeza, I; Martínez-Sadurni, L; Bitanirwe, B; Cannon, M; Bernardo, M. *Obstetric complications and clinical presentation in first episode of psychosis*. ACTA NEUROPSYCHIATRICA. 2023; 35(3) 156-164. FI: 2.6. Quartile: 2. (Article).
- Valli, I; Segura, AG; Verdolini, N; García-Rizo, C; Berge, D; Baeza, I; Cuesta, MJ; González-Pinto, A; Lobo, A; Martínez-Aran, A; Mezquida, G; Pina-Camacho, L; Bejarano, AR; Mas, S; McGuire, P; Bernardo, M; Vieta, E; PEPs Grp. *Obstetric complications and genetic risk for schizophrenia: Differential role of antenatal and perinatal events in first episode psychosis*. ACTA PSYCHIATRICA SCANDINAVICA. 2023; 148(1) 81-90. FI: 5.3. Quartile: 1. (Article).
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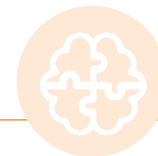
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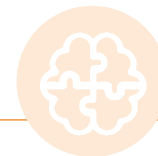


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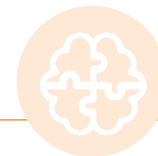
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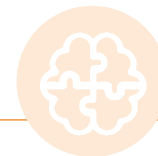
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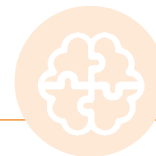
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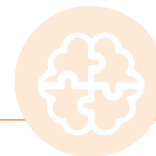


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### Other publications

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- Siafis S; McCutcheon R; Chiochia V; Ostinelli EG; Wright S; Stansfield C; Juma DO; Mantas I; Howes OD; Rutigliano G; Ramage F; Tinsdeall F; Friedrich C; Milligan L; Moreno C; Elliott JH; Thomas J; Macleod MR; Sena ES; Seedat S; Salanti G; Potts J; Cipria. *Trace amine-associated receptor 1 (TAAR1) agonists for psychosis: protocol for a living systematic review and meta-analysis of human and non-human studies*. WELLCOME OPEN RESEARCH. 2023; 8 365-365. (Article).



Group Director: **FRANCISCO JAVIER GRANDAS PÉREZ**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Parkinson's disease and movement disorders

- ▶ L1: Pathophysiology and treatment of Parkinson's disease.
- ▶ L2: Pathophysiology and treatment of dysphonia.
- ▶ L3: Balance and gait disorders.

### Axis 2: Dementia

- ▶ L1: Alzheimer's disease.

### Axis 3: Neuroinflammation

- ▶ L1: Neuroinflammation in neurodegenerative diseases.
- ▶ L2: Multiple sclerosis.

### Axis 4: Neuromuscular diseases

- ▶ L1: Amyotrophic lateral sclerosis

The "Neurological diseases" consists mostly of the medical assistants of the Neurology. Neurosurgery. Neuroradiology. Neurophysiology and Neuropediatrics service.

## Group members

- **Catalina Álvarez, Irene:** R1. First Stage Researcher.
- **Contreras Chicote, Ana:** R1. First Stage Researcher.
- **Cuello, Juan Pablo:** R2. Recognised Researcher.
- **De Castro de Castro, Pedro:** R2. Recognised Researcher.
- **De la Casa Fages, Beatriz:** R2. Recognised Researcher.
- **Fernández Carballal, Carlos:** R1. First Stage Researcher.
- **García Domínguez, José Manuel:** R1. First Stage Researcher.
- **Goicochea Briceño, Haydee:** R1. First Stage Researcher.
- **Grandas Pérez Francisco, Javier:** R4. Leading Researcher.
- **Guisasola Zulueta, María Concepción:** R3. Established Researcher.
- **Higueras Hernández, Yolanda:** R2. Recognised Researcher.
- **Lozano Ros, Alberto:** R2. Recognised Researcher.
- **Luque Buzo, Elisa:** R2. Recognised Researcher.
- **Mari Hualde, Amaia:** R2. Recognised Researcher.
- **Martínez Gines, María Luisa:** R2. Recognised Researcher.
- **Mateo Sierra, Olga:** R2. Recognised Researcher.
- **Mercedes Álvarez, Blanca:** R1. First Stage Researcher.
- **Miranda Herrero, María Concepción:** R2. Recognised Researcher.
- **Muñoz Blanco, José Luis:** R3. Established Researcher.
- **Olazarán Rodríguez, Francisco Javier:** R3. Established Researcher.
- **Pérez Sánchez, Javier Ricardo:** R2. Recognised Researcher.
- **Prieto Montalvo, Julio Ignacio:** R3. Established Researcher.
- **Romero Martínez, Julia:** R2. Recognised Researcher.
- **Sánchez Soblechero, Antonio:** R1. First Stage Researcher.
- **Secades García, Sergio:** R1. First Stage Researcher.
- **Vázquez López, María:** R2. Recognised Researcher.



## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 2                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: BRinging Artificial INTElligence home for a better cAre of amyotrophic lateral sclerosis and multiple SclERosis (BRAINTEASER).** H2020 BRAINTEASER 101017598  
 Director: Muñoz Blanco, José Luis  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/01/2021  
 End date: 31/12/2024
- Title: Biomarcadores de la fase prodrómica de la enfermedad de Parkinson: un abordaje multimodal.** PI21/00771  
 Director: Grandas Pérez, Francisco Javier  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: Amantadina y estimulación magnética transcraneal para fatiga en la EM: ensayo Fase III, controlado, randomizado, cruzado y doble ciego (FETEM).** ICI20/00074  
 Director: Martínez Ginés, María Luisa  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 31/12/2024

## Industrial and intellectual property registrations

### Industrial property

| Title                                                                                 | Reference*               | Owner               | Inventors                                                                                            |
|---------------------------------------------------------------------------------------|--------------------------|---------------------|------------------------------------------------------------------------------------------------------|
| Control method for a neuroprosthetic device for the reduction of pathological tremors | EP20382416.4 (2 patents) | FIBHGM - CSIC - ICL | Francisco Grandas, José Luis Pons, Filipe André Oliveira, Alejandro Pascual Valdunciel, Darío Farina |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

## Publications

Total Impact Factor: 89,5

|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 7         | 22,9        |
| Joint publications                                     | 20        | 66,6        |
| First decile publications                              | 2         | 0,0         |
| First quartile publications                            | 10        | 53,5        |
| Second quartile publications                           | 10        | 26,8        |
| Third quartile publications                            | 2         | 4,7         |
| Fourth quartile publications                           | 5         | 4,5         |
| Nonindexed publications/No IF                          | 5         | —           |
| <b>Total publications (including those without IF)</b> | <b>32</b> | <b>89,5</b> |

### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Sánchez-Soblechero, A; Grandas, F; Olazaran, J. *Rapidly progressive dementia with focal symptoms: when to suspect Creutzfeldt-Jakob disease?*. ACTA NEUROLOGICA BELGICA. 2023; 124(1) 351-354. FI: 2. Quartile: 3. (Letter).



- Ortega, MC; Lebron-Galan, R; Machin-Díaz, I; Naughton, M; Pérez-Molina, I; García-Arocha, J; García-Domínguez, JM; Goicoechea-Briceno, H; Viladell Sol, V; Quintanero-Casero, V; García-Montero, R; Galan, V; Calahorra, L; Camacho-Toledano, C; Martínez-Gines. *Central and peripheral myeloid-derived suppressor cell-like cells are closely related to the clinical severity of multiple sclerosis*. ACTA NEUROPATHOLOGICA. 2023; 146(2) 263-282. FI: 9.3. Quartile: 1. (Article).
- Jiménez-Gonzalo, L; Vara-García, C; Romero-Moreno, R; Márquez-González, M; Olazarán, J; von Känel, R; Mausbach, BT; Losada-Baltar, A. *An integrated model of psychosocial correlates of insomnia severity in family caregivers of people with dementia*. AGING & MENTAL HEALTH. 2023; 28(7) 969-976. FI: 2.8. Quartile: 2. (Article).
- Olazarán, J; Carnero-Pardo, C; Fortea, J; Sánchez-Juan, P; García-Ribas, G; Vinuela, F; Martínez-Lage, P; Boada, M. *Prevalence of treated patients with Alzheimer's disease: current trends and COVID-19 impact*. ALZHEIMERS RESEARCH & THERAPY. 2023; 15(1). FI: 7.9. Quartile: 1. (Article).
- de Castro, PD; López, MV; Núñez, AG; Pascual, AC; Herrero, MCM. *Acute recanalization treatments in postnatal paediatric ischaemic arterial stroke. Paediatric stroke code*. ANALES DE PEDIATRIA. 2023; 99(1) 44-53. FI: 1.5. Quartile: 2. (Article).
- Alonso, PS; De La Casa-Fages, B; Alonso-Canovas, A; Martínez-Castrillo, JC. *Switching from Rasagiline to Safinamide as an Add-On Therapy Regimen in Patients with Levodopa: A Literature Review*. BRAIN SCIENCES. 2023; 13(2). FI: 2.7. Quartile: 3. (Review).
- García-Batalloso, I; Cabrera, I; Losada-Baltar, A; Merida-Herrera, L; Olazarán, J; Marquez-González, M. *Network Analysis of Comorbid Depressive and Anxious Symptoms in Family Caregivers of People with Dementia*. CLINICAL GERONTOLOGIST. 2023; 47(2) 244-256. FI: 2.6. Quartile: 2. (Article).
- Pascual-Valdunciel, A; Lopo-Martínez, V; Beltran-Carrero, AJ; Sendra-Arranz, R; González-Sánchez, M; Pérez-Sánchez, JR; Grandas, F; Farina, D; Pons, JL; Barroso, FO; Gutiérrez, A. *Classification of Kinematic and Electromyographic Signals Associated with Pathological Tremor Using Machine and Deep Learning*. ENTROPY. 2023; 25(1). FI: 2.1. Quartile: 2. (Article).
- Villanueva, V; Santos-Carrasco, D; Cabezudo-García, P; Gómez-Ibáñez, A; Garces, M; Serrano-Castro, P; Castro-Vilanova, MD; Sayas, D; López-González, FJ; Rodríguez-Osorio, X; Torres-Gaona, G; Saiz-Díaz, RA; Hampel, KG; Martínez-Ferri, M; Aguilar-Amat, MJ. *Real-world safety and effectiveness of cenobamate in patients with focal onset seizures: Outcomes from an Expanded Access Program*. EPILEPSIA OPEN. 2023; 8(3) 918-929. FI: 2.8. Quartile: 2. (Article).
- Leon-Salas, B; González-Hernández, Y; Infante-Ventura, D; de Armas-Castellano, A; García-García, J; García-Hernández, M; Carmona-Rodríguez, M; Olazarán, J; Dobato, JL; Rodríguez-Rodríguez, L; Trujillo-Martín, MM. *Telemedicine for neurological diseases: A systematic review and meta-analysis*. EUROPEAN JOURNAL OF NEUROLOGY. 2023; 30(1) 241-254. FI: 4.5. Quartile: 1. (Review).
- Domínguez-Mozo, MI; González-Suárez, I; Villar, LM; Costa-Frossard, L; Villarrubia, N; Aladro, Y; Pilo, B; Montalbán, X; Comabella, M; Casanova-Peno, I; Martínez-Ginés, ML; García-Domínguez, JM; García-Martínez, MA; Arroyo, R; Álvarez-Lafuente, R. *Teriflunomide and Epstein-Barr virus in a Spanish multiple sclerosis cohort: *in vivo* antiviral activity and clinical response*. FRONTIERS IN IMMUNOLOGY. 2023; 14. FI: 5.7. Quartile: 1. (Article).
- Bejani, M; Luque-Buzo, E; Burlaka-Petrash, A; Gómez-García, JA; Arias-Londono, JD; Grandas-Pérez, F; Grajal, J; Godino-Llorente, JI. *Baseline Wander Removal Applied to Smooth Pursuit Eye Movements From Parkinsonian Patients*. IEEE ACCESS. 2023; 11 32119-32133. FI: 3.4. Quartile: 2. (Article).
- Lozano-Ros, A; Martínez-Ginés, ML; García-Domínguez, JM; Salvador-Martín, S; Goicoechea-Briceño, H; Cuello, JP; Meldaña-Rivera, A; Higuera-Hernández, Y; Sanjurjo-Sáez, M; Álvarez-Sala-Walther, LA; López-Fernández, LA. *Changes in the Expression of TGF-Beta Regulatory Pathway Genes Induced by Vitamin D in Patients with Relapsing-Remitting Multiple Sclerosis*. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(19). FI: 4.9. Quartile: 1. (Article).
- Martínez-Rubio, D; Hinarejos, I; Argente-Escrig, H; Marco-Marín, C; Lozano, MA; Gorriá-Redondo, N; Lupo, V; Martí-Carrera, I; Miranda, C; Vázquez-López, M; García-Pérez, A; Marco-Hernández, AV; Tomás-Vila,



- M; Aguilera-Albesa, S; Espinós, C. *Genetic Heterogeneity Underlying Phenotypes with Early-Onset Cerebellar Atrophy*. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(22). FI: 4.9. Quartile: 1. (Article).
- Boada, M; Kiprof, D; Anaya, F; López, OL; Núñez, L; Olazaran, J; Lima, J; Grifols, C; Barcelo, M; Rohe, R; Prieto-Fernández, C; Szczepiorkowski, ZM; Paez, A. *Feasibility, safety, and tolerability of two modalities of plasma exchange with albumin replacement to treat elderly patients with Alzheimer's disease in the AMBAR study*. JOURNAL OF CLINICAL APHERESIS. 2023; 38(1) 45-54. FI: 1.4. Quartile: 4. (Article).
  - Schneider SA; Desai S; Phokaewvarangkul O; Rosca EC; Sringean J; Anand P; Bravo GÁ; Cardoso F; Cervantes-Arslanian AM; Chovatiya H; Crosiers D; Dijkstra F; Fearon C; Grandas F; Guedj E; Méndez-Guerrero A; Hassan M; Jankovic J; Lang AE; Makhoul K; Muccioli. *COVID19-associated new-onset movement disorders: a follow-up study*. JOURNAL OF NEUROLOGY. 2023; 270(5) 2409-2415. FI: 4.8. Quartile: 1. (Article).
  - Benito-León, J; del Pino, AB; Aladro, Y; Cuevas, C; Domingo-Santos, A; Sánchez-Seco, VG; Labiano-Fontcuberta, A; Gómez-López, A; Salgado-Cámara, P; Costa-Frossard, L; Monreal, E; de la Maza, SS; Matías-Guiu, JA; Matías-Guiu, J; Delgado-Álvarez, A; Montero. *Abnormal functional connectivity in radiologically isolated syndrome: A resting-state fMRI study*. MULTIPLE SCLEROSIS JOURNAL. 2023; 29(11-12) 1393-1405. FI: 4.8. Quartile: 1. (Article).
  - Delgado-López, PD; Carballal, CF; Paredes, I; Delgado, HR; Fernández, DS; Míguez, AV. *Catastrophism in spine surgery and the impact of radiological reports*. NEUROCIROLOGIA. 2023; 34(5) 217-220. FI: 0.7. Quartile: 4. (Editorial Material).
  - Chicote, AC; Alonso, GV; Serrano, MM; Pérez, FG. *New-onset impulse control disorders after treatment with levodopa-carbidopa intestinal gel in Parkinson's disease*. NEUROLOGIA. 2023; 38(3) 220-221. FI: 2.9. Quartile: 2. (Letter).
  - Chicote, AC; Díaz, E; Domínguez, JG; Grandas, F. *Neuroleptic malignant syndrome induced by aripiprazole depot*. NEUROLOGIA. 2023; 38(5) 374-375. FI: 2.9. Quartile: 2. (Letter).
  - López, AJV; Carballal, CF; Mele, MV; Rodríguez-Boto, G. *Survival analysis in high-grade glioma: the role of salvage surgery*. NEUROLOGIA. 2023; 38(1) 22-29. FI: 2.9. Quartile: 2. (Article).
  - Pascasio, LA; De la Casa-Fages, B; de Antonio, EE; Grandas, F; García-Leal, R; Juretschke, FR. *Microvascular decompression for trigeminal neuralgia: A retrospective analysis of long-term outcomes and prognostic factors*. NEUROLOGIA. 2023; 38(9) 625-634. FI: 2.9. Quartile: 2. (Article).
  - Vara-García, C; Romero-Moreno, R; Barrera-Caballero, S; Pedroso-Chaparro, MD; Jiménez-Gonzalo, L; Olazaran, J; Mausbach, B; von Kanel, R; Losada-Baltar, A. *Associations Between Dysfunctional Thoughts, Leisure Activities, and IL-6 in Caregivers of Family Members With Dementia*. PSYCHOSOMATIC MEDICINE. 2023; 85(2) 175-181. FI: 2.9. Quartile: 1. (Article).
  - Bravo-Quelle, N; Saez-Ansotegui, A; Bellon-Alonso, S; Lowy-Benoliel, A; García-Santiago, S; Ribeiro-Arold, C; Prieto-Montalvo, J. *Prevalence of childhood obstructive sleep apnoea syndrome in a referral sleep unit*. REVISTA DE NEUROLOGIA. 2023; 76(9) 279-285. FI: 0.8. Quartile: 4. (Article).
  - Fernández, O; Montalban, X; Aguera, E; Aladro, Y; Alonso, A; Arroyo, R; Brieva, L; Calles, C; Costa-Frossard, L; Eichau, S; García-Domínguez, JM; Hernández, MA; Landete, L; Llana, M; Llufríu, S; Meca-Lallana, JE; Meca-Lallana, V; Mongay-Ochoa, N; Moral, E. *15(th) Post-ECTRIMS Meeting: a review of the latest developments presented at the 2022 ECTRIMS Congress (Part II)*. REVISTA DE NEUROLOGIA. 2023; 77(2) 47-60. FI: 0.8. Quartile: 4. (Review).
  - Fernández, O; Montalban, X; Aguera, E; Aladro, Y; Alonso, A; Arroyo, R; Brieva, L; Calles, C; Costa-Frossard, L; Eichau, S; García-Domínguez, JM; Hernández, MA; Landete, L; Llufríu, S; Meca-Lallana, JE; Meca-Lallana, V; Mongay-Ochoa, N; Moral, E; Oreja. *15th Post-ECTRIMS Meeting: a review of the latest developments presented at the 2022 ECTRIMS Congress (Part I)*. REVISTA DE NEUROLOGIA. 2023; 77(1) 19-30. FI: 0.8. Quartile: 4. (Article).
  - Epifani, F; Serra, SMP; Llorens, M; Balcells, S; Nolasco, G; Bolasell, M; Aguilera-Albesa, S; Candela, RC; Cervera, JLC; Sánchez, VG; García, O; Miranda-Herrero, MC; Moreno-Lozano, PJ; Robles, B; Aparicio, SR;



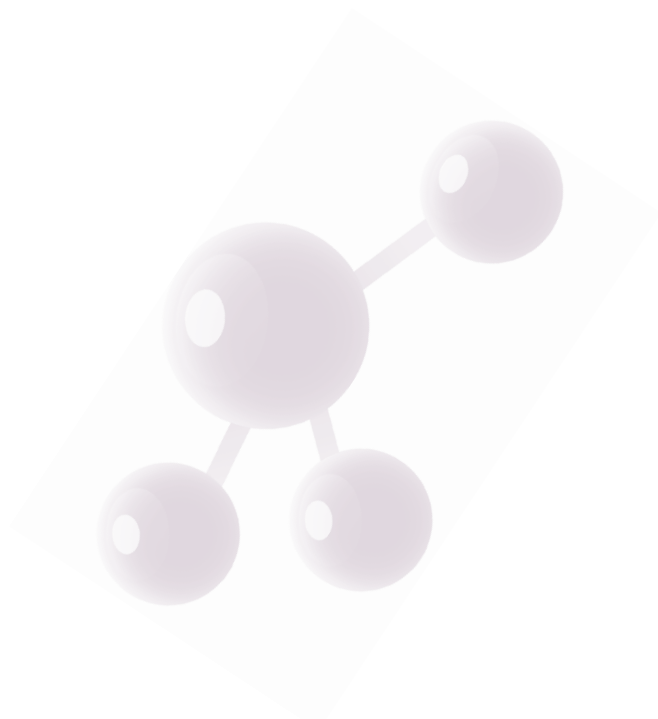
Fragua, RV; Serrano, M. *Untangling adaptive functioning of PMM2-CDG across age and its impact on parental stress: a cross-sectional study*. SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).

### **Publications of the main WOS collection in journals indexed in the Journal Citation Reports without impact factor**

- Torres-Pardo, A; Gómez-García, JA; Gómez-Suárez, NE; Muñoz-González, A; González-Sánchez, M; Grandas, F; Moreno, JC; Torricelli, D. *Is Lyapunov exponent a reliable metric to detect dynamic stability in Parkinson's disease?*. IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY CONFERENCE PROCEEDINGS. 2023. (Proceedings Paper).
- Aidos, H; Bergamaschi, R; Cavalla, P; Chio, A; Dagliati, A; Di Camillo, B; de Carvalho, MA; Ferro, N; Fariselli, P; Domínguez, JMG; Madeira, SC; Tavazzi, E. *iDPP@CLEF 2023: The Intelligent Disease Progression Prediction Challenge*. LECTURE NOTES IN COMPUTER SCIENCE. 2023; 13982 491-498. (Proceedings Paper).

### **Other publications**

- Amaya Pascasio L; De La Casa-Fages B; Esteban de Antonio E; Grandas F; García-Leal R; Ruiz Juretschke F. *Microvascular decompression for trigeminal neuralgia: A retrospective analysis of long-term outcomes and prognostic factors*. NEUROLOGIA (BARCELONA, SPAIN). 2023; 38(9) 625-634. (Article).
- Vargas López AJ; Fernández Carballal C; Valera Melé M; Rodríguez-Boto G. *Survival analysis in high-grade glioma: The role of salvage surgery*. NEUROLOGIA (BARCELONA, SPAIN). 2023; 38(1) 21-28. (Article).
- Hualde AM; Mantilla JA; Rincón JO; Regí AR; Kestler M; Muñoz P; Delgado-Montero A; Cuerpo-Caballero G; Pinilla B; Alonso Farto JC. *Relevance of [(18)F]FDG-PET/CT in the detection of colon pathology, in patients studied by bacteriemia or infectious endocarditis caused by enteropathogenic microorganisms*. REVISTA ESPAÑOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR. 2023; 42(3) 139-146. (Article).





# AREA 4

## CLINICAL MICROBIOLOGY: INFECTIOUS DISEASES AND AIDS

*Area coordinator:*

**Patricia Muñoz García de Paredes**

Despite considerable advances in our knowledge of infectious diseases in recent years, infection continues to be the main health problem facing society today. The spectrum of infection has been modified by the appearance of new infectious diseases, the increase in the number of immunosuppressed patients with their corresponding opportunistic infections, resistance to antibiotics, and the increased frequency of severe fungal infections. Hence the need for a priority research area in infectious diseases and AIDS at the IISGM. Essentially, this area carries out its research around two consolidated groups that generate considerable activity both in clinical practice and in laboratory research. In particular, the groups of the area form part of the Centro de Investigación Biomédica Enfermedades Respiratorias (CIBERES [Networked Center for Biomedical Research in Respiratory Disease]), promote and lead cooperative networks in transplantation (RESITRA), and manage different multicenter cohorts in the field of AIDS (GESIDA [AIDS Study Group]).

The fact that the area runs several research lines covering the broad spectrum of infectious diseases has not prevented it from generating

considerable scientific and academic output during the last 5 years. Of note, a strength of this area is its ability to obtain human resources through competitive calls.

Undoubtedly, the future of this area is based on the maintenance of those aspects of translational research that have characterized its activity to date. Basic research laboratory work has increased, and new molecular epidemiology systems based on direct sample analysis have been implemented. The area has also promoted cooperative epidemiological studies aimed at analyzing aspects such as the extent of antifungal resistance or at optimizing the treatment of infectious complications in transplant recipients.

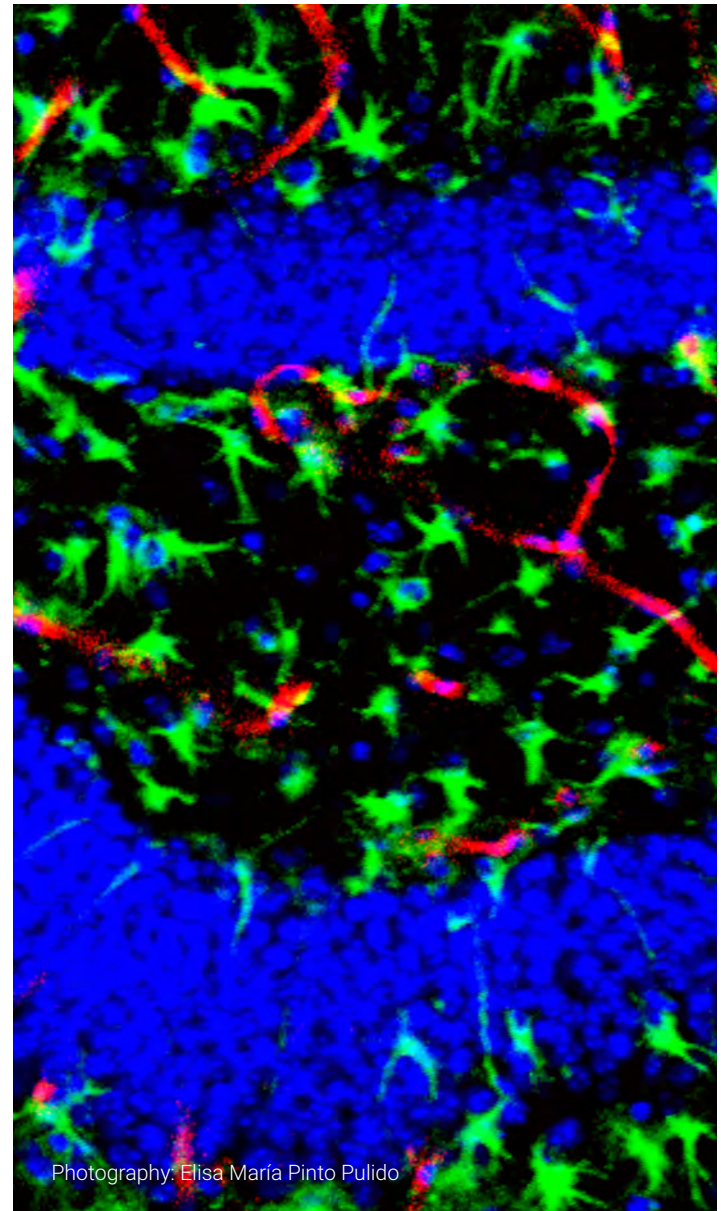
In summary, the Area of Infectious Diseases and AIDS maintains the commitment to research that has marked its history. This commitment is based on the conviction that no medical activity of excellence can be envisaged without a structured approach to the most pressing issues affecting daily clinical practice.



# Groups in AREA **4**

## **CLINICAL MICROBIOLOGY: INFECTIOUS DISEASES AND AIDS**

- ▶ 4.01. Clinical microbiology and infectious diseases
- ▶ 4.02. Clinical and epidemiological aspects of HIV and associated conditions



Photography: Elisa María Pinto Pulido



Group Director: **PATRICIA MUÑOZ GARCÍA DE PAREDES**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Consolidating research networks and partnerships in infectious diseases and AIDS

- ▶ L1: Integration in Research Networks in the area of infectious diseases and AIDS
- ▶ L2: Fostering Alliances and Collaborations in the field of infectious diseases and AIDS

### Axis 2: Consolidation of lines of research in infectious diseases and AIDS

- ▶ L1: Scientific continuity in the molecular mycobacteriology research line
- ▶ L2: Scientific continuity in the Immunosuppressed and Invasive Mycoses research line
- ▶ L3: Consolidation of the Clostridium Difficile research line
- ▶ L4: Consolidation of the research line on sensitivity to new antibiotics and mechanisms of resistance in GRAM-positive bacteria
- ▶ L5: Consolidate the research line in Cardiovascular Infection
- ▶ L6: Maintaining the Clinical Trials activity (HIV, HCV, opportunistic infections, tumours)
- ▶ L7: Maintenance of scientific production - Impact factor
- ▶ L8: Maintenance and diversification of funding sources

### Axis 3: Training

- ▶ L1: Expansion of the teaching offer

### Axis 4: Infrastructure

- ▶ L1: Improving and securing physical space in the area of infectious diseases and AIDS research

### Axis 5: Microbial genomics

- ▶ L1: Genomic epidemiology, community transmission
- ▶ L2: Genomic epidemiology, nosocomial outbreaks
- ▶ L3: Microevolution and acquisition of genomic diversity
- ▶ L4: Diagnostic optimisation

We are a multidisciplinary service, focused on care, teaching and research, and have become a national and international reference in all three fields. We provide diagnosis, treatment and prevention in all areas of infection.

Our service is made up of two roots that nourish it. On the one hand, a highly specialised Clinical Microbiology laboratory in which the microbiologist must transmit relevant information to the clinician as quickly as possible, both inside and outside the hospital, which is why we promote rapid microbiology and influence treatment through expert advice. In addition, the Infectious Diseases department has highly specialised professionals in areas such as infection in immunosuppressed patients, infections in cardiac surgery, critical care, vascular surgery, traumatology and surgery, tuberculosis, HIV, hepatitis C, endocarditis and programmes to optimise antibiotic and antifungal treatment, with the overarching objective of improving the safety and health of our patients.

With a team of 30 medical assistants, 13 residents, 26 nurses, 17 TCAE, 30 laboratory technicians and 8 administrative staff, the Clinical Microbiology and Infectious Diseases Service of the Gregorio Marañón Hospital responds to the health needs of the population and to the demand of requests from other departments of the hospital, integrating 4 care branches: Clinical Microbiology Laboratory, Infectious Diseases Areas, Outpatients and Microbial Epidemiology.

The Clinical Microbiology and Infectious Diseases Service of the Gregorio Marañón Hospital teaches at the two universities with which our hospital has agreements: the Complutense University of Madrid and the Carlos III University.

We are integrated in the Department of Medicine of the UCM and we teach second and third year classes in Medicine, also in the degree of Nutrition and we participate in several master's degrees. We collaborate with the Carlos III University in the training of biomedical engineers. We also direct undergraduate and master's degree final projects, such as the master's degree in virology at the UCM.

Our classes are based on clinical cases, favouring student participation, the ability to learn by themselves, and the differentiation of the essential (Need to know) from the accessory (Nice to know).



We have two professors, one full professor and seven associate professors of Health Sciences at the Complutense University of Madrid.

Every year we supervise Final Degree Projects (TFG) with excellent results and a high degree of satisfaction on the part of students and professors.

The Microbiology and Infectious Diseases service has belonged to the Gregorio Marañón Research Institute since its creation and is one of the world leaders in the speciality with a production aimed at Microbiology applied to humans that annually exceeds 150 impact index points in leading journals and publications. This area has two groups, the first includes Microbiology and general Infectious Diseases and the second AIDS and associated complications.

Another of the characteristics of our research is its integrative nature with other specialties within our hospital.

Our research model is translational and the patient's interest is what determines its strategic focus.

### Group members

- **Adán Rodríguez, Iván.**
- **Alcalá Hernández, Luis:** R3. Established Researcher.
- **Alonso Fernández, Roberto:** R4. Leading Researcher.
- **Alonso Menchen, David:** R1. First Stage Researcher.
- **Álvarez Calatayud, Guillermo:** R3. Established Researcher.
- **Álvarez-Uria Miyares, Ana María:** R3. Established Researcher.
- **Blázquez Sánchez, Mario:** R1. First Stage Researcher.
- **Bouza Santiago, Emilio:** R4. Leading Researcher.
- **Buenestado Serrano, Sergio:** R1. First Stage Researcher.
- **Burillo Albizua, Almudena:** R3. Established Researcher.
- **Candela González, Ana:** R1. First Stage Researcher.
- **Catalán Alonso, Pilar:** R3. Established Researcher.
- **Cercenado Mansilla, Emilia:** R4. Leading Researcher.
- **Cobos Fernández, Alejandro:** R1. First Stage Researcher.
- **De la Villa Martínez, Sofía:** R2. Recognised Researcher.
- **Díaz García, Judith:** R1. First Stage Researcher.
- **Escalera Balderrama, Iván:** R1. First Stage Researcher.
- **Escribano Martos, Pilar:** R4. Leading Researcher.
- **Estevez Prieto, Agustín:** R1. First Stage Researcher.
- **Fernández Rey, Rocio:** Other. Management.
- **Fillaos Mora, Esther Susana:** R1. First Stage Researcher.
- **Galar Recalde, Alicia:** R3. Established Researcher.
- **García Clemente, Paloma María:** R1. First Stage Researcher.
- **García de Viedma del Álamo, Dario:** R4. Leading Researcher.

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## Group members (Cont.)

- **Gijon Vidaurreta, Paloma:** R3. Established Researcher.
- **Gómez Núñez, Ana:** R2. Recognised Researcher.
- **González Leiva, José:** R1. First Stage Researcher.
- **Guembe Ramírez, María:** R4. Leading Researcher.
- **Guerrero López, Alejandro Jorge:** R1. First Stage Researcher.
- **Guillén Zabala, Helmuth:** R1. First Stage Researcher.
- **Guinea Ortega, Jesús Vicente:** R4. Leading Researcher.
- **Herranz Martín, Marta:** R3. Established Researcher.
- **Hortal Iglesias, Francisco Javier:** R4. Leading Researcher.
- **Irigoyen Von Sierakowski, Álvaro:** R1. First Stage Researcher.
- **Jiménez Castillo, Adriano:** R1. First Stage Researcher.
- **Kestler Hernández, Martha Jeannette:** R2. Recognised Researcher.
- **López Camacho, Elena:** R1. First Stage Researcher.
- **Machado Vílchez, Marina:** R2. Recognised Researcher.
- **Marín Arriaza, María de las Mercedes:** R3. Established Researcher.
- **Martín López, Adoración:** R2. Recognised Researcher.
- **Martín-Rabadán Caballero, Pablo:** R2. Recognised Researcher.
- **Mesquida Marcos, Aina Catalina:** R1. First Stage Researcher.
- **Muñoz García-Paredes, Patricia:** R4. Leading Researcher.
- **Padilla Ortega, Belén:** R2. Recognised Researcher.
- **Palomo Lastras, María:** R2. Recognised Researcher.

- **Peñas Utrilla, Daniel:** R1. First Stage Researcher.
- **Pérez García, Laura:** R4. Leading Researcher.
- **Pérez Granda, María Jesús:** R2. Recognised Researcher.
- **Plata Barril, Beatriz:** R1. First Stage Researcher.
- **Reigadas Ramírez, Elena Manuela:** R4. Leading Researcher.
- **Rincón Sanz Cristina:** R2. Recognised Researcher.
- **Rodríguez Fernández, Sara:** R2. Recognised Researcher.
- **Rodríguez Grande, Cristina:** R1. First Stage Researcher.
- **Rodríguez Sánchez, María Belén:** R4. Leading Researcher.
- **Rodríguez Temporal, David:** R2. Recognised Researcher.
- **Rodríguez Márquez, Belén:** R1. First Stage Researcher.
- **Ruiz Serrano, María Jesús:** R2. Recognised Researcher.
- **Sánchez Cueto, María:** R1. First Stage Researcher.
- **Sánchez Somolinos, Mar:** R2. Recognised Researcher.
- **Serrano Lobo, Julia:** R1. First Stage Researcher.
- **Soriano Martín-Nieto, Ana:** R1. First Stage Researcher.
- **Urbina Luciana, Valeria:** R1. First Stage Researcher.
- **Valenzuela Medina, María Flor:** R1. First Stage Researcher.
- **Valerio Minero, Maricela:** R3. Established Researcher.
- **Vázquez Cuesta, Silvia Noemí:** R3. Established Researcher.
- **Veintimilla Yáñez, María Cristina:** R2. Recognised Researcher.



### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 3                       |            |                    |            |
| National      | 16                      |            | 16                 |            |
| Regional      |                         |            | 7                  |            |

- Title: Consolidation of WGS and RT-PCR activities for SARS-CoV-2 in Spain towards sustainable use and integration of enhanced infrastructure and processes in the RELECOV network.** EU4H RELECOV 2.0 101113109  
 Director: Muñoz García-Paredes, Patricia  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 16/03/2023  
 End date: 15/09/2024
- Title: Combacte-Net Combatting Bacterial Resistance in Europe.** 7PM12/COMBACTE-NET  
 Director: Bouza Santiago, Emilio  
 Project type: Research project  
 Funding body: COMISION EUROPEA  
 Start date: 01/01/2013  
 End date: 31/12/2023
- Title: Improved Identification of Fungal Species by MALDI-TOF and Application of Machine Learning for Detection of Antifungal Resistance Mechanisms.** ESCMID23/01  
 Director: Rodríguez Temporal, David  
 Project type: Research project  
 Funding body: ESCMID  
 Start date: 01/04/2023  
 End date: 31/03/2025
- Title: Aplicación de la genómica en Candida para responder problemas clínicos relacionados con la candidiasis invasora: transmisión intra-**

**hospitalaria, pronóstico del paciente, y estudio del foco.** PI22/00005

Director: Escribano Martos, Pilar

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2023

End date: 31/12/2025

- Title: Estudio de la epidemiología y resistencia a triazoles en cepas clínicas de Aspergillus spp. (estudio ASPEIN II): situación en 82 hospitales españoles.** PI21/00450  
 Director: Guinea Ortega, Jesús Vicente  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: La Nanobiotecnología como Herramienta para la Optimización de la Terapia de Sellado con Etanol en el Tratamiento de la Bacteriemia Relacionada con el Catéter.** PI21/00344  
 Director: Guembe Ramírez, María  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: Plataforma genómica para una vigilancia optimizada de patógenos relevantes: Tuberculosis y COVID-19 como modelos de intervención.** PI21/01823  
 Director: García de Viedma del Álamo, Dario  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: Nuevos métodos diagnósticos para identificar la candidemia relacionada a catéter en pacientes con catéter in situ. ¿Es posible personalizar el manejo de la candidemia? Estudio CANDICATH.** PI20/00575  
 Director: Muñoz García-Paredes, Patricia



Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 30/06/2025

- Title: **Proyecto de Alerta en Neumonía Grave (PANG). Impacto de un bundle multidisciplinar de intervención diagnóstica y terapéutica.** PI20/01350  
Director: Galar Recalde, Alicia  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025
- Title: **SINTESIS (eStudio del Impacto de las Nuevas TEcnologías y técnicas rápidas en la sepSIS de origen urinario).** PI20/01201  
Director: Burillo Albizua, Almudena  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025
- Title: **The role of the microbiome as a diagnostic, prognostic and therapeutic tool in C. difficile infection and other diseases.** PI20/01381  
Director: Reigadas Ramírez, Elena Manuela  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025
- Title: **El papel de la nueva tecnología de diagnóstico microbiológico e imagen en el diagnóstico de la infección de dispositivos electrocardíacos. Proyecto mirada.** PI20/01438  
Director: Valerio Minero, Maricela  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 08/03/2024

- Title: **La cavidad abdominal como reservorio de cepas de Candida spp causantes de candidemia: aplicación del genotipado como herramienta de detección de genotipos capaces de alcanzar el torrente circulatorio.** PI19/00074  
Director: Escribano Martos, Pilar  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 31/12/2023
- Title: **Aplicación de estrategias basadas en tecnologías de secuenciación de nueva generación para solucionar problemas derivados de la globalización de la tuberculosis.** PI19/00331  
Director: Pérez García, Laura  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 30/06/2024
- Title: **Impacto del uso de 3 apósitos en la prevención de infección de herida quirúrgica en pacientes de Cirugía Cardíaca: estudio clínico, prospectivo y randomizado.** PI18/01741  
Director: Pérez Granda, María Jesús  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023
- Title: **Plataforma avanzada para optimizar el diagnóstico y vigilancia epidemiológica de la tuberculosis.** PI18/00599  
Director: García de Viedma del Álamo, Dario  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023
- Title: **Estudio CANDIMAD, una perspectiva microbiológica de la candidiasis invasora diagnosticada en Madrid: etiología causal, sensibilidad a antifúngicos y clones circulantes.** PI18/01155





Director: Guinea Ortega, Jesús Vicente  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2019  
 End date: 30/06/2023

- Title: **Tratamiento preventivo del CMV en pacientes inmunocompetentes de alto riesgo con cirugía cardíaca mayor. Un ensayo clínico multicéntrico, doble ciego, aleatorizado, fase III (GAN-CAR).** ICI19/00079  
 Director: Muñoz García-Paredes, Patricia  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2020  
 End date: 31/12/2025
- Title: **Dalbavancina como tratamiento local para las complicaciones infecciosas tras fracturas de alta energía ¿fake o esperanza?** FMM21/01  
 Director: Guembe Ramírez, María  
 Project type: Research project  
 Funding body: Fundación Mutua Madrileña  
 Start date: 01/07/2021  
 End date: 10/02/2025
- Title: **Miguel Servet II contract.** CPII18/00008  
 Director: Guembe Ramírez, María  
 Project type: Human resources  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2019  
 End date: 16/12/2023
- Title: **Miguel Servet II contract.** CPII19/00002  
 Director: Rodríguez Sánchez, María Belén  
 Project type: Human resources  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2020  
 End date: 31/05/2023
- Title: **Miguel Servet II contract.** CP20/00001  
 Director: Pérez García, Laura  
 Project type: Human resources

Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 31/12/2023

- Title: **Miguel Servet II contract.** CPII20/00015  
 Director: Escribano Martos, Pilar  
 Project type: Human resources  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 31/12/2023
- Title: **Sara Borrell contract.** CD22/00014  
 Director: Rodríguez Temporal, David  
 Project type: Human resources  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
- Title: **Río Hortega contract.** CM21/00274  
 Director: ALONSO MENCHEN, DAVID  
 Funding body: Instituto de Salud Carlos III  
 Project type: Human resources  
 Start date: 01/01/2022  
 End date: 04/01/2024
- Title: **Río Hortega contract.** CM22/00130  
 Director: Estevez Prieto, Agustín  
 Project type: Human resources  
 Funding body: Instituto de Salud Carlos III  
 Start date: 31/01/2023  
 End date: 30/01/2024
- Title: **Juan Rodés contract.** JR18/00030  
 Director: Galar Recalde, Alicia  
 Funding body: Instituto de Salud Carlos III  
 Project type: Human resources  
 Start date: 01/12/2018  
 End date: 30/06/2023
- Title: **PFIS Predoctoral contract.** FI19/00021  
 Director: Díaz García, Judith





Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2020

End date: 31/12/2023

- Title: **PFIS Predoctoral contract.** FI20/00089  
Director: Mesquida Marcos, Aina Catalina  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2024
- Title: **PFIS Predoctoral contract.** FI20/00129  
Director: Rodríguez Grande, Cristina  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2024
- Title: **PFIS Predoctoral contract.** FI21/00310  
Director: Vázquez Cuesta, Silvia Noemí  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 04/02/2022  
End date: 31/12/2025
- Title: **PFIS Predoctoral contract.** FI21/00314  
Director: Soriano Martín-Nieto, Ana  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2025
- Title: **PFIS Predoctoral contract.** FI22/00145  
Director: Buenestado Serrano, Sergio  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2026

- Title: **PFIS Predoctoral contract.** FI22/00022  
Director: Díaz Navarro, Marta  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 14/02/2023  
End date: 13/02/2027
- Title: **Intensification contract.** INT22/00062  
Director: García de Viedma del Álamo, Dario  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/02/2023  
End date: 31/12/2024
- Title: **Young employment contract. Laboratory Technician.** PEJ-2021-TL/BMD-23377  
Director: Guinea Ortega, Jesús Vicente (González Leiva, Jose)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/10/2022  
End date: 30/09/2024
- Title: **Young employment contract. Research Assistant.** PEJ-2020-AI/BMD-17971  
Director: Guembe Ramírez, María (Díaz Navarro, Marta)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/02/2021  
End date: 31/01/2023
- Title: **Young employment contract. Research Assistant.** PEJ-2020-AI/BMD-19547  
Director: Muñoz García-Paredes, Patricia (Rodríguez Márquez, Belén)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 28/02/2023
- Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-18351  
Director: Pérez García, Laura (Molero Salinas, Andrea)



Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 28/02/2023

- Title: **Young employment contract. Research Assistant.** PEJ-2020-AI/BMD-18120  
Director: García de Viedma, Darío (Sanz Pérez, Amadeo)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 28/03/2023
- Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-19052  
Director: Escribano Martos, Pilar (Alonso Alegría, Nerea)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 20/03/2023
- Title: **Young employment contract. Laboratory Technician.** PEJ-2021-TL/BMD-21113  
Director: Guembe Ramírez, María (Visedo García, Andrés)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/10/2022  
End date: 30/09/2024

## Industrial and intellectual property registrations

### Industrial property

| Title                                                                                                                     | Reference*              | Owner         | Inventors                                                           |
|---------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------|---------------------------------------------------------------------|
| Compuestos radiactivos basados en proteínas selectivas de bacteriemias para la detección no invasiva de focos infecciosos | P 202030838 (2 patents) | FIBHGM - UC3M | Beatriz Salinas, Manuel Desco, Patricia Muñoz, Emilio Bouza         |
| Dispositivo para prevenir la neumonía asociada a ventilación mecánica                                                     | U 2014 30814            | FIBHGM        | Juan Francisco del Cañizo, Emilio Bouza, M <sup>a</sup> Jesús Pérez |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

### Copyright

| Title                                                                                                                                                   | Reference                          | Owner  | Inventors                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------|------------------------------------------------------------------------------------------------------------|
| Estudio de impacto clínico de un plan docente de formación continuada sobre las infecciones asociadas a dispositivos intravasculares                    | Nº Asiento Registral: 16/2013/4798 | FIBHGM | Emilio Bouza, María Guembe, Patricia Muñoz, M <sup>a</sup> Jesús Pérez, M <sup>a</sup> del Mar San Segundo |
| Recomendaciones sobre el manejo de Infecciones Fúngicas Invasoras (IFIs)                                                                                | Nº Asiento Registral: 16/2014/5265 | FIBHGM | Patricia Muñoz, Emilio Bouza, María Sanjurjo, Carmen Rodríguez, Maricela Valerio                           |
| Material docente para la infección relacionada con el catéter                                                                                           | Nº Asiento Registral: 16/2014/6113 | FIBHGM | María Guembe, Emilio Bouza, María Jesús Pérez                                                              |
| Optimización en el Diagnóstico Microbiológico de los Reservorios Totalmente Implantables                                                                | Nº Asiento Registral: 16/2015/2094 | FIBHGM | María Guembe, Pablo Martín- Rabadán, Emilio Bouza, M <sup>a</sup> Luisa Rivera, Teresa Vicente             |
| Tolerancia cero a la bacteriemia relacionada con el catéter: optimización de la prevención con nuevos sistemas de vigilancia de las vías endovasculares | Nº Asiento Registral: 16/2015/2983 | FIBHGM | María Guembe, Emilio Bouza, M <sup>a</sup> Jesús Pérez Granda                                              |

Continued on next page



## Copyright (Cont.)

| Title                                                                                                                                                                                       | Reference                          | Owner         | Inventors                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Documento de registro para vigilancia durante la inserción y el mantenimiento de los catéteres intravasculares                                                                              | Nº Asiento Registral: 16/2015/2984 | FIBHGM        | María Guembe, Emilio Bouza, M <sup>a</sup> Jesús Pérez Granda                                                                        |
| Cultivo de conectores cerrados. Nueva alternativa de diagnóstico conservador de infección relacionada con el catéter                                                                        | Nº Asiento Registral: 16/2017/517  | FIBHGM        | Emilio Bouza, María Guembe, M <sup>a</sup> Jesús Pérez, Pablo Martín- Rabadán                                                        |
| Base de datos de perfiles de proteínas correspondientes a distintas especies de hongos filamentosos para mejorar su identificación mediante la técnica de espectrometría de masas MALDI-TOF | Nº Asiento Registral: 16/2019/6180 | FIBHGM        | Belén Rodríguez, Margarita Zvezdanova, Pilar Escribano, Patricia Muñoz                                                               |
| Preparación de muestras de hongos filamentosos para identificación mediante MALDI-TOF. Vídeo con instrucciones                                                                              | Nº Asiento Registral: 16/2021/2779 | FIBHGM        | Belén Rodríguez, Estreya Zvezdanova, Patricia Muñoz                                                                                  |
| Cultivo intraluminal de tapones conectores de catéter. Nueva alternativa de diagnóstico conservador de colonización de catéter                                                              | 16/2022/6628                       | FIBHGM        | María Guembe, M <sup>a</sup> Jesús Pérez, Emilio Bouza, Pablo Martín- Rabadán                                                        |
| App para la clasificación de la etiología de la gastroenteritis aguda (GEA) en pacientes pediátricos                                                                                        | M-5349-23                          | CIBER, FIBHGM | Rosa Rodríguez Fernández, Felipe González Martínez, Carolina Silvia García Martos, José Manuel Mira McWilliams, Gonzalo Aris Jiménez |
| Material docente para el diagnóstico de la bacteriemia/fungemia relacionada con el catéter                                                                                                  | 2308145061169                      | FIBHGM        | M <sup>a</sup> Jesús Pérez Granda, María Guembe Ramírez, Pablo Martín Rabadán, Patricia Muñoz García Paredes                         |

■ Transferred Intellectual Property.

## Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate          | Title                                                                                                                                                                                             | Name/s Director/s                                     | University | Date Defended |
|-----------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|------------|---------------|
| Ph Thesis | Judith Díaz García | Etiología causal, resistencia antifúngica, y clones circulantes de Candida spp. procedentes de hemocultivos y muestras intra-abdominales: una perspectiva multicéntrica desde el estudio CANDIMAD | Pilar Escribano/ Jesús Vicente Guinea Ortega          | UCM        | 18/12/2023    |
| Ph Thesis | Chiara Fanciulli   | Coinfección por el virus de la inmunodeficiencia humana y el virus de la hepatitis C en España: tendencias epidemiológicas y características clínicas                                             | Juan Berenguer Berenguer/ Juan Julián González García | UCM        | 04/07/2023    |

## Publications

Total Impact Factor: 618,0

|                                                        | Nº         | IF           |
|--------------------------------------------------------|------------|--------------|
| Own publications                                       | 60         | 332,6        |
| Joint publications                                     | 60         | 285,4        |
| First decile publications                              | 22         | 0,0          |
| First quartile publications                            | 74         | 490,3        |
| Second quartile publications                           | 24         | 83,5         |
| Third quartile publications                            | 22         | 44,2         |
| Fourth quartile publications                           | 0          | 0,0          |
| Nonindexed publications/No IF                          | 4          | -            |
| <b>Total publications (including those without IF)</b> | <b>124</b> | <b>618,0</b> |



**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Gutiérrez-Velez, A; Castro-Rodríguez, C; Jove-Blanco, A; Aguilera-Alonso, D; Rincon-López, EM; Hernanz-Lobo, A; Gómez, MN; Hernández-Sampelayo, T; Alonso-Fernández, R; Saavedra-Lozano, J. *Acute Epstein-Barr virus infection: Diagnostic challenge in young children, risk factors for hospitalisation and cytomegalovirus co-detection*. ACTA PAEDIATRICA. 2023; 112(6) 1287-1295. FI: 2.4. Quartile: 1. (Article).
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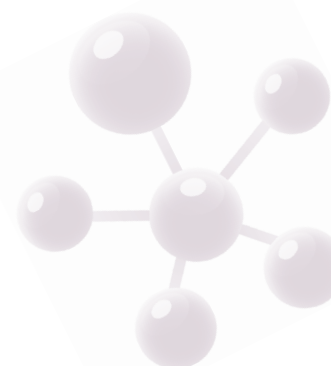
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Group Director: **JUAN CARLOS LÓPEZ BERNALDO DE QUIRÓS**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

### Axis 1: HIV infection

- ▶ L1: Immunopathogenesis of HIV infection
- ▶ L2: Observational research
- ▶ L3: Clinical drug trials
- ▶ L4: Lipid disorders in people with HIV and good virological control
- ▶ L5: Vaccine research
- ▶ L6: HIV infection in primary care
- ▶ L7: Low-level replication
- ▶ L8: Screening and access to care
- ▶ L9: Frailty and physical activity in people with HIV over 50 years of age
- ▶ L10: Recreational drug use during sex
- ▶ L11: HHV8 and AIDS in HIV-positive patients
- ▶ L12: Neurodegeneration in adolescents with perinatal HIV
- ▶ L13: Access to treatment in vulnerable patients

### Axis 2: Viral Hepatitis

- ▶ L1: Hepatitis C immunopathogenesis
- ▶ L2: Epidemiology of HIV/HCV coinfection

- ▶ L3: Epidemiology of HIV/HBV coinfection
- ▶ L4: Hepatitis delta. Epidemiological screening studies in vulnerable populations.
- ▶ L5: New therapeutic options in HIV/HBV and Delta patients
- ▶ L6: Acute hepatitis and HCV reinfections

### Axis 3: COVID-19

- ▶ L1: COVID in immunosuppressed patients
- ▶ L2: COVID-19 and HIV interaction
- ▶ L3: Immune response against SARS-CoV-2
- ▶ L4: Chronic Covid
- ▶ L5: Long Covid and vaccine response
- ▶ L6: Neonatal Passive humoral immunity in COVID-19

### Axis 4: Other

- ▶ L1: Evaluation of HIV, hepatitis and SARS-CoV-2 diagnostic tests
- ▶ L2: Recreational drug magnitude studies (USEX studies)

Clinical research group on different aspects of HIV infection and associated diseases, as well as other emerging viruses.



## Group members

- **Aldamiz-Echevarría Lois, María Teresa:** R3. Established Researcher.
- **Berenguer Berenguer, Juan:** R4. Leading Researcher.
- **Coral Carretero, Saray:** R1. First Stage Researcher.
- **Díez Romero, Cristina:** R3. Established Researcher.
- **Fanciulli, Chiara:** R2. Recognised Researcher.
- **Fredes González, Camila Alejandra:** R1. First Stage Researcher.
- **Gutiérrez Cuéllar, Isabel:** R1. First Stage Researcher.
- **López Bernaldo de Quirós, Juan Carlos:** R3. Established Researcher.
- **Pérez Latorre, Leire:** R3. Established Researcher.
- **Ramírez Schacke, Margarita:** R2. Recognised Researcher.
- **Ryan Murua, Pablo:** R3. Established Researcher.
- **Tejerina Picado, Francisco:** R2. Recognised Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 2                       |            | 1                  |            |
| Regional      |                         |            |                    |            |

- Title: **Infecciones agudas/recientes y reinfecciones por VHC en hombres que tienen sexo con hombres con y sin VIH.** PI20/00474  
 Director: Ryan Murua, Pablo  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 30/06/2025

- Title: **Long Covid: análisis de la posible persistencia viral sistémica y de un reservorio intestinal de Sars-CoV-2 como mecanismo fisiopatogénico.** FMM22/01  
 Director: Tejerina Picado, Francisco  
 Project type: Research project  
 Funding body: FUNDACIÓN MUTUA MADRILEÑA  
 Start date: 15/09/2022  
 End date: 30/06/2025
- Title: **Juan Rodés contract.** JR19/00021  
 Director: Pérez Latorre, Leire  
 Funding body: Instituto de Salud Carlos III  
 Project type: Human resources  
 Start date: 29/01/2020  
 End date: 28/01/2023

## Cooperative Research Structures

| Type (RICORS, CIBER, others) | Name of Network | Role                | Code          |
|------------------------------|-----------------|---------------------|---------------|
| RETICS                       | CIBERINFEC      | Collaborating group | CB21/13/00044 |

## Publications

Total Impact Factor: 192,32

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 5         | 27,6         |
| Joint publications                                     | 30        | 164,7        |
| First decile publications                              | 11        | 0,0          |
| First quartile publications                            | 20        | 147,8        |
| Second quartile publications                           | 12        | 38,0         |
| Third quartile publications                            | 3         | 6,5          |
| Fourth quartile publications                           | 0         | 0,0          |
| Nonindexed publications/No IF                          | 1         | –            |
| <b>Total publications (including those without IF)</b> | <b>36</b> | <b>192,3</b> |



**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

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- Pérez-Molina, JA; Crespillo-Andujar, C; Zamora, J; Fernández-Felix, BM; Gaetano-Gil, A; de Quiros, JCLB; Serrano-Villar, S; Moreno, S; Álvarez-Díaz, N; Berenguer, J. *Contribution of Low CD4 Cell Counts and High Human Immunodeficiency Virus (HIV) Viral Load to the Efficacy of Preferred First-Line Antiretroviral Regimens for Treating HIV Infection: A Systematic Review and Meta-Analysis*. CLINICAL INFECTIOUS DISEASES. 2023; 76(11) 2027-2037. FI: 8.2. Quartile: 1. (Review).
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## Other publications

- Ramírez M; Palmar-Santos A; Pedraz-Marcos A; Brañas F. *An exploratory prospective study of the factors associated with adverse health outcomes in older adults living with HIV*. MEDWAVE. 2023; 23(2). (Article).



# AREA 5

## DISEASES OF THE IMMUNE SYSTEM

*Area coordinator:*

**Eduardo Fernández-Cruz Pérez**

Immunology could be considered the medical discipline in which the most relevant advances have been made in recent years. These advances are evidenced by the many Nobel Prizes awarded to researchers in the field, it is no surprise. Therefore, that the IISGM has a dedicated immunology research area. In addition to its scientific and social relevance, the importance of this area within the Institute can be seen in its cutting-edge scientific output, the wide variety of its research lines, and its collaborations with other research areas, such as basic and clinical immunology, rheumatology, allergology, gynecology and obstetrics, cardiology, pneumology, pharmacogenetics, hematology and neurology.

The participation of this Area in numerous publications by groups belonging to other areas of the Institute clearly highlights its philosophy of cooperative research, the cornerstone of any health research

institute. There can be no doubt that the Area is perfectly situated for setting down the strategic lines for its continued growth. As a result, collaboration agreements have been proposed with prestigious international institutions, groups from the IISGM itself, and groups from outside the IISGM (Madrid Science and Technology Park. FHL Study Group. Transfusion Center of Comunidad de Madrid), School of Medicine of Universidad Complutense de Madrid (Department of Microbiology I) and companies active in the field (Binding Site, Izasa, Immunotek, Grifols).

The area has set itself the strategic objectives of expanding the core activity of its more clinical groups, training undergraduate and post-graduate staff in order to consolidate and improve scientific output, and expanding the number of principal investigators able to successfully apply for competitive calls.



# Groups in AREA **5**

## **DISEASES OF THE IMMUNE SYSTEM**

- ▶ 5.01. Pathophysiology and clinical investigation of chronic inflammatory and immune diseases
- ▶ 5.02. Molecular biology of HIV
- ▶ 5.03. Systemic autoimmune diseases
- ▶ 5.05. Pathogenesis of the immunoallergic response
- ▶ 5.06. Immune regulation and homeostasis in diseases of the immune system
- ▶ 5.07. Infections in paediatric patients







Group Director: **EDUARDO FERNÁNDEZ-CRUZ PÉREZ**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

The group of Physiopathology and Clinical Research of Chronic Diseases mediated by Immunological and Inflammatory mechanisms is coordinated by Professor Dr. Eduardo Fernández-Cruz, Head of the Clinical Immunology Department.

## Research lines

### Axis 1. Immunotherapy with immunomodulatory agents in immune-mediated pathologies

- ▶ L1: Immunomodulation of innate, adaptive and genetic responses with immunomodulatory agents in the treatment of immune-mediated diseases

### Axis 2. Study of immunopathogenic mechanisms in: (2.1) Primary Immunodeficiencies and (2.2) Secondary to emerging virus infections (SARS-CoV2); (2.4) Immuno-oncology; (2.7) Autoimmune Chronic Inflammatory Diseases; (2.9) Reproductive Failures and (2.10) Solid Organ Transplantation

- ▶ L1: Primary immunodeficiencies: immunopathogenesis, classification and treatment
- ▶ L2: Study of specific memory T-cell responses to SARS-CoV2
- ▶ L3: Biomarkers in secondary immunodeficiencies
- ▶ L4: Cell migration in cancer
- ▶ L5: Tumour macrophages in melanoma
- ▶ L6: Study of the efficacy of combining immunotherapy and radiotherapy in different human tumours
- ▶ L7: Immunology of autoimmune chronic inflammatory diseases
- ▶ L8: Role of macrophages in Autoimmune Inflammatory Diseases
- ▶ L9: Immunology of Reproduction
- ▶ L10: Transplantation Immunology

### Axis 3: Immunology and HLA; Population Genetics and Signal Transduction

- ▶ L1: Immunology and HLA
- ▶ L2: Population genetics
- ▶ L3: Signal transduction

## Group members

- **Alonso Armendariz, Rocío:** R1. First Stage Researcher.
- **Arnaiz Villena, Antonio:** R3. Established Researcher.
- **Balastegui Martín, Héctor:** R1. First Stage Researcher.
- **Barrio Alonso, Celia.**
- **Di Natale Cipriano, Marisa:** R1. First Stage Researcher.
- **Díaz Luna, María Mercedes:** R1. First Stage Researcher.
- **Estecha Palomero, Ana:** R2. Recognised Researcher.
- **Ezzahouri El Khalouki, Ikram:** R1. First Stage Researcher.
- **Fernández-Cruz Pérez, Eduardo:** R4. Leading Researcher.
- **García Martínez, Elena:** R1. First Stage Researcher.
- **Gil Herrera, Juana:** R3. Established Researcher.
- **Gómez Pérez, Jimena María:** R1. First Stage Researcher.
- **Juárez Martín Delgado, Ignacio.**
- **López Navarro, Baltasar.**
- **Martín Villa, José Manuel:** R3. Established Researcher.
- **Martínez Quiles, Narcisa:** R3. Established Researcher.
- **Mejía González, María Alejandra:** R1. First Stage Researcher.
- **Montánchez Mateo, Judith.**
- **Navarro Caspistegui, Joaquín:** R3. Established Researcher.
- **Pérez García, Yaiza.**

Continued on next page



## Group members (Cont.)

- **Puig Kröger, Amaya Rocío:** R3. Established Researcher.
- **Rodríguez Sainz, María Carmen:** R3. Established Researcher.
- **Samaniego García, Rafael:** R2. Recognised Researcher.
- **Sánchez-Mateos Rubio, Paloma:** R3. Established Researcher.
- **Sánchez Martín, Alicia.**
- **Schiaffino García-Villanova, María Teresa:** R1. First Stage Researcher.
- **Torres Torresano, Mónica.**

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 3                       |            |                    |            |
| Regional      |                         |            | 3                  |            |

- Title: **Local immunoradiotherapy (LIRT).** CCA001-2020 (C18915/A29362)  
Director: Sánchez-Mateos Rubio, Paloma  
Project type: Research project  
Funding body: Accelerator Award. Cancer Research Uk  
Start date: 01/12/2019  
End date: 30/11/2024
- Title: **Mecanismos de evasión de la inmunidad antitumoral y de resistencia a la inmunoterapia mediados por macrófagos.(mel-TAM).** PID2021-123507OB-I00

Director: Sánchez-Mateos Rubio, Paloma

Project type: Research project

Funding body: MICINN/MINECO

Start date: 01/09/2022

End date: 31/08/2025

- Title: **Mecanismos moleculares de la inmunidad entrenada inducida por metotrexato.** PI20/00316  
Director: Puig Kröger, Amaya Rocío  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025
- Title: **Variantes genéticas en HLA-G y niveles solubles de HLA-G asociados a los fallos reproductivos.** PI18/01695  
Director: Fernández-Cruz Pérez, Eduardo  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023
- Title: **Young employment contract. Research Assistant.** PEJ-2020-AI/BMD-19682  
Director: Carbone Campoverde, Javier Alberto (Alonso Armendariz, Rocío)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 31/01/2023
- Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-19098  
Director: Rodríguez Sainz, Carmen (Cahuana Pérez, Mario Alberto)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/01/2021  
End date: 31/01/2023
- Title: **Young employment contract. Research Assistant.** PEJ-2021-AI/BMD-23327



Director: Samaniego García, Rafael (Nieto Valle, Alicia)

Project type: Human resources

Funding body: Comunidad Autónoma de Madrid

Start date: 01/11/2022

End date: 31/10/2024

## Cooperative Research Structures

| Type (RICORS, CIBER, others) | Name of Network                                                          | Code             | Role    |
|------------------------------|--------------------------------------------------------------------------|------------------|---------|
| Other                        | International Network for Strategic Initiatives in Global HIV Trials     | Associated group | INSIGHT |
| Other                        | Strategies and Treatments for Respiratory Infections & Viral Emergencies | Associated group |         |
| Other                        | Registro Español de Inmunodeficiencias Primarias                         | Associated group | REDIP   |

## Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate            | Title                                     | Name/s Director/s                                    | University | Date Defended |
|-----------|----------------------|-------------------------------------------|------------------------------------------------------|------------|---------------|
| Ph Thesis | Alba Gutiérrez Seijo | Microambiente tumoral del melanoma humano | Rafael Samaniego García/ Paloma Sánchez-Mateos Rubio | UCM        | 01/06/2023    |

## Clinical Practice Guidelines

| Authors                                                                                          | Title                                                                                                                                                     | Journal/Reference                                                                                                                    |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Rojo, R; Alén, JC; Prada, A; Valor, S; Roy, G; López-Hoyos, M; Cervera, R; Mateos, PS; Roger, AJ | Recommendations for the use of anti-dsDNA autoantibodies in the diagnosis and follow-up of systemic lupus erythematosus - A proposal from an expert panel | Autoimmun Rev. 2023 Dec;22(12):103479. doi: 10.1016/j.autrev.2023.103479. 2023 Dec;22(12):103479. doi: 10.1016/j.autrev.2023.103479. |

## Publications

Total Impact Factor: 72,2

|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 5         | 19,5        |
| Joint publications                                     | 9         | 52,7        |
| First decile publications                              | 2         | 0,0         |
| First quartile publications                            | 11        | 61,2        |
| Second quartile publications                           | 1         | 4,8         |
| Third quartile publications                            | 2         | 6,2         |
| Fourth quartile publications                           | 0         | 0,0         |
| Nonindexed publications/No IF                          | 0         | —           |
| <b>Total publications (including those without IF)</b> | <b>14</b> | <b>72,2</b> |



### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Rojo, R; Alén, JC; Prada, A; Valor, S; Roy, G; López-Hoyos, M; Cervera, R; Mateos, PS; Roger, AJ. *Recommendations for the use of anti-dsDNA autoantibodies in the diagnosis and follow-up of systemic lupus erythematosus - A proposal from an expert panel*. AUTOIMMUNITY REVIEWS. 2023; 22(12). FI: 9.2. Quartile: 1. (Article).
- Haine, LMF; Murry, TA; Nahra, R; Touloumi, G; Fernández-Cruz, E; Petoumenos, K; Koopmeiners, JS. *Semi-supervised mixture multi-source exchangeability model for leveraging real-world data in clinical trials*. BIOSTATISTICS. 2023; 25(3) 617-632. FI: 1.8. Quartile: 1. (Article).
- de la Aleja, AG; Herrero, C; Torres-Torresano, M; Schiaffino, MT; del Castillo, A; Alonso, B; Vega, MA; Puig-Kroger, A; Castrillo, A; Corbi, AL. *Inhibition of LXR controls the polarization of human inflammatory macrophages through upregulation of MAFB*. CELLULAR AND MOLECULAR LIFE SCIENCES. 2023; 80(4). FI: 6.2. Quartile: 1. (Article).
- Díaz-Navarro, M; Samaniego, R; Piqueras, JC; Díez, R; Hafian, R; Manzano, I; Muñoz, P; Guembe, M. *Understanding the diagnosis of catheter-related bloodstream infection: real-time monitoring of biofilm growth dynamics using time-lapse optical microscopy*. FRONTIERS IN CELLULAR AND INFECTION MICROBIOLOGY. 2023; 13. FI: 4.6. Quartile: 1. (Article).
- Mejía González MA; Quijada Morales P; Escobar MÁ; Juárez Guerrero A; Seoane-Reula ME. *Navigating the transition of care in patients with inborn errors of immunity: a single-center's descriptive experience*. FRONTIERS IN IMMUNOLOGY. 2023; 14 1263349-1263349. FI: 5.7. Quartile: 1. (Article).
- Suárez-Trujillo, F; Juarez, I; Recio-Hoyas, MJ; Rey, D; Palacio-Gruber, J; Gil-Martín, R; Martín-Villa, JM; Arnaiz-Villena, A. *HLA-DMB alleles and haplotypes in Ecuador (Cuenca) Amerindians: Importance for HLA and disease studies*. HUMAN IMMUNOLOGY. 2023; 84(4) 261-262. FI: 3.1. Quartile: 3. (Article).
- Suárez-Trujillo, F; Amirzargar, A; Hadinedoushan, H; Juarez, I; Nikbin, B; Gil-Martín, R; Vaquero-Yuste, C; Arnaiz-Villena, A. *HLA study in Iranian desert Yazd province inhabitants*. HUMAN IMMUNOLOGY. 2023; 84(5-7) 311-312. FI: 3.1. Quartile: 3. (Article).
- Solís-Barbosa, MA; Santana, E; Muñoz-Torres, JR; Segovia-Gamboa, NC; Patiño-Martínez, E; Meraz-Ríos, MA; Samaniego, R; Sánchez-Mateos, P; Sánchez-Torres, C. *The nuclear receptor Nurr1 is preferentially expressed in human pro-inflammatory macrophages and limits their inflammatory profile*. INTERNATIONAL IMMUNOLOGY. 2023; 36(3) 111-127. FI: 4.8. Quartile: 2. (Article).
- Muller, IB; Lin, M; de Jonge, R; Will, N; López-Navarro, B; van der Laken, C; Struys, EA; Oudejans, CBM; Assaraf, YG; Cloos, J; Puig-Kroger, A; Jansen, G. *Methotrexate Provokes Disparate Folate Metabolism Gene Expression and Alternative Splicing in Ex Vivo Monocytes and GM-CSF- and M-CSF-Polarized Macrophages*. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(11). FI: 4.9. Quartile: 1. (Article).
- Corpas, M; de Mendoza, C; Moreno-Torres, V; Pintos, I; Seoane, P; Perkins, JR; Ranea, JAG; Fatumo, S; Korcsmaros, T; Martín-Villa, JM; Barreiro, P; Corral, O; Soriano, V. *Genetic signature detected in T cell receptors from patients with severe COVID-19*. ISCIENCE. 2023; 26(10). FI: 4.6. Quartile: 1. (Article).
- Simón-Fuentes, M; Rios, I; Herrero, C; Lasala, F; Labiod, N; Luczkowiak, J; Roy-Vallejo, E; Cordoba-Onate, SFD; Delgado-Wicke, P; Bustos, M; Fernández-Ruiz, E; Colmenares, M; Puig-Kroeger, A; Delgado, R; Vega, MA; Corbi, AL; Domínguez-Soto, A. *MAFB shapes human monocyte-derived macrophage response to SARS-CoV-2 and controls severe COVID-19 biomarker expression*. JCI INSIGHT. 2023; 8(24). FI: 6.3. Quartile: 1. (Article).
- Rodríguez-Ruiz, ME; Serrano-Mendioroz, I; Garate-Soraluze, E; Sánchez-Mateos, P; Barrio-Alonso, C; López, IR; Pascual, VD; Moreno, LA; Álvarez, M; Sanmamed, MF; Pérez-Gracia, JL; Escuin-Ordinas, H; Quintero, M; Melero, I. *Intratumoral BO-112 in combination with radiotherapy synergizes to achieve CD8 T-cell-mediated local tumor control*. JOURNAL FOR IMMUNOTHERAPY OF CANCER. 2023; 11(1). FI: 10.3. Quartile: 1. (Article).
- Suárez-Trujillo, F; El-Safi, S; Juarez, I; Palacio-Gruber, J; Sánchez-Orta, A; Martín-Villa, JM; Arnaiz-Villena, A. *HLA alleles and haplotypes in Sudanese population and their relationship with Mediterraneans*. SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).
- Arnaiz-Villena, A; Juarez, I; Sánchez-Orta, A; Martín-Villa, JM; Suárez-Trujillo, F. *Major histocompatibility complex compement (MHC) Bf alleles show trans species evolution between man and chimpanzee*. SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).



Group Director: **MARÍA ÁNGELES MUÑOZ FERNÁNDEZ**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

### Axis 1. Basic Research

- ▶ L1: The use of nanoparticles as miRNA delivery agents.
- ▶ L2: Use of nanoparticles, mainly dendrimers, as microbicides against HIV-1, HSV and other sexually transmitted viruses.
- ▶ L3: Generation of organoids from human pluripotent stem cells: platform for modeling infectious diseases. Therapies based on nanotechnology.

### Axis 2. Clinical Research Axis

- ▶ L1: Design of immunomodulators and therapeutic vaccines based on dendritic cells against HIV and other sexually transmitted viruses.
- ▶ L2: Paediatric infection by HIV and other viruses.
- ▶ L3: Study of SARS-CoV2 infection in adult population and HIV/SARS-Co2 co-infection.

### Axis 3. BioBank

- ▶ L1: Private sample collections for specific projects and coordinated by the Director of the HGM HIV Biobank, Dr. Muñoz-Fernández, the HGUGM has several cohorts of patients, such as the bronchitis cohort, neonatology, nephrology, rare diseases, respiratory diseases, sepsis, tuberculosis and the recent GesNEO cohort (pregnant women infected by SARS-CoV2 and their newborns) with biological samples stored in the BioBank.

The Molecular Immunobiology Research Laboratory (LIBM) is a multidisciplinary and consolidated research group belonging to the Instituto de Investigación Sanitaria Gregorio Marañón (IiSGM), directed by Dr. Muñoz Fernández. Dr. Muñoz-Fernández is a specialist in Immunology, Doctor in Biology, Doctor in Medicine and Surgery and current head of

the Immunology Section at the Hospital General Universitario Gregorio Marañón. She is the Scientific Director of the HGM HIV BioBank and LIBM. The group is made up of support technicians, predoctoral researchers, postdoctoral researchers and senior researchers, as well as administrative and management staff. Dr Muñoz-Fernández's group has received continuous funding for more than 70 research projects, through both public and private competitive calls, at national and international level, and maintaining collaborations in national and international projects and foundations. It has also received funding in 19 projects from the Health Research Fund (FIS), with the following project in force: PI23/01137 "Generation of vaginal organoids from human pluripotent stem cells (hPSCs): platform for modeling sexually infectious diseases (SIDs). Nanotechnology-based therapies", 2024-2026 with funding of €202,500 similar to the projects it has received previously, in other calls for proposals..

The LIBM has been incorporated in 2023 to the CIBER of Bioengineering, Biomaterials and Nanomedicine (BBN) (group code: CB22/01/00041). Dr. Muñoz-Fernández has more than 490 publications in prestigious international journals, with a number h of 68 in Google Scholar. She has also trained a large number of scientific researchers, directing up to 50 PhD Theses (12 of which were awarded the International Mention and 10 with the Extraordinary PhD Award), all of which were graded Cum Laude, more than 40 Masters students and 30 postdoctoral researchers. In addition, she has written 34 book chapters, has participated in 10 clinical practice guidelines and 5 reference books in the field of biomedicine. She has 150 teaching activities, including PhD courses, Bachelor's Degrees, Master's Degrees, Summer Courses, etc., which translates into more than 85 students tutored in various categories: DEA, MIR, Río Hortega, PhD, Final Projects and Master's Degrees.

The activity of the research group has also played an important role in innovation. The research results have registered 17 patents or utility models as inventor based on the development of nanoparticles, especially dendrimers, as new tools in nanomedicine, 1 national and international patent during the last 5 years, and the use of these results has promoted the transfer of patents and the development of commercial projects based on technology. It is an accredited evaluator of research projects at national and international level, and a member of 14 scientific societies and committees, highlighting the participation in the Executive Committee of



the Spanish Association of Paediatrics (INVEST-AEP). One of the group's priority objectives includes scientific communication and dissemination activities. It has organised 35 scientific events and has presented more than 714 communications and papers at national and international congresses and conferences, 50 during the last 5 years. The quality of the work produced has been recognised with 39 awards and distinctions from public and private sector entities, aimed at both business management and research excellence: 25 awards granted in recognition of research work, 1 of them at European level, 11 awards granted in Innovation and Translational Research and 3 awards granted by Foundations and private institutions in professional development. It is worth highlighting the Decoration of Admission to the Civil Order of Health in the category of the Simple Cross, awarded by the Ministry of Health and Consumer Affairs.

The group carries out a great deal of excellent research in the field of infectious diseases, both inside and outside Spain, either through its participation in state/European networks or through consortia with research groups, based on the development of new strategies for the prevention, detection and treatment of infectious diseases. Since 1994, the main lines of research developed have been fundamentally related to sexually transmitted infections (STIs), mainly infection by the human immunodeficiency virus (HIV-1). The group's current projects are framed within different lines of research, with a focus applied to basic, clinical or translational research.

## Group members

- **Espinar Buitrago, María de la Sierra:** R1. First Stage Researcher.
- **Gallego de la Fuente, Jorge Luis:** R1. First Stage Researcher.
- **Gómez Rico, Coral:** R1. First Stage Researcher.
- **Jiménez Fuentes, José Luis:** R3. Established Researcher.
- **Juárez Rodríguez, Roxana:** R1. First Stage Researcher.
- **Magro López, Esmeralda:** R2. Recognised Researcher.
- **Muñoz Fernández, María Ángeles:** R4. Leading Researcher.
- **Vázquez Alejo, Elena:** R1. First Stage Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 2                       |            | 2                  |            |
| Regional      |                         |            |                    |            |

- Title: **ESPID Small Grant Award: «The role of iron deficiency in the vaccine immune response of paediatric patients on immunosuppressive treatment (IronVac project)».** ESPID23/01  
Director: TARANCON Díez, LAURA  
Project type: Research project  
Funding body: ESPID  
Start date: 09/10/2023  
End date:
- Title: **Nanotecnología y microRNAs como terapia alternativa en la búsqueda de una posible erradicación de la infección por el VIH-1.** PI20/01314  
Director: Muñoz Fernández, María Ángeles / Jiménez Fuentes, José Luis  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2023
- Title: **Dendrímeros como candidatos a microbicidas para prevenir infecciones por VIH y/o VHS-2 en mujeres y hombres.** PI19/01638  
Director: Muñoz Fernández, María Ángeles  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 30/06/2024





- Title: **Sara Borrell contract.** CD20/00025  
Director: Tarancon Díez, Laura  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2023
- Title: **Río Hortega contract.** CM20/00128  
Director: Hernanz Lobo, Alicia  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 11/01/2021  
End date: 30/06/2023

## Industrial and intellectual property registrations

### Industrial property

| Title                                                                                | Reference*   | Owner                                     | Inventors                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------|--------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nanopartículas metálicas estabilizadas con dendrones carbosilano y sus usos          | P 2015 00669 | Universidad de Alcalá de Henares - FIBHGM | Francisco Javier de la Mata, Rafael Gómez, Javier Sánchez-Nieves, Cornelia Peña, José Luis Copa, Juan Soliveri, Jorge Pérez, M <sup>a</sup> Ángeles Muñoz, José Luis Jiménez, Pilar García                                                                                            |
| Dendrones carbosilano funcionalizados con ácidos grasos: formación de micelas y usos | P 2016 00726 | Universidad de Alcalá de Henares - FIBHGM | M <sup>a</sup> Ángeles Muñoz, José Luis Jiménez, Carlos Guerrero, Daniel Sepúlveda, Rafael Ceña, Francisco Javier de la Mata, Rafael Gómez, Javier Sánchez-Nieves, Gabriel Mencía, Jesús Cano, José Luis Copa, Juan Soliveri, Jorge Pérez, Mercedes Valiente, Carlos Emilio Gutiérrez |

| Title                                                                         | Reference*   | Owner                                     | Inventors                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------|--------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dendrimeros carbosilanos con un núcleo polifenólico y su uso como antivirales | P 20103 0450 | Universidad de Alcalá de Henares - HGUGM  | Francisco Javier de la Mata, Rafael Gómez, Javier Sánchez-Nieves, Paula Ortega, M <sup>a</sup> Ángeles Muñoz-Fernández, Louis Chonco, M <sup>a</sup> Jesús Serramia                                                                                                   |
| Dendrimeros carbosilanos y su uso como antivirales                            | P 20103 0233 | Universidad de Alcalá de Henares - HGUGM  | Francisco Javier de la Mata, Rafael Gómez, M <sup>a</sup> Ángeles Muñoz-Fernández, Javier Sánchez-Nieves, Beatriz Rasines, Louis Chonco, Eduardo Arnaiz, M <sup>a</sup> Jesús Serramia                                                                                |
| Compuestos dendríticos carbosilanos homo y hetero-funcionalizados             | P 2012 31187 | Universidad de Alcalá de Henares - FIBHGM | Francisco Javier de la Mata, Rafael Gómez, M <sup>a</sup> Ángeles Muñoz-Fernández, Javier Sánchez-Nieves, José Luis Jiménez, Silvia Fernández, Marta Galán, Raquel Lorente, Elena Fuentes, Javier Sánchez, Cornelia Peña, M <sup>a</sup> Jesús Serramia, Rosa Reguera |

■ Transferred Intellectual Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

## Cooperative Research Structures

| Type (RICORS, CIBER, others)                                                           | Name of Network                                                                             | Role                | Code      |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------|-----------|
| Other: Network of the Ibero-American Program of Science and Technology for Development | Red Pediátrica para Prevención, Detección Precoz y Tratamiento del VIH en niños (PLANTAIDS) | Collaborating group | PLANTAIDS |
| Other: European Paediatric Research Network                                            | Pediatric European Network for Treatment of AIDS                                            | Collaborating group | PENTA     |
| CIBER                                                                                  | CIBERBBN                                                                                    | Collaborating group | CIBERBBN  |





| Publications                                           |           | Total Impact Factor: 90,2 |
|--------------------------------------------------------|-----------|---------------------------|
|                                                        | Nº        | IF                        |
| Own publications                                       | 9         | 43,9                      |
| Joint publications                                     | 11        | 46,3                      |
| First decile publications                              | 5         | 0,0                       |
| First quartile publications                            | 18        | 86,7                      |
| Second quartile publications                           | 2         | 3,5                       |
| Third quartile publications                            | 0         | 0,0                       |
| Fourth quartile publications                           | 0         | 0,0                       |
| Nonindexed publications/No IF                          | 0         | —                         |
| <b>Total publications (including those without IF)</b> | <b>20</b> | <b>90,2</b>               |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Gutiérrez-Velez, A; Castro-Rodríguez, C; Jove-Blanco, A; Aguilera-Alonso, D; Rincon-López, EM; Hernanz-Lobo, A; Gómez, MN; Hernández-Sampelayo, T; Alonso-Fernández, R; Saavedra-Lozano, J. *Acute Epstein-Barr virus infection: Diagnostic challenge in young children, risk factors for hospitalisation and cytomegalovirus co-detection*. ACTA PAEDIATRICA. 2023; 112(6) 1287-1295. FI: 2.4. Quartile: 1. (Article).
- Baquero-Artigao, F; del Rosal, T; Falcon-Neyra, L; Ferreras-Antolin, L; Gómez-Pastrana, D; Hernanz-Lobo, A; Mendez-Echevarria, A; Noguera-Julian, A; Sánchez, MTP; Rodríguez-Molino, P; Pineiro-Pérez, R; Santiago-García, B; Soriano-Arandes, A. *Update on the diagnosis and treatment of tuberculosis*. ANALES DE PEDIATRIA. 2023; 98(6) 460-469. FI: 1.5. Quartile: 2. (Article).
- Tarancon, L. *Long-term evolution in liver disease markers and immune and lipid profiles in vertically HIV/HCV-coinfected youths with sustained viral response after direct-acting antivirals therapy*. BIOMEDICINE & PHARMACOTHERAPY. 2023; 162. FI: 6.9. Quartile: 1. (Article).

- Tarancon-Díez L; Iriarte-Gahete M; Sánchez-Mingo P; Pérez-Cabeza G; Romero-Candau F; Pacheco YM; Leal M; Muñoz-Fernández MÁ. *Real-world experience of intravenous iron sucrose supplementation and dynamics of soluble transferrin receptor and hepcidin in a Spanish cohort of absolute iron deficient patients*. BIOMEDICINE & PHARMACOTHERAPY. 2023; 167 115510-115510. FI: 6.9. Quartile: 1. (Article).
- Martín-Vicente, M; Carrasco, I; Muñoz-Gómez, MJ; Lobo, AH; Mas, V; Vigil-Vázquez, S; Vázquez, M; Manzanares, A; Cano, O; Alonso, R; Sepulveda-Crespo, D; Tarancon-Díez, L; Muñoz-Fernández, MA; Muñoz-Chapuli, M; Resino, S; Navarro, ML; Martínez, I. *Antibody levels to SARS-CoV-2 spike protein in mothers and children from delivery to six months later*. BIRTH-ISSUES IN PERINATAL CARE. 2023; 50(2) 418-427. FI: 2.8. Quartile: 1. (Article).
- Vigil-Vázquez, S; Manzanares, A; Hernanz-Lobo, A; Carrasco-García, I; del Pozo, CZ; Pérez-Pérez, A; Rincon-López, EM; Santiago-García, B; Pintado-Recarte, MD; Alonso-Fernández, R; Sánchez-Luna, M; Navarro-Gómez, ML. *Serologic evolution and follow-up to IgG antibodies of infants born to mothers with gestational COVID*. BMC PREGNANCY AND CHILDBIRTH. 2023; 23(1). FI: 2.8. Quartile: 1. (Article).
- Calvo, FA; Tudela, M; Serrano, J; Muñoz-Fernández, M; Peligros, MI; García-Alfonso, P; del Valle, E. *Post-Chemoradiation Metastatic, Persistent and Resistant Nodes in Locally Advanced Rectal Cancer: Metrics and Their Impact on Long-Term Outcome*. CANCERS. 2023; 15(18). FI: 4.5. Quartile: 1. (Article).
- Lobo, AH; Sánchez, AB; Escolano, L; Muñoz, SP; Gerig, N; Sainz, T; Pena, MJM; Hortelano, MGL. *International Adoption of Children with Special Needs in Spain*. CHILDREN-BASEL. 2023; 10(4). FI: 2. Quartile: 2. (Article).
- Tarancon-Díez, L. *Toll-like receptor agonists enhance HIV-specific T cell response mediated by plasmacytoid dendritic cells in diverse HIV-1 disease progression phenotypes*. EBIOMEDICINE. 2023; 91. FI: 9.7. Quartile: 1. (Article).
- Espinar-Buitrago, MS; Tarancon-Díez, L; Vázquez-Alejo, E; Magro-López, E; Genebat, M; Romero-Candau, F; Leal, M; Muñoz-Fernández, MA. *The use of alpha 1 thymosin as an immunomodulator of the response*



against SARS-Cov2. IMMUNITY & AGEING. 2023; 20(1). FI: 5.2. Quartile: 1. (Article).

- Muñoz-Gómez MJ; Martín-Vicente M; Vigil-Vázquez S; Carrasco I; Lobo AH; Mas V; Vázquez M; Manzanares A; Cano O; Zamora C; Alonso R; Sepulveda-Crespo D; Tarancon-Díez L; Muñoz-Fernández MÁ; Muñoz-Chapuli M; Resino S; Navarro ML; Martínez I. *IgG antibody levels against the SARS-CoV-2 spike protein in mother-child dyads after COVID-19 vaccination.* INFECTION. 2023; 52(3) 813-824. FI: 5.4. Quartile: 1. (Article).
- Espinar-Buitrago, MS; Vázquez-Alejo, E; Magro-López, E; Tarancon-Díez, L; Leal, M; Muñoz-Fernández, MA. *Immune modulation via dendritic cells by the effect of Thymosin-alpha-1 on immune synapse in HCMV infection.* INTERNATIONAL IMMUNOPHARMACOLOGY. 2023; 125. FI: 4.8. Quartile: 1. (Article).
- Vázquez-Alejo, E; Tarancon-Díez, L; Espinar-Buitrago, MD; Genebat, M; Calderón, A; Pérez-Cabeza, G; Magro-López, E; Leal, M; Muñoz-Fernández, MA. *Persistent Exhausted T-Cell Immunity after Severe COVID-19: 6-Month Evaluation in a Prospective Observational Study.* JOURNAL OF CLINICAL MEDICINE. 2023; 12(10). FI: 3. Quartile: 1. (Article).
- Poveda, E; Fitzgerald, W; Reglero, C; Pérez-González, A; Marino, A; Álvarez, H; Valcarce, N; Llibre, JM; Guillén, SM; Fernández, MAM; Ruiz-Mateos, E; Margolis, L; Lederman, MM; Freeman, ML. *Interleukin 18 (IL-18) and IL-3 in Extracellular Vesicles: Biomarkers for Durable Elite Control of HIV-1.* JOURNAL OF INFECTIOUS DISEASES. 2023; 227(12) 1381-1385. FI: 5. Quartile: 1. (Article).
- Sepulveda-Crespo, D; Jiménez-Sousa, MA; Fernández-Rodríguez, A; Muñoz-Fernández, MA; Jiménez, JL; Moreno, S; García, F; Martínez, I; Benito, JM; Rallon, N; Resino, S. *IRF5-TNOP3 polymorphisms are associated with elite control of HIV infection: A retrospective study.* JOURNAL OF MEDICAL VIROLOGY. 2023; 95(6). FI: 6.8. Quartile: 1. (Article).

- Sepúlveda-Crespo, D; Jiménez-Sousa, MA; Fernández-Rodríguez, A; Muñoz-Fernández, MA; Jiménez, JL; Caraciolo, BB; Bañuls, SR; Vilchez, H; Mothe, B; Martínez, I; Benito, JM; Rallón, N; Resino, S. *IL7RA rs10491434 polymorphism is related to spontaneous HIV infection control in naive HIV-infected patients: A retrospective study.* JOURNAL OF MEDICAL VIROLOGY. 2023; 95(11). FI: 6.8. Quartile: 1. (Article).
- Rosado-Sánchez I; Herrero-Fernández I; Sobrino S; Carvajal AE; Genebat M; Tarancon-Díez L; García-Guerrero MC; Puertas MC; de Pablos RM; Ruiz R; Martínez-Picado J; Leal M; Pacheco YM. *Caecum OX40+CD4 T-cell subset associates with mucosal damage and key markers of disease in treated HIV-infection.* JOURNAL OF MICROBIOLOGY IMMUNOLOGY AND INFECTION. 2023; 56(6) 1129-1138. FI: 4.5. Quartile: 1. (Article).
- Tarancon-Díez, L; Peraire, J; Jiménez de Ory S; Guirro, M; Escosa, L; Prieto Tato LM; Penín Antón M; Piqueras, AI; Vázquez Pérez Á; Gavilan, C; Bustillo-Alonso, M; Luisa Navarro M; Vilades, C; Vidal, F; Rull, A; Muñoz-Fernández MÁ. *Transient Viral Rebound in Children with Perinatally Acquired HIV-1 Induces a Unique Soluble Immunometabolic Signature Associated with Decreased CD4/CD8 Ratio.* JOURNAL OF THE PEDIATRIC INFECTIOUS DISEASES SOCIETY. 2023; 12(3) 143-151. FI: 2.5. Quartile: 1. (Article).
- Hernanz-Lobo, A; Noguera-Julian, A; Minguell, L; López-Suárez, A; Soriano-Arandes, A; Espiau, M; Gil, EC; Medina, EML; Bustillo-Alonso, M; Aguirre-Pascual, E; Baquero-Artigao, F; Garsaball, OC; Gómez-Pastrana, D; Falcon-Neyra, L; Santiago-García, B. *Prevalence and Clinical Characteristics of Children With Nonsevere Tuberculosis in Spain.* PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2023; 42(10) 837-843. FI: 2.9. Quartile: 1. (Article).
- Zaballos, M; Varela, O; Fernández, I; Rodríguez, L; García, S; Quintela, O; Vázquez, E; Anadon, MJ; Almendral, J. *Assessment of cardiotoxicity and plasma ropivacaine concentrations after serratus intercostal fascial plane block in an experimental model.* SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).



Group Director: **JOSÉ MARÍA ÁLVARO-GRACIA**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Biological and targeted therapies for rheumatic diseases

- ▶ L1: Safety and efficacy in biologic and targeted therapies -BIOBADASER
- ▶ L2: Biomarkers of response to methotrexate and JAK inhibitors.

### Axis 2: Rheumatoid arthritis

- ▶ L1: Early arthritis - REUCARE

### Axis 3: Systemic autoimmune rheumatic diseases

- ▶ L1: FAST track in giant cell arteritis
- ▶ L2: Biomarkers of activity in scleroderma
- ▶ L3: Remission and discordance in SLE - RELESSER
- ▶ L4: Characterisation of Sjogren's syndrome

### Axis 4: Osteoporosis and Bone Metabolism

- ▶ L1: Osteoporosis and mastocytosis

### Axis 5: Imaging in rheumatology

- ▶ L1: Ultrasonography in large vessel vasculitis

### Axis 6: Chronic musculoskeletal pain

- ▶ L1. Fibromyalgia and COVID19

## Group members

- **Álvaro-Gracia Álvaro, José María:** R4. Leading Researcher.
- **Castrejón Fernández, Isabel:** R3. Established Researcher.
- **Del Río Blasco, Tamara:** R1. First Stage Researcher.
- **González Fernández, Carlos Manuel:** R3. Established Researcher.
- **González Hernández, Teresa:** R1. First Stage Researcher.
- **Martínez Barrio, Julia:** R2. Recognised Researcher.
- **Molina Collada, Juan:** R1. First Stage Researcher.
- **Nieto González, Juan Carlos:** R2. Recognised Researcher.
- **Rivera Redondo, Francisco Javier:** R3. Established Researcher.
- **Rodríguez Merlos, Palo:** R1. First Stage Researcher.
- **Serrano Benavente, Belén:** R1. First Stage Researcher.

The group focuses its research activities on: 1) the study of mechanisms of action and safety of biological disease-modifying drugs and targeted molecules; 2) biomarkers and early detection strategies for rheumatoid arthritis; 3) validation of patient-reported measures (PROs) in rheumatic diseases; 4) characterisation and prognostic factors in systemic autoimmune diseases, multidisciplinary unit and CSUR reference centre; 5) musculoskeletal and vascular ultrasound for the assessment of rheumatic pathology; 6) characterisation of chronic musculoskeletal pain; 7) characterisation of chronic musculoskeletal pain in rheumatic diseases, multidisciplinary unit and CSUR reference centre; 8) characterisation of rheumatoid arthritis and its prognostic factors.



### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 1                       |            | 1                  |            |
| Regional      |                         |            |                    |            |

- Title: Stratification of Patients using advanced Integrative modeling of Data Routinely acquired for diagnosing Rheumatic complaints.** HE SPIDeRR 101080711  
 Director: Castrejón Fernández, Isabel  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/05/2023  
 End date: 30/04/2028
- Title: Consulta de Alta Resolución en Reumatología (Reu-CAR): Una iniciativa coordinada entre Atención Primaria/Reumatología para el diagnóstico precoz y mejor manejo de los pacientes con artritis inflamatoria.** PI20/00847  
 Director: Castrejón Fernández, Isabel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 30/06/2025
- Title: Ayudas para Facultativos Investigadores FER 2021-2024.** FER-ACI01/2021  
 Director: Molina Collada, Juan  
 Project type: Human resources  
 Funding body: Fundación Española de Reumatología (FER)  
 Start date: 01/01/2022  
 End date: 01/04/2026

### Industrial and intellectual property registrations

#### Copyright

| Title                                                                                                 | Reference                          | Owner  | Inventors                                         |
|-------------------------------------------------------------------------------------------------------|------------------------------------|--------|---------------------------------------------------|
| Taller práctico de Técnicas de Laboratorio de Inmunología e interpretación clínica para médicos       | Nº Asiento Registral: 16/2014/6111 | FIBHGM | Larissa Valor, Luis Carreño, Diana Hernández      |
| Taller práctico de Técnicas de Laboratorio de Inmunofu- rescencia indirecta (IFI «Live») para médicos | Nº Asiento Registral: 16/2014/6112 | FIBHGM | Larissa Valor, Fco. Javier López, Diana Hernández |
| Infiltraciones guiadas por ecografía en reumatología                                                  | Nº Asiento Registral: 16/2018/7393 | FIBHGM | Juan Carlos Nieto González                        |

■ Transferred Intellectual Property.

### Publications

Total Impact Factor: 111,7

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 10        | 25,2         |
| Joint publications                                     | 16        | 86,5         |
| First decile publications                              | 2         | 0,0          |
| First quartile publications                            | 14        | 89,5         |
| Second quartile publications                           | 3         | 9,7          |
| Third quartile publications                            | 3         | 5,3          |
| Fourth quartile publications                           | 6         | 7,2          |
| Nonindexed publications/No IF                          | 4         | —            |
| <b>Total publications (including those without IF)</b> | <b>30</b> | <b>111,7</b> |



**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Pombo-Suárez, M; Seoane-Mato, D; Díaz-González, F; Sánchez-Alonso, F; Sánchez-Jareño, M; Cea-Calvo, L; Castrejon, I. *Four-years retention rate of golimumab administered after discontinuation of non-TNF inhibitors in patients with inflammatory rheumatic diseases*. ADVANCES IN RHEUMATOLOGY. 2023; 63(1). FI: 2. Quartile: 3. (Article).
- Dejaco, C; Ramiro, S; Bond, M; Bosch, P; Ponte, C; Mackie, SL; Bley, TA; Blockmans, D; Brolin, S; Bolek, EC; Cassie, R; Cid, MC; Molina-Collada, J; Dasgupta, B; Nielsen, BD; De Miguel, E; Direskeneli, H; Duftner, C; Hocevar, A; Molto, A; Schafer, VS; Seit. *EULAR recommendations for the use of imaging in large vessel vasculitis in clinical practice: 2023 update*. ANNALS OF THE RHEUMATIC DISEASES. 2023; 83(6) 741-751. FI: 20.3. Quartile: 1. (Article).
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- Monjo-Henry, I; Fernández-Fernández, E; Mostaza, JM; Lahoz, C; Molina-Collada, J; de Miguel, E. *Ultrasound halo count in the differential diagnosis of atherosclerosis and large vessel giant cell arteritis*. ARTHRITIS RESEARCH & THERAPY. 2023; 25(1). FI: 4.4. Quartile: 1. (Article).
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ARTHRITIS AND RHEUMATISM. 2023; 58 152121-152121. FI: 4.6. Quartile: 1. (Article).

#### Other publications

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- Muñoz A; Bautista-Molano W; Castrejón I; Hernández-Cruz B; Martín JM; Pinedo C; Urruticoechea A; Carmona L. *Proposal for updating the Health Assessment Questionnaire*. REUMATOLOGIA CLINICA. 2023; 19(5) 266-272. (Article).





Group Director: **JOSÉ MANUEL ZUBELDIA ORTUÑO**

Organisms involved: **HGUGM**

Type: **Emerging group**

## Research lines

### Axis 1: Basic and experimental allergology

- ▶ L1: Mechanisms of the allergic response and their regulation.
- ▶ L2: Transgenesis and phenotyping.
- ▶ L3: Hyperoxia-induced disease.
- ▶ L4: Allergenic characterization of noncommercial allergens.

### Axis 2: Uncommon allergic diseases

- ▶ L1: Difficult-to-control asthma.
- ▶ L2: Hereditary angioedema.
- ▶ L3: Eosinophilic esophagitis.
- ▶ L4: Activation of mastocytes.

### Axis 3: Pediatric allergy

- ▶ L1: Oral immunotherapy with foods.
- ▶ L2: Gastrointestinal allergy.
- ▶ L3: Anaphylaxis in children.
- ▶ L4: Use of social networks in food-allergic children.

- **Crespo Quiros, Jimena:** R1. First Stage Researcher.
- **Cuevas Bravo, Cristina:** R1. First Stage Researcher.
- **De Castro Martínez, Francisco Javier:** R1. First Stage Researcher.
- **Entrala Bueso, Ana:** R3. Established Researcher.
- **Fernández Alonso, Ana:** R1. First Stage Researcher.
- **Fuentes Aparicio, Victoria:** R3. Established Researcher.
- **Infante Herrero, Sonsoles:** R3. Established Researcher.
- **Jover Walsh, Alejandra:** R1. First Stage Researcher.
- **Juárez Guerrero, Alba.**
- **Laínez Nuez, Ana:** R1. First Stage Researcher.
- **Letón Cabanillas, Patricia:** R1. First Stage Researcher.
- **López Tovar, Carlos:** R1. First Stage Researcher.
- **Muñoz de Baena Albarracín, María:** R1. First Stage Researcher.
- **Noguerado Mellado, Blanca:** R3. Established Researcher.
- **Palomino Lozano, Laura:** R1. First Stage Researcher.
- **Pelta Fernández, Roberto.**
- **Poli Pérez Rodnel, Enrique:** R1. First Stage Researcher.
- **Prieto García, Alicia:** R3. Established Researcher.
- **Proaño Mosquera, Sofía Margarita:** R1. First Stage Researcher.
- **Rodríguez Hermida, Sandra.**
- **Rodríguez Mazariego, Marta Elena:** R1. First Stage Researcher.
- **Rojas Pérez Ezquerro, Patricia Eugenia:** R1. First Stage Researcher.
- **Tornero Molina, Pilar:** R1. First Stage Researcher.
- **Vázquez Barrera, Irene:** R1. First Stage Researcher.
- **Zambrano Ibarra, Gabriela Andrea:** R1. First Stage Researcher.
- **Zubeldia Ortuño, José Manuel:** R3. Established Researcher.

## Group members

- **Alonso Navarro, Miren:** R1. First Stage Researcher.
- **Álvarez Perea, Alberto:** R3. Established Researcher.
- **Arana Arce, Juan Sebastián:** R1. First Stage Researcher.
- **Aray Morán, María Gabriela:** R1. First Stage Researcher.
- **Baeza Ochoa de Ocáriz, María Luisa:** R3. Established Researcher.
- **Cabrera Freitag, Paula:** R3. Established Researcher.



## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Caracterización de las alteraciones inmunológicas, específicamente en células Treg, implicadas en la desregulación inmune en pacientes pediátricos con errores innatos de inmunidad, hacia terapias dirigidas.** PI21/01325

Director: Seoane Reula, María Elena

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2022

End date: 31/12/2024

## Industrial and intellectual property registrations

### Copyright

| Title                               | Reference     | Owner  | Inventors                                                                                                             |
|-------------------------------------|---------------|--------|-----------------------------------------------------------------------------------------------------------------------|
| Protocolo de alergia a medicamentos | 2308115023081 | FIBHGM | José Manuel Zubeldia Ortuño, María Luisa Baeza Ochoa de Ocariz, Patricia Rojas Pérez-Ezquerro, Blanca Noguera Mellado |

## Publications

Total Impact Factor: 80,7

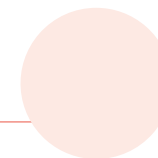
|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 6         | 21,5        |
| Joint publications                                     | 8         | 59,2        |
| First decile publications                              | 4         | 0,0         |
| First quartile publications                            | 10        | 72,9        |
| Second quartile publications                           | 2         | 5,2         |
| Third quartile publications                            | 1         | 1,7         |
| Fourth quartile publications                           | 1         | 0,9         |
| Nonindexed publications/No IF                          | 0         | –           |
| <b>Total publications (including those without IF)</b> | <b>14</b> | <b>80,7</b> |

### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Santos, AF; Riggioni, C; Agache, I; Akdis, CA; Akdis, M; Álvarez-Perea, A; Alvaro-Lozano, M; Ballmer-Weber, B; Barni, S; Beyer, K; Bindeslev-Jensen, C; Brough, HA; Buyuktiryaki, B; Chu, D; Del Giacco, S; Dunn-Galvin, A; Eberlein, B; Ebisawa, M; Eigenmann, . *EAACI guidelines on the diagnosis of IgE-mediated food allergy*. ALLERGY. 2023; 78(12) 3057-3076. FI: 12.6. Quartile: 1. (Article).
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- Ibarra, GZ; Mellado, BN; Molina, PT; Bravo, CC; Pérez-Esquerro, PR. *DRESS syndrome due to iodinated contrast media. A case report*. ALLERGY ASTHMA AND CLINICAL IMMUNOLOGY. 2023; 19(1). FI: 2.6. Quartile: 2. (Article).



- Álvarez-Perea A; Cabrera-Freitag P; Fuentes-Aparicio V; Infante S. *Advancements in Anaphylaxis Management*. CURRENT PHARMACEUTICAL DESIGN. 2023; 29(3) 185-195. FI: 2.6. Quartile: 2. (Review).
- Mejía González MA; Quijada Morales P; Escobar MÁ; Juárez Guerrero A; Seoane-Reula ME. *Navigating the transition of care in patients with inborn errors of immunity: a single-center's descriptive experience*. FRONTIERS IN IMMUNOLOGY. 2023; 14 1263349-1263349. FI: 5.7. Quartile: 1. (Article).
- Zubeldia-Varela, E; Barker-Tejeda, TC; Mera-Berriatua, L; Bazire, R; Cabrera-Freitag, P; Ubeda, C; Barber, D; Francino, MP; Rojo, D; Ibáñez-Sandin, MD; Pérez-Gordo, M. *Further Insights into the Gut Microbiota of Cow's Milk Allergic Infants: Analysis of Microbial Functionality and Its Correlation with Three Fecal Biomarkers*. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(11). FI: 4.9. Quartile: 1. (Article).
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- Vázquez-Ortiz, M; Argiz, L; Infante, S; Barni, S; BIO-FPIES Network. *Recurrences in food protein-induced enterocolitis syndrome: Let's get the label right*. JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY-IN PRACTICE. 2023; 11(10) 3282-3282. FI: 8.2. Quartile: 1. (Letter).
- Prieto-García, A; Peligros, MI; Tamayo, IP; Zubeldia, JM; Álvarez-Sala, L; Lavilla, C. *Long-term use of mepolizumab in a case of chronic eosinophilic pneumonia: extending interval dosing*. JOURNAL OF ASTHMA. 2023; 61(1) 69-71. FI: 1.7. Quartile: 3. (Editorial Material).
- Infante S; Argiz L; Cabrera-Freitag P; Fernández-de-Alba I; Moya B; Escudero C. *Food Protein-Induced Enterocolitis Syndrome: Results of a Spanish Survey*. JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2023; 33(2) 134-136. FI: 6.1. Quartile: 1. (Editorial Material).
- Ferreira, MB; Baeza, ML; Santos, AS; Prieto-García, A; Leal, R; Álvarez, J; Caballero, T. *Evolution of Guidelines for the Management of Hereditary Angioedema due to C1 Inhibitor Deficiency*. JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2023; 33(5) 332-362. FI: 6.1. Quartile: 1. (Review).
- Prieto-García, A; Rojas-Pérez-Ezquerro, P; Noguerado-Mellado, B; Zambrano, G; Cuevas, C; Juárez, A; Tornero-Molina, P. *Adjuvant Use of Omalizumab in Desensitization to Chemotherapeutics: Beyond IgE-Mediated Reactions*. JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2023; 33(6) 497-499. FI: 6.1. Quartile: 1. (Editorial Material).
- Morales-Cabeza, C; Infante, S; Cabrera-Freitag, P; Fuentes-Aparicio, V; Zubeldia, JM; Álvarez-Perea, A. *Oral Immunotherapy and Risk of Eosinophilic Esophagitis in Children: 15 Years' Experience*. JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION. 2023; 76(1) 53-58. FI: 2.4. Quartile: 1. (Article).
- Quintana-Ortega, C; Pfeifer, APM; Lozano, LP; Lancharro, A; Lozano, JS; Villa-García, AJ; Seoane-Reula, E. *Colchicine as rescue treatment in two pediatric patients with chronic recurrent multifocal osteomyelitis (CRMO)*. MODERN RHEUMATOLOGY CASE REPORTS. 2023; 7(1) 215-218. FI: 0.9. Quartile: 4. (Article).



Group Director: **RAFAEL CORREA ROCHA AND MARJORIE PION**

Organisms involved: **HGUGM**

Type: Emerging group

## Research lines

### Axis 1: Advanced Cellular Therapies

- ▶ L1: Pioneering development of a cell therapy with thyTreg cells.
- ▶ L2: Clinical trials on the autologous and allogeneic use of thyTreg cell therapy.
- ▶ L3: Development of antigen-specific genetically modified regulatory T-cells.

### Axis 2: New Diagnostic and Therapeutic Techniques in Immunology

- ▶ L1: Development of extracellular vesicles produced in thymus regulatory T-cell culture

### Axis 3: Advanced Diagnostics and Personalised Precision Medicine

- ▶ L1: Implementation of advanced diagnostic techniques and therapies in immunology for rare paediatric diseases

### Axis 4: Immune response in COVID-19

- ▶ L1: Study of the immune system of patients infected by SARS-CoV-2 or vaccinated by mRNA-based vaccines.

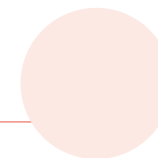
The Laboratory of Immuno-regulation (LIR) directed by Rafael Correa Rocha, is an emerging group within the Instituto de Investigación Sanitaria Gregorio Marañón (IISGM), included in Area 5 (Immune System Pathology). The group has focused its research on the study of the immunological mechanisms involved in different immune pathologies in paediatric patients. These studies constitute an unprecedented line of research at the centre and have led to the development of a pioneering clinical trial to prevent rejection in children with heart transplants through therapy with Treg cells. Another PI of the group, Dr Marjorie Pion, is developing a cutting-edge line of research on the genetic modification of immune cells for the development of advanced cellular immunotherapies.

## Group members

- **Abad Ferry, María.**
- **Bernaldo de Quirós Plaza, Esther:** R2. Recognised Researcher.
- **Checa Fernández, Sergio.**
- **Correa Rocha, Rafael:** R4. Leading Researcher.
- **Cozar Fernández, Beatriz:** R1. First Stage Researcher.
- **Fernández Castillo, Marta:** R1. First Stage Researcher.
- **Gil Manso, Sergio:** R1. First Stage Researcher.
- **Hernández Flórez, Diana Carolina.**
- **Kennedy Batalla, Rebeca:** R1. First Stage Researcher.
- **López Esteban, Rocío.**
- **Martínez Bonet, Marta:** R2. Recognised Researcher.
- **Moya Cabanes, Rocío.**
- **Pérez Fernández, Verónica Astrid.**
- **Pion, Marjorie:** R4. Leading Researcher.
- **Seoane Reula, María Elena:** R3. Established Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects FIBHGM | Not FIBHGM | Nº Human Resources FIBHGM | Not FIBHGM |
|---------------|--------------------------------|------------|---------------------------|------------|
| International |                                |            |                           |            |
| European      | 1                              |            |                           |            |
| National      | 3                              |            | 1                         |            |
| Regional      | 1                              |            | 2                         |            |



- Title: **Marie Curie-Development and implementation in clinical practice of the allogeneic use of thymus-derived regulatory T cells (thyTreg) as a cell therapy to suppress harmful immune responses.** MSCA-IF-2020/Allo\_THYTECH

Director: Martínez Bonet, Marta

Project type: Acciones Marie Curie

Funding body: EU/PRG. MARCO

Start date: 23/03/2022

End date: 12/07/2024
- Title: **Uni-thyTreg: prueba de concepto preclínica para el uso de células T reguladoras obtenidas de tejido tímico (thyTreg) y modificadas genéticamente como terapia celular alogénica.** PI22/00473

Director: Pion, Marjorie

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2023

End date: 31/12/2025
- Title: **Desarrollo y validación preclínica del uso alogénico de células T reguladoras derivadas del timo (thyTreg) como terapia celular para suprimir las respuestas inmunitarias patológicas en humanos.** PI21/00189

Director: Correa Rocha, Rafael

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2022

End date: 31/12/2024
- Title: **PIC IDEPTE «Ensayo clínico para determinar la eficacia de una terapia con células thyTreg en la prevención de rechazo en niños trasplantados de corazón y de la enfermedad injerto contra receptor en adultos».** ICI20/00063

Director: Correa Rocha, Rafael

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2021

End date: 31/12/2024
- Title: **thyTreg, terapias celulares avanzadas, células Treg, tolerancia inmunológica, terapia alogénica, COVID19.** IND2022/BMD-23591

Director: Cozar Fernández, Beatriz

Project type: Research project

Funding body: Comunidad Autónoma de Madrid

Start date: 01/12/2022

End date: 30/11/2025
- Title: **PFIS Predoctoral contract.** FI19/00120

Director: Fernández Castillo, Marta

Project type: Human resources

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2020

End date: 31/12/2023
- Title: **Young employment contract. Research Assistant.** PEJ-2020-AI/BMD-17954

Director: Pion, Marjorie (Gil Manso, Sergio)

Project type: Human resources

Funding body: Comunidad Autónoma de Madrid

Start date: 01/02/2021

End date: 31/01/2023
- Title: **Young employment contract. Laboratory Technician.** PEJ-2021-TL/BMD-22703

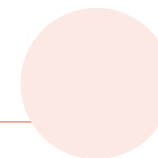
Director: Correa Rocha, Rafael (Checa Fernández, Sergio)

Project type: Human resources

Funding body: Comunidad Autónoma de Madrid

Start date: 01/11/2022

End date: 31/10/2024



## Industrial and intellectual property registrations

### Industrial property

| Title                                                                                                                                                              | Reference*            | Owner  | Inventors                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------|---------------------------------------------------------|
| Procedimiento de obtención de células T reguladoras derivadas de tejido tímico y uso de dichas células como inmunoterapia celular en trastornos del sistema inmune | P201830197 (7 patens) | FIBHGM | Rafael Correa, Marjorie Pion, Esther Bernaldo de Quirós |
| CAR-ThyTreg cells, compositions and uses thereof in immunotherapy                                                                                                  | EP23382478.8          | FIBHGM | Marjorie Pion, Rafael Correa Rocha, Jorge Gallego Valle |

■ Transferred Intellectual Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

| Type      | Candidate              | Title                                                                                                                                                     | Name/s Director/s                                                            | University | Date Defended |
|-----------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------|---------------|
| Ph Thesis | Fernando Díaz Fontenla | La expresión intrahepática de genes relacionados con vías de señalización inmune como avance en la comprensión de la patogenia de la hepatitis autoinmune | Rafael Correa Rocha/ Rafael Bañares Cañizares/ María Magdalena Salcedo Plaza | UCM        | 31/10/2023    |
| Ph Thesis | Sergio Gil Manso       | Caracterización de la inmunidad en pacientes infectados por SARS CoV-2 y de la respuesta inmune conferida por la vacunación frente a la COVID-19          | Marjorie Pion/ Rafael Correa Rocha                                           | UCM        | 23/06/2023    |

## Cooperative Research Structures

| Type (RICORS, CIBER, others)            | Name of Network                               | Role                | Code  |
|-----------------------------------------|-----------------------------------------------|---------------------|-------|
| Other                                   | Canadian Donation and Transplantation Program | Collaborating group | CDTRP |
| Other: European Reference Network (ERN) | ERN TRANSPLANT-CHILD                          | Collaborating group |       |

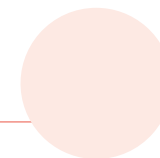
## Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate           | Title                                                                                                                                                                        | Name/s Director/s | University | Date Defended |
|-----------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------|---------------|
| Ph Thesis | Jorge Gallego Valle | Potencial terapéutico de linfocitos T reguladores de timo (thyTreg): Vías de generación alternativas y modificación genética con un Receptor de Antígeno Quimérico Universal | Marjorie Pion     | UCM        | 20/02/2023    |

## Publications

Total Impact Factor: 44,6

|                                                        | Nº       | IF          |
|--------------------------------------------------------|----------|-------------|
| Own publications                                       | 6        | 41,6        |
| Joint publications                                     | 2        | 3,0         |
| First decile publications                              | 3        | 0,0         |
| First quartile publications                            | 4        | 34,9        |
| Second quartile publications                           | 2        | 6,3         |
| Third quartile publications                            | 1        | 2,5         |
| Fourth quartile publications                           | 1        | 0,9         |
| Nonindexed publications/No IF                          | 0        | —           |
| <b>Total publications (including those without IF)</b> | <b>8</b> | <b>44,6</b> |



## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Estirado, AD; García, GS; Aragones, JH; Colino, CG; Seoane-Reula, E; Fernández, CM. *Outcomes and impact of multidisciplinary team care on immunologic and hemato-oncologic pediatric patients*. ALLERGOLOGIA ET IMMUNOPATHOLOGIA. 2023; 51(1) 154-158. FI: 2.5. Quartile: 3. (Article).
- Wang, Q; Martínez-Bonet, M; Kim, T; Sparks, JA; Ishigaki, K; Chen, XT; Sudman, M; Aguiar, V; Sim, S; Hernández, MC; Chiu, DJ; Wactor, A; Wauford, B; Marion, MC; Gutiérrez-Arcelus, M; Bowes, J; Eyre, S; Nordal, E; Prahalad, S; Rygg, M; Videm, V; Raychaudhu. *Identification of a regulatory pathway governing TRAF1 via an arthritis-associated non-coding variant*. CELL GENOMICS. 2023; 3(11). FI: 11.1. Quartile: 1. (Article).
- Mejía González MA; Quijada Morales P; Escobar MÁ; Juárez Guerrero A; Seoane-Reula ME. *Navigating the transition of care in patients with inborn errors of immunity: a single-center's descriptive experience*. FRONTIERS IN IMMUNOLOGY. 2023; 14 1263349-1263349. FI: 5.7. Quartile: 1. (Article).
- Toledano-Revenge, J; Zapata-Martínez, C; Slocker-Barrio, M; Seoane-Reula, ME; Belendez, C; Rincon-López, E. *Pneumocystisjirovecii and SARS-CoV-2 Coinfection as Presentation of X-linked Severe Combined Immunodeficiency*. INDIAN JOURNAL OF PEDIATRICS. 2023; 90(8) 832-833. FI: 2.1. Quartile: 2. (Letter).
- Bernaldo-de-Quirós, E; Camino, M; Martínez-Bonet, M; Gil-Jaurena, JM; Gil, N; Hernández-Flórez, D; Fernández-Santos, ME; Butragueño, L; Dijke, IE; Levings, MK; West, LJ; Pion, M; Correa-Rocha, R. *First-in-human therapy with Treg produced from thymic tissue (thyTreg) in a heart transplant infant*. JOURNAL OF EXPERIMENTAL MEDICINE. 2023; 220(12). FI: 12.6. Quartile: 1. (Article).
- Quintana-Ortega, C; Pfeifer, APM; Lozano, LP; Lancharro, A; Lozano, JS; Villa-García, AJ; Seoane-Reula, E. *Colchicine as rescue treatment in two pediatric patients with chronic recurrent multifocal osteomyelitis (CRMO)*. MODERN RHEUMATOLOGY CASE REPORTS. 2023; 7(1) 215-218. FI: 0.9. Quartile: 4. (Article).
- Cenalmor, A; Pascual, E; Gil-Manso, S; Correa-Rocha, R; Suárez, JR; García-Álvarez, I. *Evaluation of Anti-Neuroinflammatory Activity of Isatin Derivatives in Activated Microglia*. MOLECULES. 2023; 28(12). FI: 4.2. Quartile: 2. (Article).
- Gil-Manso S; Herrero-Quevedo D; Carbonell D; Martínez-Bonet M; Bernaldo-de-Quirós E; Kennedy-Batalla R; Gallego-Valle J; López-Esteban R; Blázquez-López E; Miguens-Blanco I; Correa-Rocha R; Gómez-Verdejo V; Pion M. *Multidimensional analysis of immune cells from COVID-19 patients identified cell subsets associated with the severity at hospital admission*. PLOS PATHOGENS. 2023; 19(6). FI: 5.5. Quartile: 1. (Article).





Group Director: **MARÍA LUISA NAVARRO GÓMEZ**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Bronchiolitis

- ▶ L1: Description of early markers of severity in RSV bronchiolitis: IL-8 in respiratory secretions and plasma during patient admission and its predictive value of severity. Viral load in patients with RSV bronchiolitis and its predictive value for severity will be determined. Lymphopenia will be assessed as an early marker of severity during the admission of infants with RSV bronchiolitis. Does the severity of RSV bronchiolitis depend on viral genotypes?
- ▶ L2: RSV bronchiolitis. Humoral immune response to RSV. Determination of antibodies against RSV surface proteins F and G and their role in the development of RSV vaccines. Study of humoral immunity against RSV preF postF and G proteins in term and preterm infants.
- ▶ L3: Bronchiolitis due to RSV. Study of inflammatory mediators. Cytokines and their role in the subsequent development of recurrent wheezing. Description of the cytokine profile in RSV bronchiolitis during admission, at one month and one year after discharge. Description of a cytokine profile to predict the development of recurrent wheezing after bronchiolitis.
- ▶ L4: Treatment of bronchiolitis in the admitted patient. High-flow oxygen therapy in the treatment of bronchiolitis: what is the ideal flow rate? Hypertonic saline in the treatment of bronchiolitis: Is it suitable for all inpatients?
- ▶ L5: Impact on families of admission for RSV bronchiolitis. European RSV outcome study. EROS study. ab 140103
- ▶ L6: Evaluation of the antiviral efficacy of Lumicitabine in children with respiratory infection by respiratory syncytial virus.

- ▶ L7: Needs for future pharmacoeconomic analysis of RSV vaccines: Assessing the burden of paediatric RSV disease and QALYs lost (Phase I: prospective study).

### Axis 2: HIV infection

- ▶ L1: Study the clinical characteristics, immunovirological status and associated comorbidities including features related to bone metabolism, cardiovascular system and lipodystrophy, as well as antiretroviral treatment strategies in CoRISpe patients (newly infected infants, adolescents and young adults).
- ▶ L2: Determine the HIV reservoir and inflammatory and immunosenescence status and immune function of paediatric patients including gut microbiota and response to vaccines.
- ▶ L3: Assess the current status and evolution of all paediatric HCV-HIV co-infected patients. Liver function status and response to treatment. Compare with a cohort of HCV monoinfected paediatric patients.
- ▶ L4: CoRISpe FARO project: Evaluate vertically infected adolescents and young adults who have been transferred to adult units, and identify factors associated with loss to follow-up, morbidity and mortality. Assess stigma, quality of life, substance abuse and sexual and reproductive health in these patients, compared to other populations (controls and a horizontal cohort).
- ▶ L5: Assess the evolution of neuroimaging and neurocognitive profile and outcomes of vertically HIV-infected patients. To assess sleep quality in this population.
- ▶ L6: To analyse the clinical, immunological, virological and treatment characteristics of pregnant women with HIV during pregnancy and at the time of delivery and of their exposed children, the development of perinatal comorbidities of HIV exposed uninfected children and the epidemiological characteristics of recently diagnosed paediatric patients.
- ▶ L7: Describe the characteristics of new HIV infections in adolescents in Spain. FIS Project
- ▶ L8: Describe and compare the characteristics of different populations, mainly located in developing countries. Participation with information

Continued on next page



## Research lines (Cont.)

on other cohorts in different countries. To evaluate the virological parameters of HIV in terms of its genotype and subtypes and resistance to antiretroviral drugs, to analyse and compare between cohorts and the time trends in each of them. The Equatorial Guinea cohort. The European cohort. The Latin American cohort.

- ▶ L9: Activation and immunosenescence during immune maturation in vertically HIV-infected children.
- ▶ L10: NeuroHIV study (Neurocognitive and central nervous system senescence in HIV patients).

### Axis 3: Tuberculosis

- ▶ L1: Determination of the plasma free cytokine profile and specific response to M. tuberculosis. Usefulness as biomarkers in children with active disease and latent tuberculous infection.
- ▶ L2: To determine the usefulness of diagnostic tests (tuberculin test, quantiferon, chest X-ray, chest CT scan, microscopy, culture, PCR) in an outbreak of paediatric tuberculosis in an early childhood education centre.
- ▶ L3: Describe the pharmacokinetics (C max, area under the curve, time to maximum concentration) after administration of isoniazid (single daily oral dose of 10 mg/kg body weight) in the study population, and its equivalence in neonates, infants between 1 and 3 months, and infants between 3 and 6 months.
- ▶ L4: Register paediatric TB cases in our country and describe their clinical presentation, diagnosis, therapeutic approach and evolution of paediatric TB cases in the hospitals of the Spanish Network for the Study of Paediatric Tuberculosis.
- ▶ L5: To create a national collection of samples from paediatric tuberculosis patients, archived as a biobank.
- ▶ L6: To learn about antituberculosis drug prescription practices in children in Spain (Phase I MAGISTRAL Project) and to write a consensus document on the prescription of antituberculosis drugs in children

(Phase II MAGISTRAL Project).

- ▶ L7: To determine the combined sensitivity and specificity of the tuberculin test and IGRA tests in the diagnosis of peripheral adenitis due to nontuberculous mycobacteria in Spain and Europe.
- ▶ L8: Compare the efficacy of different therapeutic approaches (medical and surgical) to nontuberculous mycobacterial peripheral adenitis in children.
- ▶ L9: To evaluate the efficacy and safety of linezolid therapy against tuberculosis in patients under 18 years of age.
- ▶ L10: To evaluate the risk factors, contagiousness and evolution after treatment of adult-type pulmonary TB in a cohort of children and adolescents with TB in a low endemic country.
- ▶ L11: Develop a European database of children with paediatric TB to describe their clinical presentation, diagnosis, therapeutic approach and evolution, as well as the different diagnostic and therapeutic approaches among European countries.
- ▶ L12: Describe the clinical presentation, diagnosis, therapeutic approach and evolution of TB meningitis in European children.
- ▶ L13: ULTRATB-Xpert MTB/RIF Ultra for the diagnosis of paediatric TB in a low TB burden region.
- ▶ L14: Implementation of a computer-assisted tool for the diagnosis of paediatric TB (CAD4PTB).

### Axis 4: Osteoarticular infection in paediatrics

- ▶ L1: Epidemiological, clinical, laboratory and clinical features and evolution of children with OAI.
- ▶ L2: Most frequent aetiology of OAI in children and its impact on clinical presentation and evolution.
- ▶ L3: Evaluation of the diagnostic and medical-surgical approach to children with OAI in the different collaborating centres.
- ▶ L4: Study of predictors of severity and sequelae in children with OAI.

Continued on next page



## Research lines (Cont.)

### Axis 5: Invasive group A Streptococcus infection

- ▶ L1: Evaluation of the incidence of EISGA over a period of 11 years in the Community of Madrid.
- ▶ L2: Epidemiological, clinical and laboratory characteristics and evolution of children with AGEIA.
- ▶ L3: Study of predictors of severity in children with AGEIA.
- ▶ L4: Study of the clinical presentation and evolution of children with AGE according to the serotypes involved.

### Axis 6: Fever and neutropenia in the paediatric patient

- ▶ L1: Clinical and laboratory characteristics and evolution of children admitted with fever and neutropenia.
- ▶ L2: Epidemiological characteristics and aetiological agents of children admitted with fever and neutropenia, and comparison with asymptomatic controls. Determination of viral PCR in nasopharyngeal samples.
- ▶ L3: Study of predictors of severity in children admitted with fever and neutropenia. Cytokine profile and proinflammatory response.

### Axis 7: Infections in the sickle cell patient

- ▶ L1: RETROSPECTIVE STUDY (RETRO-DREP PROJECT): a. To determine the incidence and epidemiological characteristics of infections in children with sickle cell disease in our environment, b. To determine the clinical characteristics and analytical parameters that are related to a higher risk of presenting severe bacterial infection, c. To propose criteria for low risk of severe bacterial infection, in order to select patients who could benefit from a more conservative approach.
- ▶ L2: PROSPECTIVE STUDY (F-DREP PROJECT): a. To determine the incidence of viral infections in children with sickle cell disease admitted for fever in our environment, by means of multiplex PCR in nasopharyngeal exudate, b. To determine the profile of cystic fibrosis production in children with sickle cell disease in our environment. To determine the proinflammatory cytokine production profile of children with sickle cell disease according to the final diagnosis (bacterial or viral infection,

vasoocclusive crisis or other) and compare it with its production at baseline, c. To validate the criteria for low risk of severe bacterial infection set out in the retrospective study.

- ▶ L3: Study of biomarkers of risk of severe bacterial infection in children with sickle cell disease and fever. Determination of the proinflammatory cytokine profile and role of multiplex PCR for respiratory viruses.

### Axis 8: Immunoprophylaxis in special populations

- ▶ L1: Vaccination in patients undergoing immunosuppressive treatment.
- ▶ L2: Vaccination in patients undergoing HSCT (haematopoietic progenitor transplantation).
- ▶ L3: Vaccination in patients undergoing SOT (solid organ transplantation).

### Axis 9: Research Plan on other infectious pathologies prevalent in the healthy population and in the highly complex patient

- ▶ L1: Study of invasive pneumococcal infection
- ▶ L2: Role of respiratory viral co-infections and the expression of genomic transcriptional profiles in the severity of pertussis in infants.
- ▶ L3: Congenital CMV infection
- ▶ L4: ZIKA infection network in pregnancy and newborns
- ▶ L5: Paediatric Optimisation Programme for Antifungal Drugs (POPA)
- ▶ L6: National Kawasaki Network (Kawa-RACE)
- ▶ L7: Control of nosocomial infection and restriction of the use of antibiotherapy in paediatrics. RANNIN-KIDS.
- ▶ L8: Infections by non-tuberculous mycobacteria (NTM) in Spain: clinical-epidemiological, microbiological and pathogenicity study.
- ▶ L9: Infections after cardiac surgery
- ▶ L10: Study of colonisations by multi-resistant bacteria and their effect on the development of infections and new colonisations in high-risk paediatric units.

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### Research lines (Cont.)

- ▶ L11: SOMI study for the prospective evaluation of mononucleosis syndrome.
- ▶ L12: Study of sexually transmitted infections in adolescents.

#### Axis 10: Other lines

- ▶ L1: Zero Pain in Paediatrics.
- ▶ L2: Analysis of readmissions in paediatrics.
- ▶ L3: Severity factors in Asthma. Asthma and obesity.
- ▶ L4: Implementation of a Paediatric Telemedicine consultation in Lamu (Kenya) and Meki (Ethiopia).

#### Axis 11: Infection COVID19 (2020)

- ▶ L1: Study of the Pregnant woman and her exposed newborn.
- ▶ L2: Study of the child with COVID.
- ▶ L3: Study of the child with systemic hyperinflammatory syndrome (PIMS).

#### Axis 12: Hospital Emergencies

- ▶ L1: Intoxications in the paediatric age group.
- ▶ L2: Analgesia and sedation.
- ▶ L3: Unintentional injuries.
- ▶ L4: Quality and safety in paediatric emergencies.
- ▶ L5: Hyperfrequency in Paediatric Emergency Care.
- ▶ L6: Knowledge of parents and caregivers about the reasons for ED visits.
- ▶ L7: Critically ill patients.
- ▶ L8: Child abuse.
- ▶ L9: Intravenous rehydration.
- ▶ L10: Humanisation and patient experience.

The paediatric infections research group has participated in the IISGM since its creation and is consolidated within it. The group is made up of healthcare professionals with extensive experience in clinical and translational research, from various paediatric disciplines and subspecialties, and aims to promote and develop research projects in the field of paediatric diseases. The main lines of research are:

- Bronchiolitis.
- HIV infection.
- Tuberculosis.
- Osteoarticular infection.
- Invasive Streptococcus group A infection.
- Fever and neutropenia in paediatric patients.
- Infections in the sickle cell patient.
- Infection prevention research in the complex paediatric patient.
- Congenital infections.
- Invasive fungal infection.
- Research plan in other infectious pathologies prevalent in the healthy population and in the highly complex patient.
- Zero pain in paediatrics: pharmacological and non-pharmacological pain control.
- Analysis of readmissions in paediatrics.
- Severity factors in asthma.
- High-flow oxygen therapy in paediatric wards.
- Safety and quality in paediatric hospitalisation.
- The chronic patient in Hospital Paediatrics.
- Fluid therapy in paediatric hospitalisation.
- Environmental paediatrics: Impact of pollutants on respiratory pathology.
- Severity factors in influenza.
- Implementation of paediatric telemedicine consultation in Africa.
- COVID-19 in paediatrics. COVID-19 perinatal infection (GESNEO-COVID).
- Immunoprophylaxis in immunocompromised patients.
- Vaccination of special populations (immunosuppressed and immunosuppressive patients).
- Fungal infections in paediatrics.



- Resistance study and paediatric PROA
- Feverish infants
- Intoxications in the paediatric age group
- Analgesia and sedation
- Unintentional injuries
- Quality and safety in the paediatric ED
- Hyperfrequency in the Paediatric Emergency Department
- Knowledge of parents and caregivers about the reasons for consultation in the Emergency Department.
- Critical patient

In addition, we are very aware of the training in the field of paediatric infectious diseases of the junior researchers who are joining us, where they play an important role in research and many of them end up carrying out translational research activity and culminating in doctoral theses.

The networking and collaborations with other research groups, both national and international, stand out. In addition, the group is committed to cooperation by training professionals from Africa and Latin America, supporting them in their clinical and translational research activity in person and through telemedicine and other information techniques.



## Group members

- **Aguilera Alonso, David:** R1. First Stage Researcher.
- **Barrera Brito, Vanesa:** R1. First Stage Researcher.
- **Berlanga de Miguel, Ana:** R1. First Stage Researcher.
- **Busquets Ferrer, Carmen:** R1. First Stage Researcher.
- **Collado González, Blanca:** R1. First Stage Researcher.
- **Comella del Barrio, Patricia:** R2. Recognised Researcher.
- **Díaz de Mera, María Carolina:** R1. First Stage Researcher.
- **Eizaguirre Fernández-Palacios, María Teresa:** R1. First Stage Researcher.
- **Escobar Castellanos, María:** R1. First Stage Researcher.
- **Ferrero García-Loygorri, Clara:** R1. First Stage Researcher.
- **González Martínez, Felipe:** R2. Recognised Researcher.
- **González Sánchez, María Isabel:** R1. First Stage Researcher.
- **Jordan Ferraz, Cristina Eugenia:** R1. First Stage Researcher.
- **Jove Blanco, Ana:** R1. First Stage Researcher.
- **Lázaro Martín, Beatriz:** R1. First Stage Researcher.
- **López Suárez, Andrea:** R1. First Stage Researcher.
- **Marañón Pardillo, Rafael:** R1. First Stage Researcher.
- **Miguez Navarro, María Concepción:** R3. Established Researcher.
- **Mora Capín, Andrea Avelina:** R1. First Stage Researcher.
- **Moure Romano, Roberto:** R1. First Stage Researcher.
- **Navarro Gómez, María Luisa:** R4. Leading Researcher.
- **Pérez Moreno, Jimena:** R2. Recognised Researcher.
- **Retamal Martínez, Rocío:** R1. First Stage Researcher.
- **Rincón López, Elena:** R2. Recognised Researcher.
- **Rivas García, Arístides:** R1. First Stage Researcher.
- **Rodríguez Fernández, Rosa María:** R3. Established Researcher.



## Group members (Cont.)

- **Saavedra Lozano, Jesús:** R3. Established Researcher.
- **Saez Moya, Joaquín:** R1. First Stage Researcher.
- **Sánchez Contreras, Nuria:** R1. First Stage Researcher.
- **Santiago García, Begoña:** R3. Established Researcher.
- **Santos Sebastián, Mar:** R1. First Stage Researcher.
- **Tarancón Díez, Laura:** R2. Recognised Researcher.
- **Tierraseca Serrano, María Esther:** R1. First Stage Researcher.
- **Toledo del Castillo, Blanca:** R1. First Stage.
- **Vázquez López, Paula:** R3. Established Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 2                       |            |                    |            |
| National      | 3                       |            |                    | 1          |
| Regional      |                         |            |                    |            |

- Title: **HE VERDI 101045989 SARS-coV2 variants Evaluation in pRegnancy and paeDIatrics cohorts.** HE VERDI 101045989  
Director: Aguilera Alonso, David  
Project type: European research project  
Funding body: EU/PRG. MARCO  
Start date: 01/11/2021  
End date: 31/10/2025

- Title: **ESPID Small Grant Award: «The role of iron deficiency in the vaccine immune response of paediatric patients on immunosuppressive treatment (IronVac project)».** ESPID23/01  
Director: Tarancón Díez, Laura  
Project type: Research project  
Funding body: ESPID  
Start date: 09/10/2023  
End date:
- Title: **Infeccion por VRS y desarrollo de sibilancias persistentes: una cohorte de nacimiento. (Marañón RSV Birth cohort; MARCO Study.** PI21/00840  
Director: Rodríguez Fernández, Rosa María  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: **Child-TB-Omics: Aplicación de técnicas ómicas para el diagnóstico de tuberculosis en niños y adolescentes.** PI20/01607  
Director: Santiago García, Begoña  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025
- Title: **Caracterización de las nuevas infecciones VIH en adolescentes en España.** PI19/01530  
Director: Navarro Gómez, María Luisa  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 31/12/2023

### Not managed by the FIBHGM

- Title: **Juan de la Cierva Training.** Fjc2021-047271-I  
Director: Comella del Barrio, Patricia  
Project Type: Human Resources  
Funding Body: Micinn  
Start Date: 01/01/2023  
End Date: 31/12/2024



### Cooperative Research Structures

| Type (RICORS, CIBER, others)                 | Name of Network                                                                                              | Role                | Code     |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------|----------|
| Other: National Cooperative Research Network | Red Española de Estudio de la Tuberculosis Pediátrica                                                        | Coordinating group  | pTBred   |
| Other: Regional Cooperative Research Network | Grupo de Estudio de tuberculosis resistente en niños de la Comunidad de Madrid                               | Coordinating group  | EREMITA  |
| Other: National Cooperative Research Network | Estudio sobre la influencia genética en la enfermedad meningocócica                                          | Collaborating group | ESIGEM   |
| Other: National Cooperative Research Network | Red de la Infección Congénita por CMV                                                                        | Collaborating group | REDICCMV |
| Other: National Cooperative Research Network | Red para el estudio de la enfermedad invasiva por SGA                                                        | Collaborating group | PeiSGA   |
| Other: National Cooperative Research Network | Red Nacional de Infección Osteoarticular en niños                                                            | Collaborating group | RioPed   |
| Other: National Cooperative Research Network | Red nacional de Kawasaki                                                                                     | Collaborating group | KawaRACE |
| Other: National Cooperative Research Network | Red Nacional para el Diagnóstico, Tipificación Genética y Actuaciones Terapéuticas de la giardiasis infantil | Collaborating group | RedGlp   |
| Other: National Cooperative Research Network | Red de Investigación Traslacional en Infectología Pediátrica                                                 | Collaborating group | RITIP    |
| Other: National Cooperative Research Network | Registro nacional de estudio de casos de infección por ZIKA en el embarazo y recién nacido                   | Collaborating group | pedZIKA  |
| Other: National Cooperative Research Network | Red de Investigación de la Sociedad española de Urgencias de Pediatría                                       | Collaborating group | RISeuP   |

| Type (RICORS, CIBER, others)                                                           | Name of Network                                                                                             | Role                | Code       |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------|------------|
| Other: Network of the Ibero-American Program of Science and Technology for Development | Red Pediátrica para Prevención, Detección Precoz y Tratamiento del VIH en niños                             | Collaborating group | PLANTAIDS  |
| Other: European Paediatric Research Network                                            | Pediatric European Network for Treatment of AIDS                                                            | Collaborating group | PENTA      |
| Other: National Cooperative Research Network                                           | Estudio epidemiológico de las infecciones pediátricas por el nuevo coronavirus SARS-CoV-2                   | Collaborating group | EPICO-AEP  |
| Other: European Paediatric Research Network                                            | Red Europea de Investigación en RSV                                                                         | Collaborating group | ResVinet   |
| Other: National Cooperative Research Network                                           | Red Estatal de Investigación en Toxoplasmosis Congénita                                                     | Collaborating group | REIV-TOXO  |
| Other: European Paediatric Research Network                                            | Pediatric Tuberculosis Network European Trials group                                                        | Collaborating group | PTBNET     |
| Other: European Paediatric Research Network                                            | Paediatric invasive S. aureus study                                                                         | Collaborating group | PISA       |
| Other: European Paediatric Research Network                                            | Sickle cell disease Pediatric Research about Infections Group                                               | Collaborating group | SPRING     |
| Other: European Paediatric Research Network                                            | MultiCenter modified point prevAlence studY of antifungal use in PediatricS in EurOpe                       | Collaborating group | CALYPSO    |
| Platform                                                                               | Plataforma europea para el estudio e implementación de grupos PROA en las diferentes instituciones europeas | Collaborating group | Ranin-Kids |
| Platform                                                                               | European Pregnancy an Pediatric HIV Cohorts Collaboration                                                   | Coordinating group  | EPPICC     |
| CIBER                                                                                  | CIBERINFEC                                                                                                  | Coordinating group  | CIBERINFEC |





## Clinical Practice Guidelines

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| Núñez Cuadros E, Saavedra Lozano J                                                                                                                                                                                        | Infecciones osteoarticulares: artritis séptica, osteomielitis y espondilodiscitis                                                                                                                                                                | Protocolos AEP. Protoc diagn ter pediatr. 2023;2:285-308.                                                   |
| Ara Montojo MF, Escosa García L, Aguilera Alonso D                                                                                                                                                                        | Resistencias bacterianas en Pediatría                                                                                                                                                                                                            | Protocolos AEP. Protoc diagn ter pediatr. 2023;2:13-31.                                                     |
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| David Aguilera Alonso, Marisa Navarro, Paula Vázquez, Rosa Rodríguez, Julia Serrano Lobo, Alicia Galar                                                                                                                                                                                                                          | Parotiditis epidémica en pediatría                                                                                                                                                                          | Intranet HGUGM. Código 202308 PAROTIDITISPED                                              |
| Teresa Eizaguirre Fernández- Palacios (DUE), Felipe González Martínez (Medico), Esther Tierraseca Serrano (DUE)                                                                                                                                                                                                                 | Protocolo alarmas de monitorización en unidades de pediatría                                                                                                                                                | Intranet HGUGM. Código 202204.PED. INT.ALARMMONITOR                                       |
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| Jimena Pérez Moreno. María Luz Vázquez Montalvo                                                                                                                                                                                                                                                                                                                                                                                                                        | Protocolo errores en la administración de lactancia materna en planta de hospitalización | Intranet HGUGM. Código 202201PEDERRORLM                                                                                                                                                                                                                                   |
| Rosa Rodríguez (revisado por Felipe González, Jimena Pérez, María Isabel González, Blanca Toledo)                                                                                                                                                                                                                                                                                                                                                                      | Protocolo fluidoterapia iv en planta de hospitalización pediátrica.                      | Intranet HGUGM. Código 202205PED FLUIDOTERAPIA                                                                                                                                                                                                                            |
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### Publications Total Impact Factor: 149,1

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 20        | 52,6         |
| Joint publications                                     | 32        | 96,5         |
| First decile publications                              | 4         | 0,0          |
| First quartile publications                            | 25        | 102,1        |
| Second quartile publications                           | 15        | 31,0         |
| Third quartile publications                            | 8         | 13,0         |
| Fourth quartile publications                           | 4         | 3,0          |
| Nonindexed publications/No IF                          | 4         | —            |
| <b>Total publications (including those without IF)</b> | <b>56</b> | <b>149,1</b> |

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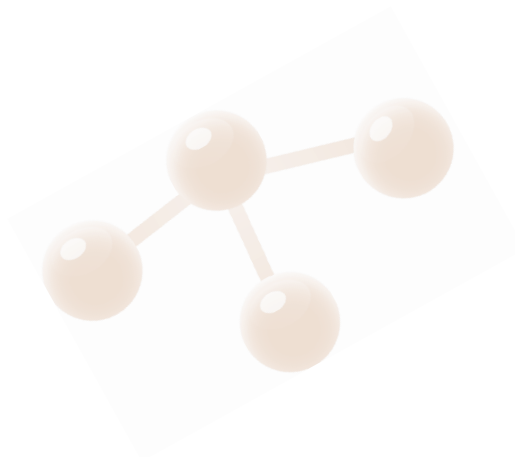


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### Other publications

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- Pintado V; Ruiz-Garbajosa P; Aguilera-Alonso D; Baquero-Artigao F; Bou G; Cantón R; Grau S; Gutiérrez-Gutiérrez B; Larrosa N; Machuca I; Martínez Martínez L; Montero MM; Morte-Romea E; Oliver A; Paño-Pardo JR; Sorlí L. *Executive summary of the consensus document of the Spanish Society of Infectious Diseases and Clinical Microbiology (SEIMC) on the diagnosis and antimicrobial treatment of infections due to carbapenem-resistant Gram-negative bacteria*. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA (ENGLISH ED.). 2023; 41(6) 360-370. (Article).
- Pérez-Moreno J; Rodríguez-Fernández R; García JJG; Minagorre PA. *Creation of a Pediatric Hospital Medicine Subspecialty in Spain*. HOSPITAL PEDIATRICS. 2023; 13(2). (Article).
- Pérez-Moreno J; Gutiérrez-Vélez A; Torres Soblechero L; González Martínez F; Toledo Del Castillo B; Vierge Hernán E; Rodríguez-Fernández R. *Do we overestimate intravenous fluid therapy needs? Adverse effects related to isotonic solutions during pediatric hospital admissions*. NEFROLOGIA. 2023; 42(6) 688-695. (Article).







# AREA 6

## TRASLATIONAL ONCOLOGY

*Area coordinator:*  
**Miguel Martín Jiménez**

The general research objective in the Area of Oncology in the IISGM is to generate reliable and scientifically relevant data on the personalized treatment of cancer. This objective is met through high-quality translational research that enables the selection of the antitumor treatment with the most options for cure, the least toxicity and the fewest adverse effects.

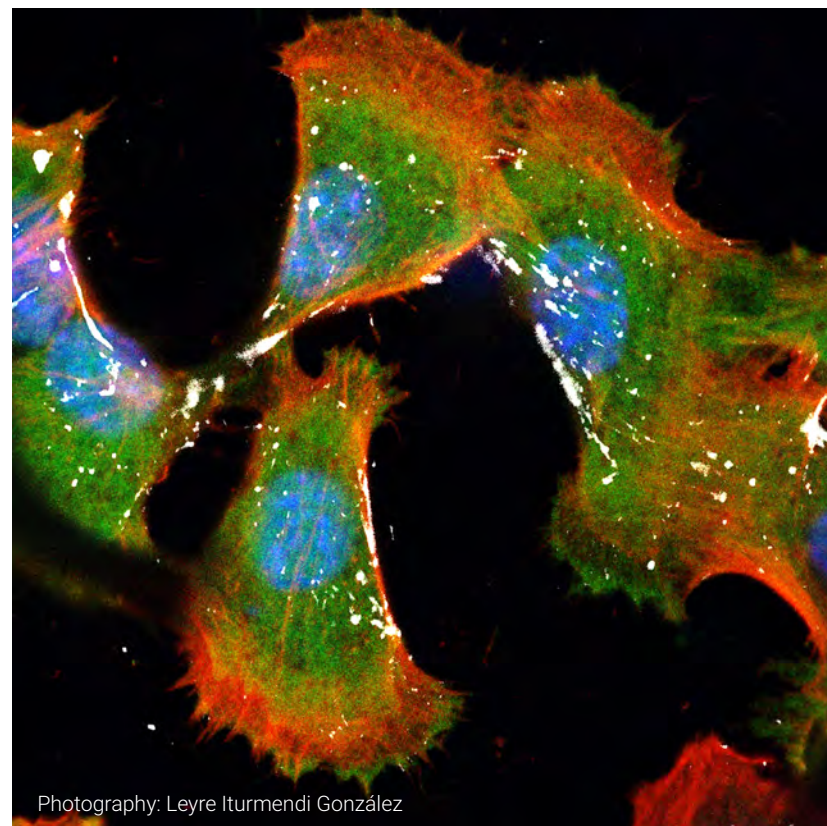
Therapy is based on the patient's genetic/molecular profile (pharmacogenetics) and on the tumor profile (pharmacogenomics).

Appropriate selection of patients with cancer for the sophisticated antitumor therapy available at our center (targeted medical therapy, high-definition radiotherapy, cell therapy, hematopoietic stem cell transplant) ensures the ideal choice for each patient. The work carried out in the Area also includes the study of hereditary/familial cancer syndromes and other situations with a high risk of cancer in which various interventions are effective for reducing the probability of the disease occurring.

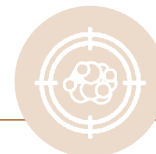
# Groups in AREA **6**

## **TRASLATIONAL ONCOLOGY**

- ▶ 6.01. Interdisciplinary oncology and biotechnology
- ▶ 6.02. Translational medical oncology and personalized cancer therapy
- ▶ 6.03 Genetics and clinical aspects of hematologic malignancies and hematopoietic stem cell transplantation
- ▶ 6.04 Surgical oncology



Photography: Leyre Iturmendi González



Group Director: **ANA ÁLVAREZ GONZÁLEZ**  
**AND MERCEDES MUÑOZ FERNÁNDEZ**

Organisms involved: **HGUGM-UCM**

Type: **Consolidated Group**

## Research lines

### Axis 1: High-precision radiotherapy (intraoperative radiotherapy)

- ▶ L1: Stereotactic surgical navigation.
- ▶ L2: In vivo dosimetry guided by 3D printing.
- ▶ L3: Mobile miniature linear accelerator: pre-robotization and automation.

### Axis 2: Biological response in oncology

- ▶ L1: Post-radiochemotherapy response.
- ▶ L2: Biological dosimetry: chromosomal liquid biopsy.
- ▶ L3: Post-neoadjuvant radioresistance and radiosensitivity.
- ▶ L4: Oncologic bioimaging and response.

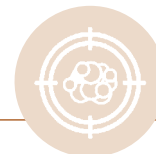
### Axis 3: Oligocancer

- ▶ L1: Radiosurgical rescue.
- ▶ L2: Staging by functional imaging.
- ▶ L3: Proton therapy: clinical models.

## Group members

- **Alonso Farto, Juan Carlos:** R2. Recognised Researcher.
- **Álvarez González, Ana.**
- **Álvarez Fernández, Emilio.**
- **Ayala Lázaro, Rafael:** R1. First Stage Researcher.
- **Blanco Rodríguez, José.**
- **Calín Lorca, Ana.**
- **Calvo Manuel, Felipe Ángel.**
- **Cascón Pérez-Teijón, María Elena.**
- **Cuervo Dehesa, Miguel.**

- **De Ingunza Barón, Lourdes.**
- **Del Valle Hernández, Emilio.**
- **García Hernández, María Jesús.**
- **García Leal, Roberto.**
- **Gómez Espí, Marina.**
- **Gómez Cores, Susana.**
- **González San Segundo, Carmen.**
- **Herranz Crespo, Rafael.**
- **Lázaro Ochaíta, Pablo.**
- **Leaman Alcívar, Olwen Eriete.**
- **López Bote, Miguel Ángel.**
- **López López, Ana María.**
- **Lozano Barriuso, Miguel Ángel.**
- **Mediavilla Santos, Lydia:** R2. Recognised Researcher.
- **Moreno Domene, Mercedes.**
- **Muñoz Fernández, Mercedes.**
- **Navarro Cuéllar, Carlos:** R2. Recognised Researcher.
- **Navarro Cuéllar, Ignacio.**
- **Ochandiano Caicoya, Santiago.**
- **Orcajo Rincón, Javier.**
- **Ortiz Quintana, Luis.**
- **Peligros Gómez, María Isabel.**
- **Prieto Rodríguez, María Jesús.**
- **Ramón Botella, Enrique.**
- **Rodríguez Martín, Marcos.**
- **Rotger Regí, Amanda.**
- **Ruiz Galán, Gema.**
- **Salmerón Escobar, José Ignacio:** R2. Recognised Researcher.
- **Sánchez Luis, Silvia.**
- **Santos Rodríguez, Marina.**
- **Sierra Díaz, Fernando.**
- **Sole Pesutic, Claudio Vicente.**
- **Tavera Pomata, Patricia.**
- **Tousidonis Ria, Manuel Alejandro.**



### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 2                       |            |                    |            |
| Regional      |                         |            | 1                  |            |

- Title: **Cirugía caneofacial personalizada y guiada por imagen.** PI22/00601  
Director: Ochandiano Caicoya, Santiago  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Elaboración de un protocolo nacional en dosimetría biológica (PRONADB).** 2023-094-1\_CSN\_MONTORO  
Director: Prieto Rodríguez, María Jesús  
Project type: Research project  
Funding body: Consejo De Seguridad Nuclear  
Start date: 16/05/2023  
End date: 15/05/2026
- Title: **Young employment contract. Laboratory Technician.** PEJ-2020-TL/BMD-19427  
Director: Muñoz Fernández, Mercedes (Fernández Martín, Celia)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/03/2021  
End date: 28/02/2023

### Industrial and intellectual property registrations

#### Industrial property

| Title                                                                                                             | Reference*  | Owner | Inventors                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------|-------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sistema de planificación para radioterapia intraoperatoria y procedimiento para llevar a cabo dicha planificación | US12/937568 | GMV   | Manuel Desco Menéndez, Javier Pascau González-Garzón, Felipe Calvo Manuel, Juan José Vaquero López, Manlio Fabio Valdivieso Cacique, Carlos Guillermo Illana Alejandro |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

#### Publications

Total Impact Factor: 160,2

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 7         | 22,0         |
| Joint publications                                     | 22        | 138,2        |
| First decile publications                              | 2         | 0,0          |
| First quartile publications                            | 13        | 128,9        |
| Second quartile publications                           | 9         | 24,5         |
| Third quartile publications                            | 3         | 4,9          |
| Fourth quartile publications                           | 4         | 1,9          |
| Nonindexed publications/No IF                          | 3         | —            |
| <b>Total publications (including those without IF)</b> | <b>32</b> | <b>160,2</b> |



**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Cuellar, CN; Urmeneta, AS; Marcos, RL; Antúñez-Conde, R; López, AL; de Vera, JLDP; Martín-Moro, JG; Carretero, JLC; Serrano, FA; Orabona, GD; Zamorano-Leon, JJ; Cuellar, IN. *Prognostic Value of Lymph Node Density in Lingual Squamous Cell Carcinoma*. APPLIED SCIENCES-BASEL. 2023; 13(9). FI: 2.5. Quartile: 1. (Article).
- Moreno-Olmedo, E; Suárez-Gironzini, V; Fusco, JP; Ruiz, L; Begara, J; Guijarro, M; Segundo, CGS; Zafra, J; Campos, FL; Couñago, F. *Prostate Cancer: Management of Biochemical Recurrence after Surgery*. ARCHIVOS ESPAÑOL DE UROLOGIA. 2023; 76(10) 733-745. FI: 0.6. Quartile: 4. (Article).
- Alonso, JC; Casans, I; González, FM; Fuster, D; Rodríguez, A; Sánchez, N; Oyaguez, I; Williams, AO; Espinoza, N. *Economic evaluations of radioembolization with yttrium-90 microspheres in liver metastases of colorectal cancer: a systematic review*. BMC GASTROENTEROLOGY. 2023; 23(1). FI: 2.5. Quartile: 2. (Review).
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- Hualde AM; Mantilla JA; Rincón JO; Regí AR; Kestler M; Muñoz P; Delgado-Montero A; Cuerpo-Caballero G; Pinilla B; Alonso Farto JC. *Relevance of [(18)F]FDG-PET/CT in the detection of colon pathology, in patients studied by bacteriemia or infectious endocarditis caused by enteropathogenic microorganisms*. REVISTA ESPAÑOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR. 2023; 42(3) 139-146. (Article).





Group Director: **MIGUEL MARTÍN JIMÉNEZ**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Scientific leadership, integration and organization.

- ▶ L1: Value of liquid biopsy as a predictor of response in cancer patients.

### Axis 2: International relations, alliances and visibility.

- ▶ L1: Search for predictors of response to neoadjuvant chemotherapy with docetaxel carboplatin in patients with triple negative breast cancer
- ▶ L2: Development of preclinical PDXs models
- ▶ L3: Development of Organoids
- ▶ L4: Development of new technologies with impact on the oncology patient (FAITH)

### Axis 3: Consolidation of innovation.

- ▶ L1: Oncological Genetic Counselling.

### Axis 4: Competitiveness (sustainability) and resources available for research.

- ▶ L1: Development of murine breast cancer Tumorgrafts
- ▶ L2: Search for genomic profiles as predictors of response in oncology patient
- ▶ L3: Design and implementation of a ddPCR-based platform for the detection of ESR1 mutations in oncology patients.

### Axis 5: Quality and management of research and innovation.

- ▶ L1: Immunotherapy for cancer disease
- ▶ L2: Innovation in treatment of colorectal cancer
- ▶ L3: Innovation in treatment of gastric cancer
- ▶ L4: Innovation in treatment of lung cancer

- ▶ L5: Innovation in treatment of genitourinary tumours
- ▶ L6: Innovation in systemic treatment of brain tumours
- ▶ L7: Innovation in systemic treatment of melanoma
- ▶ L8: Innovation in the diagnosis of patients with stage I-III breast cancer
- ▶ L9: Innovation in breast cancer treatment
- ▶ L10: Integration of physical exercise in breast cancer patients

The generic objective of research in the Oncology Area is to generate reliable and scientifically relevant information on individualised cancer treatment, through translational research, that may allow the selection of the anti-tumour treatment that provides more curative options and fewer sequelae for each patient. Therapy selection will essentially be based on the genetic/molecular profile of the patient and the tumour. The appropriate selection of cancer patients who are candidates for sophisticated anti-tumour therapies (target medical treatments, high-definition radiotherapy, cell therapy, haemopoietic progenitor transplantation) available in our centre will allow the most suitable choice for each patient. In addition, the Area will study hereditary-familial cancer syndromes and other high-risk cancer situations, in which various interventions can be very effective in reducing the likelihood of developing the disease.



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Continued on next page



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- Vargas Sánchez, Aroa.
- Villarejo López, Lucía.
- Zazo León, María Teresa.



### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 3                       | 1          |                    |            |
| Regional      |                         |            |                    |            |

- Title: FAITH: Federated Artificial Intelligence solution for monitoring mental Health status after cancer treatment.** H2020 FAITH 875358  
 Director: Martín Jiménez, Miguel  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/01/2020  
 End date: 30/06/2024
- Title: Detección de ctDNA y caracterización de subpoblaciones inmunes circulantes en pacientes con CMTN Tratadas con quimio (inmuno) terapia neoadyuvante.** PI22/01346  
 Director: López-Tarruella Cobo, Sara  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
- Title: Valor predictivo de la carga mutacional en tejido tumoral, plasma y CTCs en la respuesta a docetaxel-carboplatino neoadyuvante en pacientes con cáncer de mama triple negativo.** PI18/01775  
 Director: Martín Jiménez, Miguel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2019  
 End date: 30/06/2023
- Title: Convenio colaboración científico-técnica para la realización conjunta del Programa de Ciencia de Datos «Infraestructura de datos**

### para Medicina Personalizada» (IMPACT-Data). IMP/00019

Director: Picornell Company, Antonio Clemente  
 Project type: Plataformas  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024

### Not managed by the FIBHGM

- Title: Desarrollo de modelos diagnósticos y pronósticos basados en la infección intratumoral por Fusobacterium y microbiota intestinal asociada en el cáncer colorectal localizado.** FUSOMAP  
 Director: García Alfonso, Pilar  
 Project type: Research project  
 Funding body: Mutua Madrileña  
 Start date: 26/02/2021  
 End date: 26/02/2024

### Industrial and intellectual property registrations

#### Industrial property

| Title                                          | Reference* | Owner                  | Inventors                                            |
|------------------------------------------------|------------|------------------------|------------------------------------------------------|
| Cancer associated venous thromboembolic events | EP3631016  | FIBHGM<br>IIB Sant Pau | Andrés Muñoz,<br>Eduardo Salas,<br>José Manuel Soria |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

#### Copyright

| Title                                            | Reference                          | Owner                 | Inventors                                                                |
|--------------------------------------------------|------------------------------------|-----------------------|--------------------------------------------------------------------------|
| SMART, application for cancer genetic counseling | Nº Asiento Registral: 16/2015/5724 | FIBHGM,<br>UNED, URJC | Iván Márquez, Juan Martínez Romo,<br>Cristina Rodríguez, Susana Borromeo |

■ Transferred Intellectual Property.



Cooperative Research Structures

| Type (RICORS, CIBER, others)  | Name of Network                                     | Role               | Code          |
|-------------------------------|-----------------------------------------------------|--------------------|---------------|
| CIBER                         | CIBERONC                                            | Associated group   | CB16/12/00471 |
| Other: Scientific Association | GEICAM. Grupo Español de Cáncer de mama.            | Coordinating group | GEICAM        |
| Other: Scientific Association | ESMO. European Society for Medical Oncology         | Other              | ESMO          |
| Other: Scientific Association | TRIO. Translational Research In Oncology            | Coordinating group | TRIO          |
| Other: Scientific Association | GEIS. Grupo Español de Investigación en Sarcomas.   | Other              | GEIS          |
| Other: Scientific Association | TTD. Grupo de Tratamiento de los Tumores Digestivos | Other              | TTD           |
| Other: Cooperative Group      | SOGUG. Grupo Español de Oncología Genitourinaria.   | Other              | SOGUG         |
| Other: Scientific Association | SEOM. Sociedad Española de Oncología Médica         | Other              | SEOM          |
| Other: Scientific Association | GEM. Grupo Español Multidisciplinar de Melanoma     | Other              | GEM           |

| Type (RICORS, CIBER, others)      | Name of Network                                         | Role  | Code        |
|-----------------------------------|---------------------------------------------------------|-------|-------------|
| Other: Patients' association.     | EUROPACOLON España. Asociación cáncer colorrectal       | Other | EUROPACOLON |
| Other: Scientific Association     | Grupo ECO para la calidad en la Oncología               | Other | ECO         |
| Other: Scientific Association     | SOMA. Sociedad Oncológica Madrileña                     | Other | SOMA        |
| Other: Scientific Association     | BCIRG. Breast Cancer Internacional Research Group       | Other | BCIRG       |
| Other: Scientific Association     | ASCO. American Society of Clinical Oncology             | Other | ASCO        |
| Other: Cooperative Group          | CECOG. Central European Cooperative Oncology Group      | Other | CECOG       |
| Other: Cooperative Group          | EBCTCG. Early Breast Cancer Trialist Cooperative Group  | Other | EBCTCG      |
| Other: Association of researchers | ALIPANC. Alianza de Investigación en Cáncer de Páncreas | Other | ALIPANC     |



## Clinical Practice Guidelines

| Authors                                                                                                                                                                                                                                                                                                                                                                            | Title                                                                                                                                                                                                       | Journal/Reference                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
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## Publications

Total Impact Factor: 805,5

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 24        | 274,0        |
| Joint publications                                     | 56        | 531,5        |
| First decile publications                              | 24        | 0,0          |
| First quartile publications                            | 41        | 694,3        |
| Second quartile publications                           | 32        | 99,4         |
| Third quartile publications                            | 4         | 9,3          |
| Fourth quartile publications                           | 3         | 2,5          |
| Nonindexed publications/No IF                          | 2         | —            |
| <b>Total publications (including those without IF)</b> | <b>82</b> | <b>805,5</b> |

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Group Directors: **JOSÉ LUIS DíEZ-MARTÍN AND ISMAEL BUÑO BORDE**

Organisms involved: **HGUGM-UCM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Hematology-oncology in adults

- ▶ L1: Transplantation of hematopoietic progenitor cells.
  - 1.1. Transplantation of nonconventional hematopoietic progenitor cells (haploidentical, dual).
  - 1.2. Transplantation of hematopoietic progenitor cells in patients with AIDS.
  - 1.3. Cell therapy (mesenchymal, NK cells, etc.)
  - 1.4. Follow-up of transplantation of hematopoietic progenitors (genetics and flow cytometry).
  - 1.5. Biomarkers for prediction of post-transplant complications (genetic polymorphism, proteins, etc.).
  - 1.6. Gene/cell therapy with CAR-T cells.
- ▶ L2: Myeloid neoplasms: Acute myeloid leukemia and myelodysplastic syndrome.
  - 2.1. Treatment with next-generation drugs.
  - 2.2. Genomics of the tumour cell.
  - 2.3. In vitro drug resistance studies.
  - 2.4. Cytotoxicity studies with NK.
- ▶ L3: High-grade lymphomas.
  - 3.1. Liquid biopsy (free DNA in plasma) in high-grade lymphomas.

- ▶ L4: Chronic myeloid leukemia.
  - 4.1. Studies on discontinuation of tyrosine kinase inhibitors in chronic myeloid leukemia.
- ▶ L5: Genetics of hematologic neoplasms.
  - 5.1. Genetic markers for diagnosis, prognosis and targeted treatment.
  - 5.2. Genomics of hematologic neoplasms: next-generation sequencing.
  - 5.3. Leukemogenesis models.
  - 5.4. Germ genomic alterations
- ▶ L6: Clinical research (clinical trials).
  - 6.1. Molecular targets in the treatment of hemato-oncology patients.
  - 6.2. Monoclonal antibodies in the treatment of hematology-oncology patients.
  - 6.3. Cell therapy (mesenchymal, NK cells, etc.)
  - 6.4. Gene/cell therapy with CAR-T cells.
- ▶ L7: Electronic management of clinical information.

### Axis 2: Paediatric hematology-oncology

- ▶ L1: Hemoglobinopathies (CSUR de Eritropatología Hereditaria)
  - 1.1. Transplantation of hematopoietic progenitors in hemoglobinopathies
  - 1.2. Clinical monitoring of sickle cell disease from neonatal screening
  - 1.3. Erythrocytapheresis in the Paediatric Sickle Cell Patient
- ▶ L2: Adjuvant therapy in paediatric hematology-oncology.
- ▶ L3: Fanconi anemia.
  - L3.1. Multidisciplinary follow-up in Fanconi's Anemia
- ▶ L4: Solid tumours in children.
- ▶ L5: Leukemia in children.



## Group members

- **Andrés Zayas, Cristina:** R1. First Stage Researcher.
- **Anguita Velasco, Javier:** R3. Established Researcher.
- **Bailén Almorox, Rebeca:** R1. First Stage Researcher.
- **Bastos Oreiro, Mariana Beatriz:** R3. Established Researcher.
- **Bardón Cancho, Eduardo Jesús:** R1. First Stage Researcher.
- **Beléndez Bieler, Cristina:** R3. Established Researcher.
- **Borrego Villegas, Laura:** Other. Clinical Trial Manager.
- **Buño Borde, Ismael:** R4. Leading Researcher.
- **Carbonell Muñoz, Diego:** R2. Recognised Researcher.
- **Catalá Bardisa, Eva:** R1. First Stage Researcher.
- **Cela de Julián, Elena:** R3. Established Researcher.
- **Chicano Lavilla, María:** R2. Recognised Researcher.
- **De la Iglesia San Sebastián, Ismael:** R1. First Stage Researcher.
- **Díez Martín, José Luis:** R4. Leading Researcher.
- **Encinas Rodríguez, Cristina:** R1. First Stage Researcher.
- **Fernández de Córdoba Oñate, Sara:** R1. First Stage Researcher.
- **Font López, Patricia:** R1. First Stage Researcher.
- **García García, Ana María:** Other.
- **García Morín, Marina:** R2. Recognised Researcher.
- **Garrido Colino, Carmen:** R3. Established Researcher.
- **Gayoso Cruz, Jorge:** R3. Established Researcher.
- **Gómez Centurión, Ignacio:** R1. First Stage Researcher.
- **González Guerrero, Alba:** R1. First Stage Researcher.

- **Hernández Martín, Marta María:** Other. Clinical Trial Manager.
- **Huerta Aragonés, Jorge:** R1. First Stage Researcher.
- **Herrero Aguayo, Vicente:** Other. Study Coordinator.
- **Kwon Kim, Mi:** R3. Established Researcher.
- **Marco Sánchez, José Manuel:** R1. First Stage Researcher.
- **Martínez García, María:** R1. First Stage Researcher.
- **Martínez Laperche, Carolina:** R3. Established Researcher.
- **Mata Fernández, Cristina:** R3. Established Researcher.
- **Medin de Block, Hilda Gabriela:** R1. First Stage Researcher.
- **Moreno Carbonell, Marta:** R1. First Stage Researcher.
- **Muñoz Martínez, Cristina:** Other. Clinical Trial Manager.
- **Oarbeascoa Royuela, Gillén:** R1. First Stage Researcher.
- **Prieto Medina, María del Mar:** R1. First Stage Researcher.
- **Suárez González, Julia:** R2. Recognised Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      | 4                       |            |                    |            |
| Regional      |                         |            | 1                  |            |



- Title: Remote Ischemic Conditioning in Lymphoma Patients Receiving Anthracyclines.' – 'RESILIENCE'.** H2020-RESILIENCE-945118  
 Director: Bastos Oreiro, Mariana Beatriz  
 Project type: European research project  
 Funding body: EU/PRG. MARCO  
 Start date: 01/06/2021  
 End date: 31/05/2026
- Title: Búsqueda de biomarcadores relacionados con genes del sistema inmune para predecir la eficacia y la toxicidad en pacientes con neoplasias hematológicas tratadas con inmunoterapia basada en el receptor de células T antigénicas quiméticas (CART9).** PI20/00521  
 Director: Buño Borde, Ismael  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 30/06/2025
- Title: Lentiviral-mediated gene therapy for Diamond Blackfan Anemia: Preclinical Safety and Efficacy Studies.** AC20/00110  
 Director: Beléndez Bieler, Cristina  
 Project type: ACC. Complementarias  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2021  
 End date: 15/05/2024
- Title: European randomised first line phase-3 trial, evaluating Cabozantinib against placebo as maintenance treatment after the end of standard treatment, in newly diagnosed osteosarcoma patients (FOS-TER-CabOs).** ATTRA236786MATA  
 Director: Mata Fernández, Cristina  
 Project type: Research project  
 Funding body: AECC  
 Start date: 15/12/2023  
 End date: 14/12/2032
- Title: Dynamics of circulating tumor DNA and other biomarkers prior to infusion of CAR-T therapy as a prognostic marker of treatment failure in diffuse large B cell lymphoma.** GS22BMD/01

Director: Bastos Oreiro, Mariana Beatriz  
 Project type: Research project  
 Funding body: GILEAD SCIENCE  
 Start date: 19/02/2023  
 End date: 18/02/2025

- Title: Grants for predoctoral recruitment candidate.** PIPF-2022/SAL-GL-24713  
 Director: De la Iglesia San Sebastián, Ismael  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/12/2023  
 End date: 30/11/2027

## Industrial and intellectual property registrations

### Copyright

| Title                                                                                                                                                                                                                                                   | Reference                          | Owner  | Inventors                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------|
| Herramienta informática para la Gestión Electrónica de la Agenda de Transplante Hematopoyético «gesTHrónica»                                                                                                                                            | Nº Asiento Registral: 16/2008/7735 | FIBHGM | Pascual Balsalobre, Ismael Buño, José Luis Díez                                                                                          |
| Panel alloGENOMICS v1.13 – Panel de genes y regiones de interés para su aplicación en el estudio de la influencia de los polimorfismos genéticos en el desarrollo de complicaciones post-trasplante alogénico de progenitores hematopoyéticos (alo-TPH) | Nº Asiento Registral: 16/2014/7306 | FIBHGM | Ismael Buño, Milagros González, José Luis Díez, Jorge Gayoso, Carolina Martínez, Elena Buces, David Serrano, Pascual Balsalobre, Mi Kwon |

■ Transferred Intellectual Property.



### Cooperative Research Structures

| Type (RICORS, CIBER, Platform, Others) | Name of Network                                                                                                                         | Role                | Code       |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------|
| PLATFORM                               | Plataforma ISCIII de dinamización e innovación de las capacidades industriales del SNS y su transferencia efectiva al sector productivo | Collaborating group | PT20/00159 |

### Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate             | Title                                                                                                                                                                           | Name/s Director/s                             | University | Date Defended |
|-----------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|------------|---------------|
| Ph Thesis | Cristina Andrés Zayas | Caracterización molecular de pacientes con predisposición germinal a neoplasias hematológicas mediante la detección de variantes genómicas por técnicas de secuenciación masiva | Ismael Buño Borde/ Carolina Martínez Laperche | UCM        | 05/12/2023    |

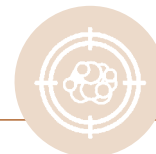
### Publications

Total Impact Factor: 358,7

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 13        | 48,3         |
| Joint publications                                     | 50        | 310,4        |
| First decile publications                              | 13        | 0,0          |
| First quartile publications                            | 42        | 306,0        |
| Second quartile publications                           | 17        | 43,5         |
| Third quartile publications                            | 4         | 9,2          |
| Fourth quartile publications                           | 0         | 0,0          |
| Nonindexed publications/No IF                          | 1         | —            |
| <b>Total publications (including those without IF)</b> | <b>64</b> | <b>358,7</b> |

### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Estirado, AD; García, GS; Aragones, JH; Colino, CG; Seoane-Reula, E; Fernández, CM. *Outcomes and impact of multidisciplinary team care on immunologic and hemato-oncologic pediatric patients*. ALLERGOLOGIA ET IMMUNOPATHOLOGIA. 2023; 51(1) 154-158. FI: 2.5. Quartile: 3. (Article).
- Barca, EG; Tomas-Roca, L; Esteve, A; Rodríguez, M; Gato, L; Alonso-Alonso, R; García-Sancho, AM; Cordoba, R; Monter-Rovira, A; Bastos-Oreiro, M; Burgues, JMB; Sayas, MJ; Alegria, MCV; Sánchez-Blanco, JJ; Pellicer, MR; Henriquez, HDL; de Ona, R; Cabezudo, J. *Extranodal natural killer/T-cell lymphoma nasal type in a western population: Molecular profiling identifies new therapeutic targets*. AMERICAN JOURNAL OF HEMATOLOGY. 2023; 98(6) 134-138. FI: 10.1. Quartile: 1. (Letter).
- Nieto-Benito, LM; Huerta-Aragones, J; Parra-Blanco, V; Campos-Domínguez, M. *Kaposiform hemangioendothelioma and tufted angioma: two entities of the same clinicopathological spectrum*. ANAIS BRASILEIROS DE DERMATOLOGIA. 2023; 98(3) 391-394. FI: 2.6. Quartile: 2. (Letter).



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- Sitja, MM; Aragones, JH; Fernández, MS; Colino, CG. *Epidural lipomatosis secondary to corticotherapy*. ANALES DE PEDIATRIA. 2023; 98(5) 397-398. FI: 1.5. Quartile: 2. (Editorial Material).
- Colino, CG; Urdiales, PG; Honrubia, AM; Acosta, MJO; Abos, MG. *Primary ovarian insufficiency in cancer survivors: Keys to optimal management*. ANALES DE PEDIATRIA. 2023; 99(6) 385-392. FI: 1.5. Quartile: 2. (Article).
- Martínez, C; de Haro, ME; Romero, S; Gutiérrez, A; Domingo-Domenech, E; González-Rodríguez, AP; Zeberio, I; Martínez-Badas, MP; Rodríguez-Izquierdo, A; Carpio, C; Bastos-Oreiro, M; Hernández-Rivas, JA; Vallansot, R; Kelleher, N; Díaz-Gálvez, FJ; Torrado, . *Impact of pre- and/or post-autologous stem cell transplantation exposure to brentuximab vedotin on survival outcomes in patients with high-risk Hodgkin lymphoma*. ANNALS OF HEMATOLOGY. 2023; 102(2) 429-437. FI: 3. Quartile: 2. (Article).
- Ortuzar, A; Fox, ML; Vera, JA; Vizcaya, AL; Sánchez, AM; Calatayud, IL; Carbonell, S; Álvarez-Larran, A; Serna, RM; Buades, JEM; Cervantes, KQ; Hellin, AM; Domínguez, AB; Navarro, GC; Sansaloni, AC; Fernández, LG; Linares, CM; Kabat, MG; López, RP; Rodrig. *Philadelphia-negative chronic myeloproliferative neoplasm follow-up: when the phone rings. Changes during the COVID-19 pandemic and patient satisfaction. Experience in 30 health centers in Spain*. ANNALS OF HEMATOLOGY. 2023; 102(2) 447-456. FI: 3. Quartile: 2. (Article).
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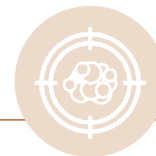
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Group Director: **LUIS GONZÁLEZ-BAYÓN**

Organisms involved: **HGUGM**

Type: **Emerging group**

## Research lines

### Axis 1: Treatment of malignant peritoneal disease (MPD)

- ▶ L1: Natural history of MPD and palliative treatment
- ▶ L2: Imaging study of MPD (funded study)
- ▶ L3: Pharmacokinetics of peritoneally administered drugs and delivery of systemic drugs to the peritoneum

### Axis 2: Treatment of MPD for cure: cytoreduction + hyperthermic intraoperative intraperitoneal chemotherapy (HIPEC)

- ▶ L1: Morbidity and mortality of the procedure
- ▶ L2: Overall and disease-free survival in different tumor types

### Axis 3: Treatment of gastric cancer with carcinomatosis using preoperative bidirectional chemotherapy and cytoreduction + HIPEC

- ▶ L1: Morbidity and mortality of the procedure
- ▶ L2: Overall and disease-free survival

## Group members

- **González Bayón, Luis:** R4. Leading Researcher.
- **Lozano Lominchar, Pablo.**
- **Palencia García, Natividad.**
- **Vasquez Jiménez, Wenceslao.**

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Publications

Total Impact Factor: 17,8

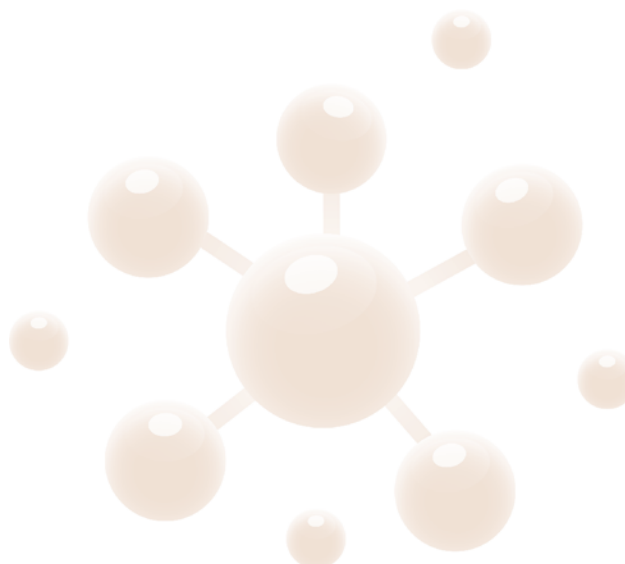
|                                                        | Nº       | IF          |
|--------------------------------------------------------|----------|-------------|
| Own publications                                       | 2        | 7,0         |
| Joint publications                                     | 3        | 10,8        |
| First decile publications                              | 0        | –           |
| First quartile publications                            | 3        | 12,5        |
| Second quartile publications                           | 2        | 5,3         |
| Third quartile publications                            | 0        | 0,0         |
| Fourth quartile publications                           | 0        | 0,0         |
| Nonindexed publications/No IF                          | 0        | –           |
| <b>Total publications (including those without IF)</b> | <b>5</b> | <b>17,8</b> |



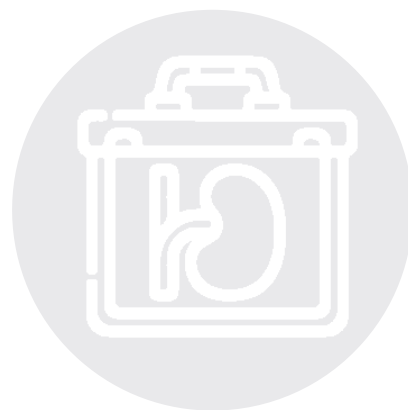


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# AREA 7

## SYSTEMIC DISEASES AND ORGAN TRANSPLANTATION

Area coordinator:

**Rafael Bañares Cañizares**

The Area of Systemic Diseases comprises a broad spectrum of mainly clinical research groups. Its most fruitful research lines range from acute and chronic kidney failure to the biology of aging, covering fields such as the pathophysiology of liver and digestive diseases and abdominal organ transplantation. In addition, some of the groups in the Area participate in cooperative research structures funded by the ISCIII, such as the Centro de Investigación Biomédica en Red: Enfermedades Hepáticas y Digestivas (CIBEREHD [*Networked Center for Biomedical Research in Liver and Digestive Diseases*]) and have made a relevant contribution to the development and implementation of clinical practice guidelines or participate in and lead international cooperative academic projects, especially in South America. Similarly, some groups in the Area support European technology projects investigating home application of diagnostic tools and treatment for elderly patients.

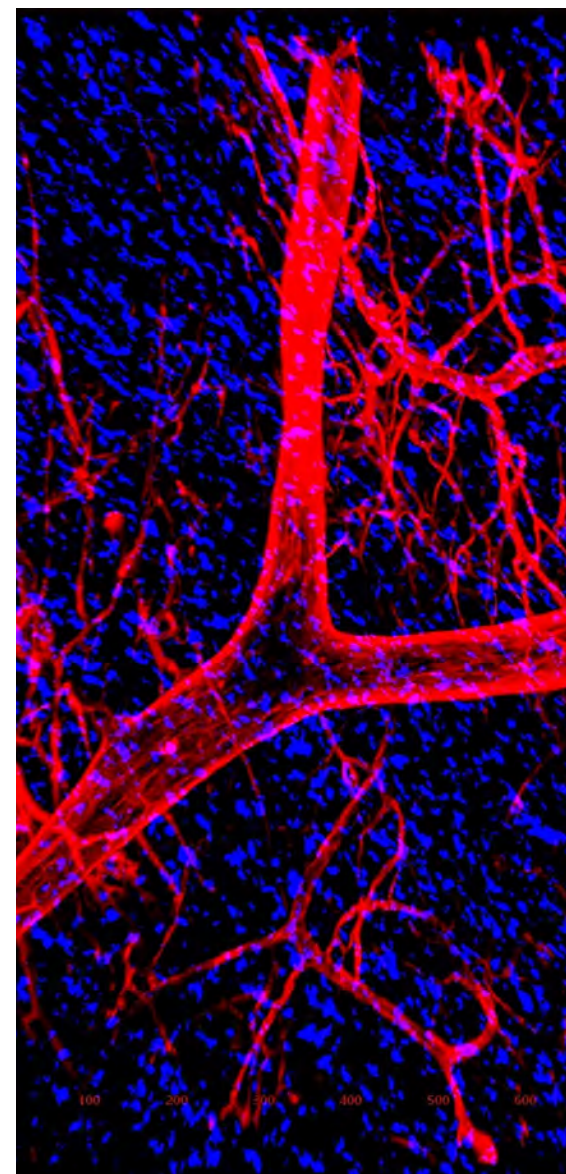
The Area of Systemic Diseases is clearly heterogeneous, although several specific axes of activity can be defined.

The first is the clear increase in scientific output and its quality, with preference for emerging groups. The second involves promotion of translational research, by bringing research support platforms and services to clinical groups. Rapid solutions to research problems can only be found through a gradual process of addressing clinical issues in the laboratory. In the third axis, appropriate support and advice enable scaled application of researchers and groups for competitive funding calls, with the aim not only of obtaining financial support but also of addressing evaluations in an enriching competitive environment. Lastly, the Area aims to develop objectives in undergraduate and postgraduate training with the implementation of predoctoral programs in the various groups.

# Groups in AREA **7**

## SYSTEMIC DISEASES AND ORGAN TRANSPLANTATION

- ▶ 7.01. Inflammation and vascular damage in chronic kidney disease, dialysis and kidney transplant. Renal pathophysiology
- ▶ 7.02. Pathophysiology and natural history of liver and digestive diseases
- ▶ 7.04. Diseases of the critically ill child
- ▶ 7.05B. Physiological and therapeutic medical-surgical aspects of respiratory diseases
- ▶ 7.06. Regenerative medicine in plastic surgery
- ▶ 7.07. Experimental kidney transplantation
- ▶ 7.08. Paediatric endocrinology
- ▶ 7.10. Regeneration and biomaterials in musculoskeletal diseases
- ▶ 7.12. Emergency medicine
- ▶ 7.16B. Pathophysiology of the cardiovascular system and circulatory support
- ▶ 7.18. Peritransplant evaluation of the liver
- ▶ 7.19. Perianesthetic assessment
- ▶ 7.20. Anesthesia, toxins, and arrhythmias
- ▶ 7.21. Biopathology of aging
- ▶ 7.22. Neonatal and developmental pathophysiology
- ▶ 7.26. Evaluation of health services and clinical epidemiology
- ▶ 7.27. Hospital pharmacy and pharmacogenomics
- ▶ 7.28. Clinical nutrition
- ▶ 7.29. Pharmacology and vascular pathophysiology
- ▶ 7.31. Pathophysiology in women, pregnancy, labor and puerperium
- ▶ 7.32. Physical medicine and rehabilitation
- ▶ 7.33. Pathological Anatomy
- ▶ 7.34. Multimorbidity, chronic diseases and health services. Primary Care
- ▶ 7.35. Translational dermatology: Research and innovation



Photography: Elena Fernández Cortés



Group Director: **MARÍA DE LOS ÁNGELES GOICOECHEA DIEZHANDINO**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Research in Acute Renal Failure

- ▶ L1: Search for new therapeutic alternatives in acute renal failure of different aetiology (nephrotoxic, sepsis, rhabdomyolysis...).
- ▶ L2: Inhibition of cholesterol rafts as a therapeutic target in ARF.
- ▶ L3: Nephroprotective role of cilastatin in patients subjected to HI-PEC-cisplatin.
- ▶ L4: Effect of renal inflammasome on distant organ damage.
- ▶ L5: Inhibition of cholesterol rafts as a therapeutic target in lung and intestinal damage.
- ▶ L6: Malaria and acute renal failure.
- ▶ L7: Cardiorenal syndrome, cardiovascular damage in renal failure.

### Axis 2: CKD progression

- ▶ L1: Role of colchicine in progression of CKD.
- ▶ L2: RAAS blockers in elderly CKD patients without albuminuria.
- ▶ L3: CKD aetiology and progression.
- ▶ L4: CKD prevention and risk stratification.

### Axis 3: Haemodialysis and complications

- ▶ L1: Clearance of protein-bound uremic medium molecular weight toxins: HFRs.
- ▶ L2: Potassium levels, dialysate and cardiac arrhythmias.
- ▶ L3: Evaluation of convective transport and online HF techniques on efficacy, tolerability and long-term prognosis of ESRD patients.

### Axis 4: Vascular access

- ▶ L1: Impact of isometric physical exercise in radiocephalic AVFs.

### Axis 5: Peritoneal dialysis and home haemodialysis

- ▶ L1: Implementation of new modalities of home dialysis.
- ▶ L2: Efficacy of peritoneal dialysis in refractory heart failure patients.

### Axis 6: Covid-19

- ▶ L1: Short- and long-term efficacy of vaccination against SARS-COV2 in patients with CKD, dialysis and renal transplantation: SENCOVAC study.

### Axis 7: Acute renal failure

- ▶ L1: Acute renal failure code in hospitalisation.
- ▶ L2: Protective role of rasburicase in acute renal failure after cardiac surgery.
- ▶ L3: Acute renal failure in hypertensive disorders of pregnancy.
- ▶ L4: Mortality and prognosis of patients presenting with acute renal failure in hospitalisation.

### Axis 8: Glomerular Pathology

- ▶ L1: Fsgmac-02: Identification of Mutations in the MAFB gene in patients with podocytopathies. Analysis of the effect of these mutations on the functional and transcriptional polarisation of human macrophages.
- ▶ L2: Tubulo01- markers of tubular damage in proteinuric nephropathies, histological correlation and progression of chronic kidney disease.
- ▶ L3: Markers of fibrosis in patients with glomerular pathology. Proteomic analysis.

### Axis 9: ERC Genetics

- ▶ L1: GENSEN study: Identification of genetic mutations in patients with CKD of non-inherited aetiology.

### Axis 10: Extracorporeal purification techniques

- ▶ L1: Therapeutic apheresis and its new applications.

### Axis 11: Resistant arterial hypertension

- ▶ L1: Pocus and Vexus as tools for assessing volume in resistant arterial hypertension.



Our research group aims to contribute to improving the prevention, diagnosis and complications of acute and chronic renal failure, with different and broad lines of research in all fields. We are currently members of the Cooperative Research Network oriented to health outcomes: RICORS 2040 KIDNEY DISEASE: RD21/0005/0029. We are also a member group of the Consortium for Research on Renal Failure and its Impact on Cardiovascular Pathology (CIFRA\_COR-CM; 2022/BMD-7223) and previously of CIFRA2-CM, and of the R&D activity programmes between research groups of the Community of Madrid, whose objectives include the development of new models of acute renal failure in which to study early diagnosis tools, prognostic biomarkers and new therapeutic approaches, reducing its cardiovascular impact. We are participating in two independent clinical trials, one of them multicentre, of which we are the PI.

## Group members

- **Abad Estébanez, Soraya:** R2. Recognised Researcher.
- **Anaya Fernández-Lomana, Fernando:** R3. Established Researcher.
- **Arroyo Rueda, David:** R2. Recognised Researcher.
- **Barraca Núñez, Daniel:** R1. First Stage Researcher.
- **Bascuñana Colomina, Arturo:** R1. First Stage Researcher.
- **Blanco Collado, David:** R1. First Stage Researcher.
- **Carbayo López de Pablos, Javier:** R1. First Stage Researcher.
- **García Prieto, Ana María:** R2. Recognised Researcher.
- **Goicoechea Diezhandino, María de los Ángeles:** R3. Established Researcher.
- **González-Nicolás González, María Ángeles:** R1. First Stage Researcher.
- **Lázaro Fernández, Alberto:** R3. Established Researcher.
- **Macías Carmona, Nicolás:** R2. Recognised Researcher.
- **Martín Sánchez, Beatriz:** R2. Recognised Researcher.
- **Melero Martín, Rosa:** R1. First Stage Researcher.
- **Pérez de José, Ana María:** R2. Recognised Researcher.
- **Rengel Aranda, Manuel Antonio:** R3. Established Researcher.
- **Rodríguez Benítez, Patrocinio:** R3. Established Researcher.
- **Rodríguez Ferrero, María Luisa:** R2. Recognised Researcher.
- **Sánchez Cámara, Luis Alberto:** R1. First Stage Researcher.
- **Tejedor Bravo, Marta:** R1. First Stage Researcher.
- **Vaca Gallardo, Marco Antonio:** R1. First Stage Researcher.
- **Valiño Rivas, Lara:** R2. Recognised Researcher.
- **Vázquez Ogando, Elena:** R1. First Stage Researcher.
- **Vega Martínez, María Almudena:** R2. Recognised Researcher.
- **Verdalles Guzmán, Úrsula:** R2. Recognised Researcher.
- **Verde Moreno, Eduardo:** R2. Recognised Researcher.



## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 5                       |            | 1                  |            |
| Regional      |                         |            |                    |            |

- Title: **Eficacia de la Colchicina en prevención secundaria de eventos vasculares y progresión renal en pacientes con enfermedad renal crónica moderada (estudio COLCHIREN).** ICI22/00006  
Director: Goicoechea Diezhandino, María de los Ángeles  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2026
- Title: **Ensayo clínico de nefroprotección con cilastatina en cirugía de citorreducción con quimioterapia intraperitoneal intraoperatoria hipertérmica con cisplatino.** ICI21/00111  
Director: Lázaro Fernández, Alberto  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2025

- Title: **El control de la apoptosis renal bloquea el inflamasoma y evita el daño orgánico a distancia.** PI20/01577  
Director: Lázaro Fernández, Alberto  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/04/2025
- Title: **Caracterización del mecanismo de acción de la cilastatina para actuar como tratamiento preventivo en indicaciones inflamatorias agudas y crónicas.** CPP2022-009633  
Director: Lázaro Fernández, Alberto  
Project type: Research project  
Funding body: MICINN/MINECO  
Start date: 01/09/2023  
End date: 31/08/2026
- Title: **Modulación farmacológica de la lesión por reperusión en injertos renales con isquemia normotérmica.** FMM23/02  
Director: Lázaro Fernández, Alberto  
Project type: Research project  
Funding body: Fundación Mutua Madrileña  
Start date: 28/07/2023  
End date: 27/07/2026
- Title: **Sara Borrell contract.** CD22/00013  
Director: Valiño Rivas, Lara  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 31/03/2023  
End date: 30/03/2026



## Industrial and intellectual property registrations

### Industrial property

| Title                                                                                           | Reference*                     | Owner                      | Inventors                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------|--------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Uso de la Cilastatina para reducir la nefrotoxicidad en distintos compuestos                    | PCT/ES 2008 070137 (8 patents) | FIBHGM                     | Alberto Tejedor, Alberto Lázaro, Sonia Camaño, Ana María Torres, José Antonio Lázaro, Manuela Castilla, María del Carmen de Lucas                                       |
| Cilastatin for use in the treatment of sepsis                                                   | EP 16382299.2 (12 patents)     | FIBHGM                     | Alberto Tejedor, Alberto Lázaro, Blanca Humanes, M <sup>a</sup> Ángeles González-Nicolás                                                                                |
| DHP-I inhibitors for use as neuroprotectants and in the treatment of neuroinflammatory diseases | EP23383314.4                   | Telara Pharma, FIBHGM, UCM | Alberto Lázaro, Meritxell López, María Ángeles González-Nicolás, Eva María Marco, Beatriz Martín, Diego San Felipe, Ricardo Llorente, Miguel Ángel Martínez, Sara Rubio |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

### Copyright

| Title                                                                                                       | Reference                         | Owner  | Inventors                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| NefroRules: Reglas clínicas para aumentar la seguridad del tratamiento en pacientes con insuficiencia renal | Nº Asiento Registral: 16/2016/989 | FIBHGM | Sara Ibáñez, María Sanjurjo, Ana Herranz, Carmen Rodríguez, M <sup>a</sup> Luisa Martín, M <sup>a</sup> Ángeles Goicoechea, Eduardo Verde, José Luño |

■ Transferred Intellectual Property.

## Cooperative Research Structures

| Type (RICORS, CIBER, others)                                                       | Name of Network                                                                         | Role             | Code           |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------|----------------|
| RICORS                                                                             | RICORS 2040 KIDNEY DISEASE                                                              | Associated group | RD21/0005/0029 |
| Other: Programs of R&D activities among research groups in the Community of Madrid | Consorcio para el estudio del fracaso renal y su impacto en la patología cardiovascular | Associated group | CIFRA_COR-CM   |

## Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate               | Title                                                                                                                                               | Name/s Director/s                                                                     | University | Date Defended |
|-----------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------|---------------|
| Ph Thesis | Irma María Barrio Pérez | Sevoflurano y desflurano en la reparación del aneurisma de aorta. Ensayo clínico aleatorizado Fase IV                                               | Maria Begoña Quintana Villamandos/ Alberto Lázaro Fernández/ Carmen Fernández Riviera | UCM        | 19/01/2023    |
| Ph Thesis | Marta Tejedor Bravo     | Hiponatremia intermitente recurrente: un nuevo modelo experimental. Estudio de su efecto sobre el balance hidrosalino y el sistema nervioso central | Alberto Lázaro Fernández/ Luis Antonio Álvarez-Sala Walther                           | UCM        | 21/04/2023    |
| Ph Thesis | Diego Barbieri Merlo    | Análisis de interrelación entre obesidad, c1q/ tumour necrosis factor-related protein-1 y 3 y la progresión de la enfermedad renal crónica          | María Ángeles Goicoechea/ María Dolores Sánchez Niño                                  | UAM        | 04/12/2023    |





## Clinical Practice Guidelines

| Authors                                                                                                                                                                                                                  | Title                                                                                                                                                                          | Journal/Reference                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Jorge E. Rojas-Rivera, Clara García-Carro, Ana I. Ávila d, Mar Espino, Mario Espinosa, Gema Fernández- Juárez, Xavier Fulladosa, Marian Goicoechea, Manuel Macía, Enrique Morales, Luis F. Quintana Porras, Manuel Praga | Documento de consenso del Grupo de Estudio de Enfermedades Glomerulares de la Sociedad Española de Nefrología (GLOSEN) para el diagnóstico y tratamiento de la nefritis lúpica | <a href="https://doi.org/10.1016/j.nefro.2022.10.005">https://doi.org/10.1016/j.nefro.2022.10.005</a> |
| Jorge E Rojas-Rivera, Clara García-Carro, Ana I Ávila, Mar Espino, Mario Espinosa, Gema Fernández-Juárez, Xavier Fulladosa, Marian Goicoechea, Manuel Macía, Enrique Morales, Luis F Quintana, Manuel Praga              | Diagnosis and treatment of lupus nephritis: a summary of the Consensus Document of the Spanish Group for the Study of Glomerular Diseases (GLOSEN)                             | Clin Kidney J. 2023 Mar 22;16(9):1384-1402. doi: 10.1093/ckj/sfad055.                                 |
| Juan Manuel Buades, Ignasi Figueras-Nart, Marian Goicoechea, Rafael Jesús Sánchez Villanueva y Esther Serra-Baldrich                                                                                                     | Documento de información y consenso para el manejo diagnóstico y terapéutico del prurito asociado a la enfermedad renal crónica en pacientes en hemodiálisis en España.        | DOI: 10.1016/j.nefro.2023.04.006                                                                      |

## Publications

Total Impact Factor: 137,3

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 8         | 21,9         |
| Joint publications                                     | 18        | 115,4        |
| First decile publications                              | 2         | 0,0          |
| First quartile publications                            | 13        | 108,5        |
| Second quartile publications                           | 12        | 27,4         |
| Third quartile publications                            | 0         | 0,0          |
| Fourth quartile publications                           | 1         | 1,4          |
| Nonindexed publications/No IF                          | 3         | —            |
| <b>Total publications (including those without IF)</b> | <b>29</b> | <b>137,3</b> |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- García-Puente, LM; Fraile-Martínez, O; García-Montero, C; Bujan, J; De León-Luis, JA; Bravo, C; Rodríguez-Benítez, P; Pintado, P; Ruiz-Labarta, FJ; Álvarez-Mon, M; García-Honduvilla, N; Cancelo, MJ; Saez, MA; Ortega, MA. *Placentas from Women with Late-Onset Preeclampsia Exhibit Increased Expression of the NLRP3 Inflammasome Machinery*. BIOMOLECULES. 2023; 13(11). FI: 4.8. Quartile: 1. (Article).
- Meijers, B; Vega, A; Juillard, L; Kawanishi, H; Kirsch, AH; Maduell, F; Massy, ZA; Mitra, S; Vanholder, R; Ronco, C; Cozzolino, M; Nomenclature Standardizat Fac. *Extracorporeal Techniques in End-Stage Kidney Disease*. BLOOD PURIFICATION. 2023; 53(5) 248-262. FI: 2.2. Quartile: 2. (Article).
- Collier, W; Inker, LA; Haaland, B; Appel, GB; Badve, SV; Caravaca-Fontán, F; Chalmers, J; Floege, JS; Goicoechea, M; Imai, E; Jafar, TH; Lewis, JB; Li, PKT; Locatelli, F; Maes, BD; Neuen, BL; Perrone, RD; Remuzzi, G; Schena, FP; Wanner, C; Heerspink, HJ. *Evaluation of Variation in the Performance of GFR Slope as a Surrogate End Point for Kidney Failure in Clinical Trials that Differ by Severity of CKD*. CLINICAL JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY. 2023; 18(2) 183-192. FI: 8.5. Quartile: 1. (Article).
- de Sequera, P; Pérez-García, R; Vega, A; Martínez-Vaquera, S; Acosta, JG; Del Valle, KP; Fernández-Lucas, M; García-Rubiales, MA; García-Herrera, AL; Coll, E; Merida, E; Martínez-Miguel, P; Castano, I; Gil-Casares, B; Garro, J; Maduel, F. *Trial design of the MOTHER HDx study: a multicenter, open-label, prospective, randomized study to explore the morbidity and mortality in patients dialyzed with the TheraNova HDx in comparison with online hemodiafiltration*. CLINICAL KIDNEY JOURNAL. 2023; 16(11) 2254-2261. FI: 3.9. Quartile: 1. (Article).
- Rojas-Rivera, JE; García-Carro, C; Avila, AI; Espino, M; Espinosa, M; Fernández-Juarez, G; Fulladosa, X; Goicoechea, M; Macia, M; Morales, E; Quintana, LF; Praga, M. *Diagnosis and treatment of lupus nephritis: a summary of the Consensus Document of the Spanish Group for the Study of Glomerular Diseases (GLOSEN)*. CLINICAL KIDNEY JOURNAL. 2023; 16(9) 1384-1402. FI: 3.9. Quartile: 1. (Review).



- García-Prieto, A; de la Flor, JC; Coll, E; Iglesias, E; Reque, J; Valga, F. *Expanded hemodialysis: what's up, Doc?*. CLINICAL KIDNEY JOURNAL. 2023; 16(7) 1071-1080. FI: 3.9. Quartile: 1. (Review).
- Areste, N; Sánchez-Álvarez, JE; Prieto-Velasco, M; Molina, P; Esteve-Simo, V; Ojeda, R; Buades, JM; Goicoechea, M; Sánchez-Villanueva, R; Bezhold, GA; Pérez-Morales, RE; Santos, AB; Peiro-Jordan, R; Arenas, MD. *Prevalence and severity of pruritus in Spanish patients with chronic kidney disease and impact on quality of life: a cross-sectional study*. CLINICAL KIDNEY JOURNAL. 2023; 16(6) 1035-1037. FI: 3.9. Quartile: 1. (Letter).
- Bermejo S; González E; López-Revuelta K; Ibernón M; López D; Martín-Gómez A; García-Osuna R; Linares T; Díaz M; Martín N; Barros X; Marco H; Navarro MI; Esparza N; Elias S; Coloma A; Robles NR; Agraz I; Poch E; Rodas L; Lozano V; Fernández-Fernández B; He. *The coexistence of diabetic retinopathy and diabetic nephropathy is associated with worse kidney outcomes*. CLINICAL KIDNEY JOURNAL. 2023; 16(10) 1656-1663. FI: 3.9. Quartile: 1. (Article).
- Martínez-Majolero, V; Urosa, B; Hernández-Sánchez, S; Arroyo, D. *The Moderating Role of Health Variables on the Association between Physical Exercise and Quality of Life in Patients with End-Stage Renal Disease*. HEALTHCARE. 2023; 11(15). FI: 2.4. Quartile: 2. (Article).
- Boada, M; Kiprof, D; Anaya, F; López, OL; Núñez, L; Olazaran, J; Lima, J; Grifols, C; Barcelo, M; Rohe, R; Prieto-Fernández, C; Szczepiorkowski, ZM; Paez, A. *Feasibility, safety, and tolerability of two modalities of plasma exchange with albumin replacement to treat elderly patients with Alzheimer's disease in the AMBAR study*. JOURNAL OF CLINICAL APHERESIS. 2023; 38(1) 45-54. FI: 1.4. Quartile: 4. (Article).
- Esteban-Fernández, A; Villar-Taibo, R; Alejo, M; Arroyo, D; Palomas, JLB; Cachero, M; Joaquin, C; Bailon, MM; Pérez-Rivera, JA; Romero-Vigara, JC; Somoza, G. *Diagnosis and Management of Malnutrition in Patients with Heart Failure*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(9). FI: 3. Quartile: 1. (Review).
- Esteve-Simo, V; Pérez-Morales, R; Buades-Fuster, JM; Jiménez, MDA; Areste-Fosalba, N; Bezhold, GA; Santos, AB; Álvarez, ES; Villanueva, RS; Molina, P; Ojeda, R; Prieto-Velasco, M; Goicoechea, M. *Chronic Kidney Disease-Associated Pruritus and Quality of Life: Learning from Our Patients*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(13). FI: 3. Quartile: 1. (Review).
- García-Ramos, S; Caamano, E; Benítez, PR; Benito, P; Calvo, A; Ramos, S; Power, M; Garutti, I; Pineiro, P. *Mortality Risk Prediction in Abdominal Septic Shock Treated with Polymyxin-B Hemoperfusion: A Retrospective Cohort Study*. JOURNAL OF PERSONALIZED MEDICINE. 2023; 13(7). FI: 3. Quartile: 1. (Article).
- Caravaca-Fontán, F; Cavero, T; Díaz-Encarnación, M; Cabello, V; Ariceta, G; Quintana, LF; Marco, H; Barros, X; Ramos, N; Rodríguez-Mendiola, N; Cruz, S; Fernández-Juárez, G; Rodríguez, A; de Jose, AP; Rabasco, C; Rodado, R; Fernández, L; Pérez-Gómez, V; A. *Clinical Profiles and Patterns of Kidney Disease Progression in C3 Glomerulopathy*. KIDNEY360. 2023; 4(5) 659-672. FI: 3.2. Quartile: 1. (Article).
- Inker, LA; Collier, W; Greene, T; Miao, SY; Chaudhari, J; Appel, GB; Badve, SV; Caravaca-Fontan, F; Del Vecchio, L; Floege, J; Goicoechea, M; Haaland, B; Herrington, WG; Imai, E; Jafar, TH; Lewis, JB; Li, PKT; Maes, BD; Neuen, BL; Perrone, RD; Remuzzi, G;. *A meta-analysis of GFR slope as a surrogate endpoint for kidney failure*. NATURE MEDICINE. 2023; 29(7) 1867. FI: 58.7. Quartile: 1. (Article).
- Villanego, F; Arroyo, D; Martínez-Majolero, V; Hernández-Sánchez, S; Esteve-Simo, V. *Importance of physical exercise prescription in patients with chronic kidney disease: Results of the survey of the Spanish Multidisciplinary Group of Physical Exercise in Kidney Patients (GEMEFER)*. NEFROLOGIA. 2023; 43(1) 126-132. FI: 2. Quartile: 2. (Article).
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## Other publications

- Barbieri D; Goicoechea M; Verde E; García-Prieto A; Verdalles Ú; Pérez de José A; Delgado A; Sánchez-Niño MD; Ortiz A. *Obesity, chronic kidney disease progression and the role of the adipokine C1q/TNF related protein-3*. NEFROLOGIA. 2023; 43(3) 328-334. (Article).
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- de Sequera P; Quiroga B; Goicoechea M. *Update of the prevention and isolation measure recommendations against SARS-COV-2 in dialysis units of Spain: A position paper of the Spanish Society of Nephrology Council*. NEFROLOGIA. 2023; 42(6) 714-721. (Article).



Group Director: **RAFAEL BAÑARES CAÑIZARES**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

- ▶ L1: Complications of cirrhosis: natural history of liver cirrhosis
- ▶ L2: Pathophysiology of the intestinal barrier and mucosal inflammation
- ▶ L3: Hepatocellular carcinoma
- ▶ L4: Viral hepatitis
- ▶ L5: Liver regeneration
- ▶ L6: Liver transplantation
- ▶ L7: Digestive endoscopy

This is a translational, multidisciplinary research group with clinical and basic research lines aimed globally at understanding the natural history and physiopathology of liver and digestive diseases.

Specifically, the research lines focus, in the case of liver diseases in cirrhosis and its complications, especially those derived from portal hypertension, artificial liver support, liver transplantation and liver cancer. In the field of gastroenterology, the group focuses on inflammatory bowel disease and the study of intestinal permeability and its regulatory mechanisms.

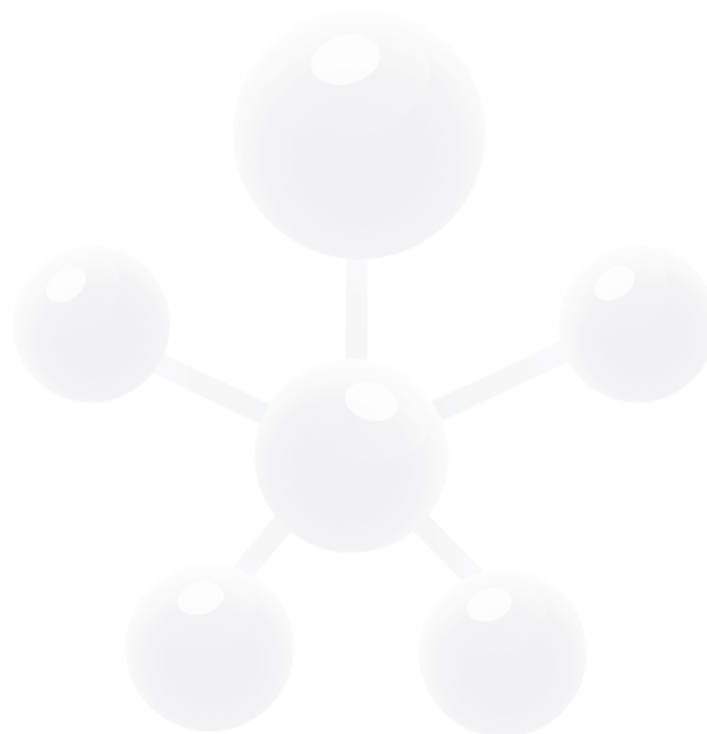
The group includes several principal investigators with overlapping funding in competitive public and private calls, and also carries out a considerable number of phase II-III clinical trials. Among the latest projects, it is worth mentioning the inclusion of the first patients in a project H2020 (ALIVER Project) aimed at the clinical assessment of a new artificial liver support device.

The group also acts as the coordinating group for the EXOHEP-CM program, aimed at studying cellular communication by exosomes and other extracellular vesicles, granted for the creation of networks between

Research Groups in Technology and Biomedicine of the Community of Madrid, and as the group responsible for the NanoLiver-CM program aimed at the application of nanotechnology and biomedical imaging in liver disease granted in the call for synergetic R&D projects of the Community of Madrid, both co-financed with FEDER and European Social Fund funds.

The group is part of the CIBER of hepatic and digestive diseases since its inception.

It also stands out for its marked teaching vocation, both undergraduate and graduate.





## Group members

- **Ahumada Jiménez, Adriana María:** R1. First Stage Researcher.
- **Alonso López, Sonia:** R2. Recognised Researcher.
- **Aranda Hernández, Javier:** R1. First Stage Researcher.
- **Asensio García, Iris:** R1. First Stage Researcher.
- **Balarezo Saldivar, Alejandra Estefanía:** Other. Lab Technician.
- **Bañares Cañizares, Rafael:** R4. Leading Researcher.
- **Borobia Sánchez, Rodrigo:** R1. First Stage Researcher.
- **Caballero Marcos, Arantxa:** R1. First Stage Researcher.
- **Carbonell Blanco, Carlos:** R1. First Stage Researcher.
- **Carrión Martín, Laura:** R1. First Stage Researcher.
- **Catalina Rodríguez, María de la Vega:** R1. First Stage Researcher.
- **Clemente Sánchez, Ana:** R1. First Stage Researcher.
- **Conthe Alonso, Andrés:** R1. First Stage Researcher.
- **Cubero Palacio, Francisco Javier:** R3. Established Researcher.
- **De Gracia Fernández, Celia:** R1. First Stage Researcher.
- **Díaz Fontenla, Fernando:** R1. First Stage Researcher.
- **Díaz Gómez, Arantxa:** R1. First Stage Researcher.
- **Díaz Ruiz, Raquel:** R1. First Stage Researcher.
- **Fernández Yunquera, Ainhoa:** R1. First Stage Researcher.
- **Flores García, Virginia:** R1. First Stage Researcher.
- **Franco Herrera, Carolina:** R1. First Stage Researcher.
- **García Martínez, Rita:** R2. Recognised Researcher.
- **García Lledó, Javier:** R1. First Stage Researcher.
- **Hernando Alonso, Ana Isabel:** R2. Recognised Researcher.
- **Ibáñez Samaniego, Luis:** R1. First Stage Researcher.

- **López Ibáñez, María:** R1. First Stage Researcher.
- **López Cauce, Beatriz:** R1. First Stage Researcher.
- **Marín Jiménez, Ignacio:** R1. First Stage Researcher.
- **Márquez Pérez, Laura:** R1. First Stage Researcher.
- **Martín Guerra, María Rocío:** R1. First Stage Researcher.
- **Martínez Lozano, Helena:** R1. First Stage Researcher.
- **Martos Vizcaino, Esperanza:** R1. First Stage Researcher.
- **Matilla Peña, Ana María:** R2. Recognised Researcher.
- **Menchen Viso, Luis Alberto:** R3. Established Researcher.
- **Merino Rodríguez, Beatriz:** R1. First Stage Researcher.
- **Miranda Bautista, José:** R1. First Stage Researcher.
- **Nevzorova, Yulia Alexandrovna:** R3. Established Researcher.
- **Nogales Rincón, Óscar:** R1. First Stage Researcher.
- **Pajares Díaz, José Antonio:** R1. First Stage Researcher.
- **Pérez Carazo, Leticia:** R1. First Stage Researcher.
- **Puerto Cantero, Marta:** R2. Recognised Researcher.
- **Rincón Rodríguez, Diego:** R2. Recognised Researcher.
- **Romero Cristobal, Mario:** R1. First Stage Researcher.
- **Rubio Caballero, Carmen:** R1. First Stage Researcher.
- **Ruiz Martín, Christian:** Other. Research Support Technician.
- **Salcedo Plaza, Magdalena:** R2. Recognised Researcher.
- **Secadas Rincón, Laura:** Other. Research Nurse.
- **Sierra Rojas, Johanna:** Other. Management.
- **Vaquero Martín, Javier:** R3. Established Researcher.
- **Vázquez Ogando, Elena:** R1. First Stage Researcher.



## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 5                       |            | 1                  |            |
| Regional      |                         |            |                    |            |

- Title: Evaluación de la capacidad diagnóstica y pronóstica de la biopsia hepática en la insuficiencia hepática crónica agudizada (ACLF): unabordaje traslacional.** PI21/01957  
 Director: Bañares Cañizares, Rafael  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: Profundización en el diagnóstico y mecanismos de las alteraciones de las plaquetas y médula ósea en la enfermedad hepática crónica.** PI21/01749  
 Director: Vaquero Martín, Javier  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2022  
 End date: 31/12/2024
- Title: Caracterización de la función cardiaca en la cirrosis: valor pronóstico e interrelación con la respuesta inflamatoria sistémica.** PI18/01901  
 Director: Bañares Cañizares, Rafael  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2019  
 End date: 30/06/2023

- Title: Base racional para modular el estrés del retículo endoplásmico inducido por el microbioma como herramienta para evitar la evasión inmune en el carcinoma hepatocelular (RETO).** FAECC23/01  
 Director: Cubero Palero, Francisco Javier  
 Project type: Research project  
 Funding body: AECC  
 Start date: 01/12/2023  
 End date: 30/11/2028
- Title: La perfusión normotérmica de órgano aislado como sistema de recuperación de órganos subóptimos para aumentar el pool de donantes. Biomarcadores de viabilidad y trasplantabilidad.** FMM21/02  
 Director: Bañares Cañizares, Rafael  
 Project type: Research project  
 Funding body: Fundación Mutua Madrileña  
 Start date: 16/06/2021  
 End date: 16/06/2024
- Title: Juan Rodés contract.** JR22/00052  
 Director: Caballero Marcos, Aránzazu  
 Project type: Human resources  
 Funding body: Instituto de Salud Carlos III  
 Start date: 31/01/2023  
 End date: 22/01/2027

## Industrial and intellectual property registrations

### Industrial property

| Title                                           | Reference*    | Owner                                                | Inventors                                                          |
|-------------------------------------------------|---------------|------------------------------------------------------|--------------------------------------------------------------------|
| Method for predicting response to beta blockers | EP 19382971.0 | FIBHGM, IDIBAPS, CICBIOGUNE, FIBioHRC, UAH, CIBERHED | Rafael Bañares, Jorge Gracia, Juan Manuel Falcón, Agustín Albillos |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).





## Cooperative Research Structures

| Type (RICORS, CIBER, others) | Name of Network | Role                | Code     |
|------------------------------|-----------------|---------------------|----------|
| CIBER                        | CIBEREHD        | Collaborating group | CIBEREHD |

## Publications

Total Impact Factor: 475,0

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 20        | 120,6        |
| Joint publications                                     | 41        | 354,4        |
| First decile publications                              | 22        | 0,0          |
| First quartile publications                            | 40        | 420,7        |
| Second quartile publications                           | 14        | 38,9         |
| Third quartile publications                            | 7         | 15,4         |
| Fourth quartile publications                           | 0         | 0,0          |
| Nonindexed publications/No IF                          | 0         | -            |
| <b>Total publications (including those without IF)</b> | <b>61</b> | <b>475,0</b> |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Banares, R; Albillos, A; Nakum, M; Gea, S; Varghese, A; Green, W. *An Economic Analysis of Transjugular Intrahepatic Portosystemic Covered Stent Shunt for Variceal Bleeding and Refractory Ascites in a Spanish Setting*. ADVANCES IN THERAPY. 2023; 40(7) 3006-3020. FI: 3.4. Quartile: 2. (Article).
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*Fistulizing Disease: BIOSCOPE Study From GETECCU*. AMERICAN JOURNAL OF GASTROENTEROLOGY. 2023; 118(6) 1036-1046. FI: 8. Quartile: 1. (Article).

- Chaparro M; Acosta D; Rodríguez C; Mesonero F; Vicuña M; Acosta MB; Fernández-Clotet A; Martínez ÁH; Arroyo M; Vera I; Ruiz-Cerulla A; Sicilia B; Cabello Tapia MJ; Villafranca CM; Castro-Poceiro J; Cadilla JM; Sierra-Ausín M; Vázquez Morón JM; Lidón RV; B. *Real-world evidence of tofacitinib in ulcerative colitis: short and long-term effectiveness and safety*. AMERICAN JOURNAL OF GASTROENTEROLOGY. 2023; 118(7) 1237-1247. FI: 8. Quartile: 1. (Article).
- Momblan, D; García, AZG; Busquets, D; Juzgado, D; Lledó, JG; Ferrero, E; Tejedor-Tejada, J; Junquera, F; Díaz-Tasende, J; Moris, M; de Santiago, ER; Gornals, J; Garrido, C; González-Vázquez, S; Guarner-Argente, C; Repiso, A; Esteban, JM; Loras, C; Seoane. *Endoscopic Vacuum Therapy for Upper Gastrointestinal Leaks and Perforations: Analysis From a Multicenter Spanish Registry*. AMERICAN JOURNAL OF GASTROENTEROLOGY. 2023; 118(10) 1797-1806. FI: 8. Quartile: 1. (Article).
- Fernández-Yunquera, A; Caballero-Marcos, A; Peligros, I; Plaza, MS. *Liver Transplantation for Fulminant Hepatic Failure in a Young Woman*. AMERICAN JOURNAL OF TRANSPLANTATION. 2023; 23(5) 682-685. FI: 8.9. Quartile: 1. (Editorial Material).
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- Gutiérrez, AH; Mazariegos, MS; Alemany, S; Nevzorova, YA; Cubero, FJ; Sanz-García, C. *Tumor progression locus 2 (TPL2): A Cot-plicated*



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- Laserna-Mendieta, EJ; Salvador-Martín, S; Arias, A; López-Cauce, B; Marin-Jimenez, I; Menchen, LA; Marin-Rubio, L; Ontañón Rodríguez J; López-Fernández, LA; Lucendo, AJ. *Single nucleotide polymorphisms in ADAM17, IL23R and SLC01C1 genes protect against infliximab failure in adults with Crohn's disease.* BIOMEDICINE & PHARMACOTHERAPY. 2023; 159 114225-114225. FI: 6.9. Quartile: 1. (Article).
- Omella, JD; Cortesi, EE; Verbinnen, I; Remmerie, M; Wu, HH; Cubero, FJ; Roskams, T; Janssens, V. *A Novel Mouse Model of Combined Hepatocellular-Cholangiocarcinoma Induced by Diethylnitrosamine and Loss of Ppp2r5d.* CANCERS. 2023; 15(16). FI: 4.5. Quartile: 1. (Article).
- Nair, V; Fishbein, GA; Padera, R; Seidman, MA; Castonguay, M; Leduc, C; Tan, CD; Rodríguez, ER; Maleszewski, JJ; Miller, D; Romero, M; Lomasney, J; d'Amati, G; De Gaspari, M; Rizzo, S; Angelini, A; Basso, C; Litovsky, S; Buja, LM; Stone, JR; Veinot, JP. *Consensus statement on the processing, interpretation and reporting of temporal artery biopsy for arteritis.* CARDIOVASCULAR PATHOLOGY. 2023; 67. FI: 2.3. Quartile: 2. (Article).
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- Mateos-Muñoz, B; Buti, M; Vázquez, IF; Conde, MH; Bernal-Monterde, V; Díaz-Fontenla, F; Morillas, RM; García-Buey, L; Badia, E; Miquel, M; Amador-Navarrete, A; Rodríguez-Tajes, S; Ramos-Merino, L; Madejon, A; García-Retortillo, M; Arenas, JI; Cabezas, J. *Tenofovir Disoproxil*

*Fumarate Reduces the Severity of COVID-19 in Patients with Chronic Hepatitis B.* DIGESTIVE DISEASES AND SCIENCES. 2023; 68(6) 2731-2737. FI: 2.5. Quartile: 2. (Article).

- Rincon, JO; Regi, AR; Pena, AM; Berenguer, LR; Leyte, MG; Martín, LC; De La Santa, JAG; Boyra, ME; Ruiz, CG; Rodríguez, AC; Farto, JCA. *Maximum tumor-absorbed dose measured by voxel-based multicompartamental dosimetry as a response predictor in yttrium-90 radiation segmentectomy for hepatocellular carcinoma.* EJNMMI PHYSICS. 2023; 10(1). FI: 3. Quartile: 2. (Article).
- Bazaga, S; García-Alonso, FJ; Tormo, JRA; Moreno, BM; Sanchiz, V; Suria, C; García-Sumalla, A; Gornals, JB; Chavarria, C; Loras, C; García-Fernández, FJ; Teran, A; Vázquez-Sequeiros, E; Sanz, RP; Pérez-Carazo, L; Subtil, JC; Pérez-Millan, A; Porta, FU; Be. *Endoscopic removal of lumen-apposing metal stents - risk factors for stent embedment, complex removals, and adverse events: analysis from a multicenter prospective case series.* ENDOSCOPY. 2023; 55(7) 591-598. FI: 11.5. Quartile: 1. (Article).
- Bazaga S; García-Alonso FJ; Aparicio Tormo JR; Martínez Moreno B; Sanchiz V; Suria C; García-Sumalla A; Gornals JB; Chavarría C; Loras C; García-Fernández FJ; Terán Á; Vázquez-Sequeiros E; Pedraza Sanz R; Pérez-Carazo L; Subtil JC; Pérez-Millan A; Uceda P. *Correction: Endoscopic removal of lumen-apposing metal stents - risk factors for stent embedment, complex removals, and adverse events: analysis from a multicenter prospective case series.* ENDOSCOPY. 2023; 55(7) 8-8. FI: 11.5. Quartile: 1. (Article).
- Nevzorova, YA; Cubero, FJ. *Obesity under the moonlight of c-MYC.* FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY. 2023; 11. FI: 4.6. Quartile: 1. (Review).
- López-Cauce, B; Puerto, M; García, JJ; Ponce-Alonso, M; Becerra-Aparicio, F; del Campo, R; Peligros, I; Fernández-Acenero, MJ; Gómez-Navarro, Y; Lara, JM; Miranda-Bautista, J; Marin-Jiménez, I; Bañares R; Menchen, L. *Akkermansia deficiency and mucin depletion are implicated in intestinal barrier dysfunction as earlier event in the development of inflammation in interleukin-10-deficient mice.* FRONTIERS IN MICROBIOLOGY. 2023; 13 1083884-1083884. FI: 4. Quartile: 2. (Article).



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- Sanz-García, C; Nevzorova, YA; Martínez-Naves, E; Cubero, FJ. *Novel therapeutic avenues for the study of chronic liver disease and regeneration: The foundation of the Iberoamerican Consortium for the study of liver Cirrhosis*. GASTROENTEROLOGIA Y HEPATOLOGIA. 2023; 46(4) 322-328. FI: 2.2. Quartile: 3. (Article).
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Group Director: **JESÚS LÓPEZ-HERCE CID**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Pathology of the critically ill child

- ▶ L1: Cardiopulmonary arrest and cardiopulmonary resuscitation in childhood
- ▶ L2: Treatment of acute renal failure in the critically ill child
- ▶ L3: Haemodynamic monitoring and tissue perfusion and shock management
- ▶ L4: Nutrition and digestive pathology in the critically ill child
- ▶ L5: Monitoring of sedation and analgesia in the critically ill child
- ▶ L6: Respiratory assistance in the critically ill child
- ▶ L7: Teaching in paediatric intensive care
- ▶ L8: Anaemia and transfusions in the critically ill child
- ▶ L9: Pathology of the technology-dependent child
- ▶ L10: Quality and safety in paediatric intensive care
- ▶ L11: Vascular access in paediatrics
- ▶ L12: Infections in the critically ill child
- ▶ L13: Ocular pathology in the critically ill child
- ▶ L14: End of life care

A multidisciplinary group of doctors and nurses from Paediatric Intensive Care and other paediatric specialties who focus their clinical, experimental animal and teaching research on the pathology of the critically ill child, with a practical translational orientation.

## Group members

- **Alcón Nájera, Sara:** R1. First Stage Researcher.
- **Butragueño Laiseca, Laura:** R1. First Stage Researcher.
- **Cieza Asenjo, Raquel:** R1. First Stage Researcher.
- **Cordero Martínez, Marta:** R1. First Stage Researcher.
- **De la Mata Navazo, Sara:** R1. First Stage Researcher.
- **Del Castillo Peral, Jimena:** R3. Established Researcher.
- **Fernández Lafever, Sarah Nicole:** R2. Recognised Researcher.
- **García San Prudencio, Myriam:** R1. First Stage Researcher.
- **Garrido Gaspar, Beatriz:** R1. First Stage Researcher.
- **González Cortés, Rafael:** R3. Established Researcher.
- **Herrera Castillo, Laura Ximena:** R1. First Stage Researcher.
- **López González, Jorge:** R3. Established Researcher.
- **López-Herce Cid, Jesús:** R4. Leading Researcher.
- **Manrique Martín, Gema:** R1. First Stage Researcher.
- **Mencia Bartolomé, Santiago:** R3. Established Researcher.
- **Rodríguez Martínez, Alicia:** R1. First Stage Researcher.
- **Sánchez Sánchez, César:** R3. Established Researcher.
- **Sánchez Galindo, Amelia:** R1. First Stage Researcher.
- **Santiago Lozano, María José:** R3. Established Researcher.
- **Sanz Álvarez, Debora:** R1. First Stage Researcher.
- **Slocker Barrio, María:** R1. First Stage Researcher.
- **Solana García, María José:** R3. Established Researcher.
- **Urbano Villaescusa, Javier:** R3. Established Researcher.
- **Vílchez, Rodríguez, Beatriz:** R1. First Stage Researcher.



### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | 1                       |            |                    |            |
| European      |                         |            |                    |            |
| National      | 7                       |            | 3                  |            |
| Regional      |                         |            |                    |            |

- Title: **ASCEND (ARDS in Children and ECMO initiation strategies impact on Neuro-Development)**. NIH-2020/PAF01099  
Director: Butragueño Laiseca, Laura  
Project type: Research project  
Funding body: National Institutes of Health (NIH)  
Start date: 05/09/2020  
End date: 30/06/2023
- Title: **Influencia de la modalidad de ventilación y la inflamación sobre el pronóstico en un modelo de experimental animal pediátrico de parada cardíaca**. PI21/01149  
Director: López-Herce Cid, Jesús  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: **Comparación de la eficacia en sepsis de las técnicas de depuración sanguínea para niños críticos: estudio clínico y experimental**. PI20/01428  
Director: Santiago Lozano, María José  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025

- Title: **Efectos de la resucitación con albumina hipertónica y nuevas drogas vasoactivas en un modelo animal infantil de shock hemorrágico**. PI20/01706  
Director: Urbano Villaescusa, Javier  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025
- Title: **Ensayo clínico controlado aleatorizado sobre el tratamiento profiláctico del estreñimiento con polietilenglicol con electrolitos en el niño crítico**. PI20/01339  
Director: López González, Jorge  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025
- Title: **Utilidad de las nuevas modalidades de imagen en ecografía y videomicroscopia para la evaluación microcirculatoria y tisular a pie de cama en niños sometidos a cirugía cardíaca**. PI20/01491  
Director: González Cortés, Rafael  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025
- Title: **Estudio clínico y experimental de parada cardíaca y reanimación cardiopulmonar en pediatría**. PI18/01632  
Director: López-Herce Cid, Jesús  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2019  
End date: 30/06/2023
- Title: **Desarrollo de un sistema de simulación para la formación en técnicas de depuración extrarrenal continua**. DTS22/00022  
Director: Mencía Bartolomé, Santiago  
Project type: Research project



Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025

- Title: **Río Hortega contract.** CM19/00203  
Director: Manrique Martín, Gema  
Project type: Human Resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/12/2019  
End date: 13/01/2023
- Title: **Río Hortega contract.** CM21/00223  
Director: Butragueño Laiseca, Laura  
Project type: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 25/01/2022  
End date: 15/09/2024
- Title: **Juan Rodés contract.** JR21/00023  
Director: Fernández Lafever, Sarah Nicole  
Type of Project: Human resources  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2025

### Industrial and intellectual property registrations

#### Industrial property

| Title                                                                                                                                                                                                                   | Reference*   | Owner                                                   | Inventors                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------|-------------------------------------------------------|
| Dispositivo, sistema y procedimiento simulador para entrenamiento de profesionales sanitarios en el manejo de pacientes críticamente enfermos que precisen procedimientos de depuración extrarrenal venovenosa continua | P 2013 30340 | FIBHGM - Universidad de Santiago de Compostela – SERGAS | Jesús López-Herce, Santiago Mencía, Antonio Rodríguez |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

#### Copyright

| Title                                                                                                          | Reference                          | Owner  | Inventors                                          |
|----------------------------------------------------------------------------------------------------------------|------------------------------------|--------|----------------------------------------------------|
| Biblioteca de fármacos para bombas de infusión inteligentes en las unidades de cuidados intensivos pediátricos | Nº Asiento Registral: 16/2011/7360 | FIBHGM | Amelia Caridad Sánchez y Silvia Manrique Rodríguez |

■ Transferred Intellectual Property.

### Cooperative Research Structures

| Type (RICORS, CIBER, Others) | Name of Network                                                                                                 | Role                | Code           |
|------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------|----------------|
| RICORS                       | Primary care interventions to prevent maternal and child chronic diseases of perinatal and developmental origin | Collaborating group | RD21/0012/0011 |

### Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate                   | Title                                                                                                                                     | Name/s Director/s                                | University | Date Defended |
|-----------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------|---------------|
| Ph Thesis | Miriam García San Prudencio | Estudio del sueño de los niños críticamente enfermos, sus padres y el personal sanitario de una unidad de cuidados intensivos pediátricos | Santiago Mencía Bartolomé/ Jesús López-Herce Cid | UCM        | 12/09/2023    |



## Clinical Practice Guidelines

| Authors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Title                                                                                                                                                                                                                 | Journal/Reference                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| María Slocker                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Diagnóstico por ecografía de la insuficiencia respiratoria aguda en Pediatría                                                                                                                                         | Protocolo Sociedad de Cuidados Intensivos Pediátricos. ISSN 2171-8172                   |
| María Slocker                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Uso de procinéticos en el niño crítico                                                                                                                                                                                | Protocolo Sociedad de Cuidados Intensivos Pediátricos. ISSN 2171-8172                   |
| Mencia Bartolomé S, Estepa Pedregosa L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Sedación difícil en UCIP                                                                                                                                                                                              | Protoc Diagn Ter Pediatr. 2021; 1:103-10. ISSN 2171-8172                                |
| Fernández-Sarmiento J, De Souza DC, Martínez A, Nieto V, López-Herce J, Soares Lanzotti V, Arias López MDP, De Carvalho WB, Oliveira CF, Jaramillo-Bustamante JC, Díaz F, Yock-Corrales A, Ruvinsky S, Munaico M, Pavlich V, Iramain R, Márquez MP, González G, Yunge M, Tonial C, Cruces P, Palacio G, Grela C, Slöcker-Barrio M, Campos-Miño S, González-Dambrauskas S, Sánchez-Pinto NL, Celiny García P, Jabornisky R. Latin American Consensus on the Management of Sepsis in Children: Sociedad Latinoamericana de Cuidados Intensivos Pediátricos Latin American Pediatric Intensive Care Society (SLACIP) Task Force: Executive Summary. | Latin American Consensus on the Management of Sepsis in Children: Sociedad Latinoamericana de Cuidados Intensivos Pediátricos Latin American Pediatric Intensive Care Society (SLACIP) Task Force: Executive Summary. | J Intensive Care Med. 2021 Nov 23 doi: 10.1177/0885066621105444                         |
| Jesús López-Herce                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Recomendaciones de RCP pediátrica. Sociedad Latinoamericana de Cuidados Intensivos Pediátricos.                                                                                                                       | HM Metrociencia 2021;29 (Suppl1): 10.47464/MetroCiencia/vol29/supple1/2021/5-10         |
| López-Herce J, Manrique I, Calvo C, Rodríguez A, Carrillo Á, Sebastián V, Del Castillo J; en nombre del Grupo Español de Reanimación Cardiopulmonar Pediátrica y Neonatal                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Novedades en las recomendaciones de reanimación cardiopulmonar pediátrica y líneas de desarrollo en España.                                                                                                           | An Pediatr (Engl Ed). 2021 Jun 17:S1695-4033(21)00208-3doi:10.1016/j.anpedi.2021.05.020 |

## Publications

Total Impact Factor: 105,1

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 16        | 38,2         |
| Joint publications                                     | 14        | 66,9         |
| First decile publications                              | 6         | 0,0          |
| First quartile publications                            | 18        | 86,9         |
| Second quartile publications                           | 8         | 12,6         |
| Third quartile publications                            | 4         | 5,6          |
| Fourth quartile publications                           | 0         | 0,0          |
| Nonindexed publications/No IF                          | 2         | —            |
| <b>Total publications (including those without IF)</b> | <b>32</b> | <b>105,1</b> |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

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- Toledano-Revenga, J; Correa, JIC; Fernández, LG; Navazo, SD. *Cortical hyperostosis secondary to chronic treatment with prostaglandins*. ANALES DE PEDIATRIA. 2023; 99(1) 69-70. FI: 1.5. Quartile: 2. (Editorial Material).
- Montes, RF; Villaescusa, JU; Álvarez, AC; Allende, AV; García, MJS; Coto, SD; Galan, CR; Cid, JLH. *Efecto de tres dietas enterales con diferente contenido en proteínas sobre el metabolismo proteico en lactantes críticamente enfermos: un ensayo clínico aleatorizado*. ANALES DE PEDIATRIA. 2023; 99(1) 26-36. FI: 1.5. Quartile: 2. (Article).



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- López, J; Sánchez, C; Fernández, SN; González, R; Solana, MJ; Urbano, J; López-Herce, J. *Development and validation of a clinical score for early diagnosis of constipation in critically ill children*. SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).

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- Butragueño-Laiseca L; Torres L; O'Campo E; de la Mata Navazo S; Toledano J; López-Herce J; Mencía S. *Evaluation of tracheal intubations in a paediatric intensive care unit*. ANALES DE PEDIATRIA. 2023; 98(2) 109-118. (Article).





*Group Directors:* **LUIS PUENTE MAESTU  
AND IGNACIO GARUTTI MARTÍNEZ**

*Organisms involved:* **HGUGM**

*Type:* **Consolidated Group**

It is a multidisciplinary group made up of anaesthesiologists, thoracic surgeons and pulmonologists, with an interest in expanding the knowledge of respiratory physiology and biology, in the epidemiology of respiratory diseases as well as in the development of new pharmacological and non-pharmacological treatments for respiratory diseases.

## Research lines

### Axis 1: Apneic oxygenation in one-lung ventilation

### Axis 2: Epidemiology of respiratory diseases

- ▶ L1: Historical evolution of hospital admissions due to respiratory diseases CMBD analysis

### Axis 3: Respiratory Sleep Disorders

- ▶ L1: Obesity-Hypoventilation Syndrome
- ▶ L2: Sleep Disorders and Heart Disease

### Axis 4: Development of new drugs or new indications

- ▶ L1: Development of biological products for the prevention of COPD exacerbations
- ▶ L2: Development of P2X3 receptor inhibitors for treatment of cough Gefapixant (MK-7264-042 and 043) and Eliapixant
- ▶ L3: Development of antibiotic medication for IPF
- ▶ L4: Development of biologic medication for eosinophilic asthma
- ▶ L5: Development of anti-inflammatory drugs for the treatment of bronchiectasis.

### Axis 5: Treatment of COPD patients with cardiopathy

- ▶ L1: Impact of respiratory drugs on cardiac function in patients with COPD and low ejection fraction

### Axis 6: Monitoring of patients with Sleep Disordered Breathing and respiratory failure

- ▶ L1: Mechanical simulation of respiratory therapies and their effect on lung dynamics

## Group members

- **Algaba Jaramillo, José Juan:** R1. First Stage Researcher.
- **Benedetti, Paola Antonella:** R2. Recognised Researcher.
- **Caballero Segura, Francisco José:** R1. First Stage Researcher.
- **Calvo García, Carlos Alberto:** R1. First Stage Researcher.
- **Casanova Barea, Javier:** R2. Recognised Researcher.
- **Cerezo Lajas, Alicia:** R1. First Stage Researcher.
- **Cruz Pardos, Patricia:** R3. Established Researcher.
- **De la Fuente Torno, Elena:** R1. First Stage Researcher.
- **De la Gala García, Francisco Andrés:** R3. Established Researcher.
- **De Miguel Díez, Javier:** R4. Leading Researcher.
- **Fuentes Alonso, Marta:** R2. Recognised Researcher.
- **Gallo González, Virginia:** R1. First Stage Researcher.
- **García de Pedro, Julia:** R3. Established Researcher.
- **García Hernández, Santiago:** R1. First Stage Researcher.
- **García López, José Javier:** R3. Established Researcher.
- **Garutti Martínez, Ignacio:** R4. Leading Researcher.
- **Girón, Matute, Walther Iván:** R3. Established Researcher.
- **Gómez García, María Teresa:** R3. Established Researcher.
- **Gómez García, Rosa María:** R1. First Stage Researcher.
- **Gómez Sacristán, Ángela:** R3. Established Researcher.
- **González Moraga, Francisco José:** R2. Recognised Researcher.
- **González Casaurrán, Guillermo:** R2. Recognised Researcher.
- **Hernández Yañez, Margarita:** R1. First Stage Researcher.



## Group members

- **Huerta Martínez, Luis Javier:** R3. Established Researcher.
- **Latiff Essa, Ailaf:** R1. First Stage Researcher.
- **López Padilla, Daniel Eduardo:** R4. Leading Researcher.
- **López Martín, Soledad:** R4. Leading Researcher.
- **López Gil, Elena:** R1. First Stage Researcher.
- **Maranillo Alcaide, Eva:** R3. Established Researcher.
- **Marín Aguilera, Rosa Isabel:** R1. First Stage Researcher.
- **Martínez Gascuña, David:** R1. First Stage Researcher.
- **Ojeda Castillejo, Elena:** R2. Recognised Researcher.
- **Oliva Ramos, Alicia:** R2. Recognised Researcher.
- **Paredes Royano, Sergio:** R3. Established Researcher.
- **Pedraza Serrano, Fernando:** R2. Recognised Researcher.
- **Piñeiro Otero, Patricia:** R3. Established Researcher.
- **Puente Maestu, Luis:** R4. Leading Researcher.
- **Puig Ramos, Ángela:** R2. Recognised Researcher.
- **Rancán, Lisa:** R3. Established Researcher.
- **Reyes Fierro, María Almudena:** R3. Established Researcher.
- **Rojas Moreno-Tomé, Rosa María:** R1. First Stage Researcher.
- **Sánchez Muñoz, Gema:** R2. Recognised Researcher.
- **Sánchez Pedrosa, Guillermo:** R2. Recognised Researcher.
- **Sanz Sanz, María del Pilar:** R1. First Stage Researcher.
- **Sañudo Tejedo, José Ramón:** R2. Recognised Researcher.
- **Simón Adiego, Carlos María:** R4. Leading Researcher.
- **Terán Marcos, Raquel:** R1. First Stage Researcher.
- **Vara Ameigeiras, Elena:** R4. Leading Researcher.
- **Vargas Espinal, Julio César:** R1. First Stage Researcher.
- **Vázquez Osorio, María Teresa:** R4. Leading Researcher.
- **Zichen, Ji:** R3. Established Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Industrial and intellectual property registrations

### Industrial property

| Title                                            | Reference*                  | Owner  | Inventors                                    |
|--------------------------------------------------|-----------------------------|--------|----------------------------------------------|
| Dispositivo protector bucal con depresor lingual | P 2015 31508<br>(2 patents) | FIBHGM | Guillermo Juan Rodríguez,<br>Javier Casanova |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

### Copyright

| Title                                                                                                                       | Reference                                 | Owner  | Inventors                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| PK-GUIDE: Guía para monitorización clínica de fármacos                                                                      | Nº Asiento Registral:<br>16/2017/<br>6956 | FIBHGM | Xandra García, Sara Ibáñez, Ana Herranz, Gema Sánchez, Gabriela Rodríguez, Mª Luisa Galiano, Margarita Ganzo, María Sanjurjo, Mª Teresa Vidán |
| PK-RULES: Reglas clínicas para aumentar la seguridad y eficacia de los tratamientos mediante monitorización farmacocinética | Nº Asiento Registral:<br>16/2017/<br>6957 | FIBHGM | Xandra García, Sara Ibáñez, Ana Herranz, Gema Sánchez, Gabriela Rodríguez, Mª Luisa Galiano, Margarita Ganzo, María Sanjurjo, Mª Teresa Vidán |

■ Transferred Intellectual Property.



### Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate              | Title                                                                                                                                                             | Name/s Director/s                                                                | University | Date Defended |
|-----------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------|---------------|
| Ph Thesis | Silvia Ramos Cerro     | Efecto modulador del esmolol sobre la respuesta inflamatoria local secundaria a la ventilación unipulmonar en un modelo experimental de cirugía torácica          | Carlos María Simón Adiego/<br>Elena Vara Ameigeiras/<br>Ignacio Garutti Martínez | UCM        | 19/05/2023    |
| Ph Thesis | Alberto Fernández Peña | Efectos de la administración intraoperatoria de esmolol sobre la respuesta inflamatoria perioperatoria en un modelo experimental de cirugía de resección pulmonar | Elena Vara Ameigeiras/<br>Carlos María Simón Adiego/<br>Ignacio Garutti Martínez | UCM        | 30/06/2023    |

### Clinical Practice Guidelines

| Authors                                                                                                                                                                                                  | Title                                                                                                                              | Journal/Reference                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Díaz-Cambrónero O, Serrano A, Abad-Gurumeta A, Garutti Martínez I, Esteve N, Alday E, Ferrando C, Mazzinari G, Vila-Caral P, Errando Oyonarte CL; Grupo de Trabajo de Bloqueo Neuromuscular de la SEDAR. | Perioperative neuromuscular blockade. 2020 update of the SEDAR (Sociedad Española de Anestesiología y Reanimación) recommendations | Rev Esp Anesthesiol Reanim (Engl Ed). 2023 Jan;70(1):37-50. doi: 10.1016/j.redare.2022.02.005 |

### Publications

Total Impact Factor: 225,8

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 12        | 35,1         |
| Joint publications                                     | 24        | 190,7        |
| First decile publications                              | 5         | 0,0          |
| First quartile publications                            | 19        | 190,2        |
| Second quartile publications                           | 9         | 24,8         |
| Third quartile publications                            | 8         | 10,8         |
| Fourth quartile publications                           | 0         | 0,0          |
| Nonindexed publications/No IF                          | 6         | —            |
| <b>Total publications (including those without IF)</b> | <b>42</b> | <b>225,8</b> |

### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Teran-Tinedo, JR; González-Rubio, J; Najera, A; Lorente-González, M; Cano-Sanz, E; de la Calle-Gil, I; Ortega-Fraile, MA; Carballo-López, D; Hernández-Núñez, J; Churruca-Arospide, M; Zevallos-Villegas, A; López-Padilla, D; Puente-Maestu, L; Navarro-López. *Effect of the Early Combination of Continuous Positive Airway Pressure and High-Flow Nasal Cannula on Mortality and Intubation Rates in Patients With COVID-19 and Acute Respiratory Distress Syndrome. The DUOCOVID Study*. ARCHIVOS DE BRONCONEUMOLOGIA. 2023; 59(5) 288-294. FI: 8.7. Quartile: 1. (Article).
- Cuadrado-Corralles, N; López-de-Andrés, A; Hernández-Barrera, V; Carabantes-Alarcon, D; Zamorano-Leon, JJ; Omaña-Palanco, R; Del-Barrio, JL; De-Miguel-Díez, J; Jiménez-García, R; Montoya, JJ. *Clinical Characteristics and Outcomes of Patients Hospitalized with Epidermolysis Bullosa: A Retrospective Population-Based Observational Study in Spain (2016-2021)*. BIOMEDICINES. 2023; 11(9). FI: 3.9. Quartile: 1. (Article).



- Esteban, MP; Tome, ML; Fernández, RR; Bunger, BG; Otero, PP; Rodríguez, AE. *Spinal cord ischemia as intraoperative complication in shoulder surgery positioned in beach chair: case report*. BRAZILIAN JOURNAL OF ANESTHESIOLOGY. 2023; 73(4) 503-505. FI: 1.7. Quartile: 2. (Article).
- Díaz-Cambronero, O; Mazzinari, G; Errando, CL; Garutti, I; Gurumeta, AA; Serrano, AB; Esteve, N; Montañes, M; Neto, AS; Hollmann, MW; Schultz, MJ; Navarro, MPA. *An educational intervention to reduce the incidence of postoperative residual curarisation: a cluster randomised crossover trial in patients undergoing general anaesthesia*. BRITISH JOURNAL OF ANAESTHESIA. 2023; 131(3) 482-490. FI: 9.1. Quartile: 1. (Article).
- López-de-Andrés A; Jiménez-García R; Hernández-Barrera V; Carabantes-Alarcon D; Zamorano-Leon JJ; Palanco RO; Del-Barrio JL; de-Miguel-Díez J; de-Miguel-Yanes JM; Cuadrado-Corrales N. *Temporal trends and outcomes of heart transplantation in Spain (2002-2021): propensity score matching analysis to compare patients with and without type 2 diabetes*. CARDIOVASCULAR DIABETOLOGY. 2023; 22(1) 266-266. FI: 8.5. Quartile: 1. (Article).
- Ramos R; de la Villa S; García-Ramos S; Padilla B; García-Olivares P; Piñero P; Garrido A; Hortal J; Muñoz P; Caamaño E; Benito P; Cedeño J; Garutti I. *COVID-19 associated infections in the ICU setting: A retrospective analysis in a tertiary-care hospital*. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2023; 41(5) 278-283. FI: 2.6. Quartile: 3. (Article).
- Valentin, S; Padilla, DL; Nolasco, S; Ranilovic, D; Guillamat-Prats, R; Marin, T; Ho, S; Tang, S; Papadopolou, E; Malone, J; Agüero, SL; Cantero, C; Patout, M; Fisser, C. *ERS International Congress 2022: highlights from the Respiratory Intensive Care Assembly*. ERJ OPEN RESEARCH. 2023; 9(3). FI: 4.3. Quartile: 1. (Article).
- Puente-Maestu, L; Dávila, I; Quirce, S; Crespo-Lessmann, A; Martínez-Moragón, E; Sola, J; Nieto, ML; González-Barcala, FJ; Cea-Calvo, L; Sánchez-Jareño, M; Rivas-Pardinas, C; Domingo, C. *Burden of refractory and unexplained chronic cough on patients' lives: a cohort study*. ERJ OPEN RESEARCH. 2023; 9(5). FI: 4.3. Quartile: 1. (Article).
- Gutiérrez-Albaladejo, N; Jiménez-García, R; Albaladejo-Vicente, R; Villanueva-Orbaiz, R; de-Miguel-Díez, J; Noriega, C; López-de-Andrés, A. *Trends in hospital admissions among children with asthma in Spain (2011-2020)*. EUROPEAN JOURNAL OF PEDIATRICS. 2023; 182(5) 2409-2419. FI: 3. Quartile: 1. (Article).
- Patel, J; Bass, D; Beishuizen, A; Ruiz, XB; Boughanmi, H; Cahn, A; Colombo, H; Criner, GJ; Davy, K; de-Miguel-Díez, J; Doreski, PA; Fernandes, S; Francois, B; Gupta, A; Hanrott, K; Hatlen, T; Inman, D; Isaacs, JD; Jarvis, E; Kostina, N; Kropotina, T; Lach. *A randomised trial of anti-GM-CSF otilimab in severe COVID-19 pneumonia (OSCAR)*. EUROPEAN RESPIRATORY JOURNAL. 2023; 61(2). FI: 16.6. Quartile: 1. (Article).
- Costas, DG; Sánchez, AR; Manzorro, AG; Martínez, IG; Fernández, FJS; Sanz, BT; Bermejo, SH; Herranz-Alonso, AM; Sanjurjo, M. *Impact of preoperative pharmaceutical care consultation on medication errors in surgical patients: a comprehensive analysis*. EXPERT OPINION ON DRUG SAFETY. 2023. FI: 3. Quartile: 2. (Article).
- Ballesteros, BLM; López-de-Andrés, A; Jiménez-García, R; Zamorano-Leon, JJ; Carabantes-Alarcon, D; Cuadrado-Corrales, N; Del-Barrio, JL; Pérez-Farinos, N; De Miguel-Díez, J. *Trends and Outcomes in Lung Transplantation in Patients with and without Idiopathic Pulmonary Fibrosis in Spain during the Period 2016-2020*. HEALTHCARE. 2023; 11(11). FI: 2.4. Quartile: 2. (Article).
- Caballero-Segura, FJ; Cuadrado-Corrales, N; Jiménez-García, R; López-de-Andrés, A; Carabantes-Alarcon, D; Zamorano-Leon, JJ; Carricondo, F; Romero-Gómez, B; De-Miguel-Díez, J. *Trends in Anaphylaxis Hospitalizations among Adults in Spain and Their Relationship with Asthma-Analysis of Hospital Discharge data from 2016 to 2021*. HEALTHCARE. 2023; 11(23). FI: 2.4. Quartile: 2. (Article).
- De Miguel-Díez, J; Jiménez-García, R; Hernández-Barrera, V; Carabantes-Alarcon, D; Zamorano-Leon, JJ; Cuadrado-Corrales, N; Omana-Palanco, R; González-Barcala, FJ; López-de-Andrés, A. *Time Trends in Clinical Characteristics and Hospital Outcomes of Hospitalizations for Lung Transplantation in COPD Patients in Spain from 2016 to 2020-Impact of the COVID-19 Pandemic*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(3). FI: 3. Quartile: 1. (Article).
- de-Miguel-Yanes, JM; López-de-Andrés, A; Jiménez-García, R; Zamorano-Leon, JJ; Carabantes-Alarcon, D; Hernández-Barrera, V; De-Miguel-Díez,





- J; Carricondo, F; Romero-Gómez, B; Cuadrado-Corrales, N. *Observational Study of the Association between Atrial Fibrillation and In-Hospital Mortality during Hospitalization for Solid Organ Transplants in Spain from 2004 to 2021*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(22). FI: 3. Quartile: 1. (Article).
- Correa-Gutiérrez, CA; Ji, ZC; Aragón-Espinosa, P; Rodrigues-Oliveira, S; Zeng, LY; Meizoso-Pita, O; Sevillano-Collantes, C; Hernández-Vázquez, J; Puente-Maestu, L; de Miguel-Díez, J. *Influence of Diabetes Mellitus and Nutritional Parameters on Clinical and Functional Aspects and Quality of Life in Patients Hospitalized Due to Exacerbation of Chronic Obstructive Pulmonary Disease*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(21). FI: 3. Quartile: 1. (Article).
  - De Miguel-Díez, J; López-de-Andrés, A; Caballero-Segura, FJ; Jiménez-García, R; Hernández-Barrera, V; Carabantes-Alarcon, D; Zamorano-Leon, JJ; Omana-Palanco, R; Cuadrado-Corrales, N. *Trends and Hospital Outcomes in HOSPITAL Admissions for Anaphylaxis in Children with and without Asthma in Spain (2016-2021)*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(19). FI: 3. Quartile: 1. (Article).
  - De-Miguel-Yanes, JM; López-de-Andrés, A; Jiménez-García, R; Zamorano-Leon, JJ; Carabantes-Alarcon, D; Omana-Palanco, R; Hernández-Barrera, V; del-Barrio, JL; de-Miguel-Díez, J; Cuadrado-Corrales, N. *Association between Hospital-Acquired Pneumonia and In-Hospital Mortality in Solid Organ Transplant Admissions: An Observational Analysis in Spain, 2004-2021*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(17). FI: 3. Quartile: 1. (Article).
  - García-Ramos, S; Caamano, E; Benítez, PR; Benito, P; Calvo, A; Ramos, S; Power, M; Garutti, I; Pineiro, P. *Mortality Risk Prediction in Abdominal Septic Shock Treated with Polymyxin-B Hemoperfusion: A Retrospective Cohort Study*. JOURNAL OF PERSONALIZED MEDICINE. 2023; 13(7). FI: 3. Quartile: 1. (Article).
  - Conen, D; Wang, MK; Popova, E; Chan, MT; Landoni, G; Cata, JP; Reimer, C; McLean, SR; Srinathan, SK; Reyes, JCT; Grande, AM; Tallada, AG; Sessler, D; Fleischmann, E; Kabon, B; Voltolini, L; Cruz, P; Maziak, DE; Gutiérrez-Soriano, L; McIntyre, WF; Tandon, . *Effect of colchicine on perioperative atrial fibrillation and myocardial injury after non-cardiac surgery in patients undergoing major thoracic surgery (COP-AF): an international randomised trial*. LANCET. 2023; 402(10413) 1627-1635. FI: 98.4. Quartile: 1. (Article).
  - Davila, I; Puente, L; Quirce, S; Arismendi, E; Díaz-Palacios, M; Pereira-Vega, A; de Diego, A; Rodríguez-Hermosa, JL; Cea-Calvo, L; Sánchez-Jareño, M; López-Cotarelo, P; Domingo, C. *Characteristics and Management of Patients with Refractory or Unexplained Chronic Cough in Outpatient Hospital Clinics in Spain: A Retrospective Multicenter Study*. LUNG. 2023; 201(3) 275-286. FI: 4.6. Quartile: 1. (Article).
  - Bouza, E; Guillén-Zabala, H; Rojas, A; Canada, G; Cercenado, E; Sánchez-Carrillo, C; Martín-Rabadan, P; Díez, C; Puente, L; Muñoz, P; Galar, A. *Comparative study of the etiology of nosocomial bacteremic pneumonia in ventilated and non-ventilated patients: a 10-year experience in an institution*. MICROBIOLOGY SPECTRUM. 2023. FI: 3.7. Quartile: 2. (Article).
  - Fernández-Blanco, R; Rincon-García, D; Valero-Alcaide, R; Atin-Arratibel, MA; De Miguel-Díez, J; Corrochano-Cardona, R; Torres-Castro, R; Moro-Tejedor, MN. *Preoperative respiratory therapy in patients undergoing surgery for lung cancer: A randomized controlled trial*. PHYSIOTHERAPY RESEARCH INTERNATIONAL. 2023; 28(1). FI: 1.5. Quartile: 3. (Article).
  - Caamano, E; Velasco, L; García, MV; Asencio, JM; Pineiro, P; Hortal, J; Garutti, I. *Prognostic factors for deterioration of quality of life one year after admission to ICU for severe SARS-COV2 infection*. QUALITY OF LIFE RESEARCH. 2023; 33(1) 123-132. FI: 3.3. Quartile: 1. (Article).
  - de Miguel-Díez, J; López-de-Andrés, A; Jiménez-García, R; Hernández-Barrera, V; Carabantes-Alarcon, D; Zamorano-Leon, JJ; Omana-Palanco, R; González-Barcala, FJ; Cuadrado-Corrales, N. *Trends in prevalence and the effects on hospital outcomes of dementia in patients hospitalized with acute COPD exacerbation*. RESPIRATORY MEDICINE. 2023; 212. FI: 3.5. Quartile: 2. (Article).
  - Llamas-Saez, C; Saez-Vaquero, T; Jiménez-García, R; López-de-Andrés, A; Carabantes-Alarcon, D; Zamorano-Leon, JJ; Cuadrado-Corrales, N; Omana-Palanco, R; Díez, JD; Pérez-Farinos, N. *Physical activity among*





*adults with chronic obstructive pulmonary disease in Spain (2014-2020): Temporal trends, sex differences, and associated factors.* RESPIRATORY MEDICINE. 2023; 220. FI: 3.5. Quartile: 2. (Article).

- Estebana, C; Antón-Ladislao, A; Aramburua, A; Chasco, L; Orivec, M; Sobradillod, P; López-Roldane, L; Jiménez-Puente, A; de Miguel, J; García-Talavera, I; ReEPOC REDISSEC Grp. *Physical activity and sedentary behaviour in patients admitted with COPD: Associated factors.* RESPIRATORY MEDICINE AND RESEARCH. 2023; 84. FI: 2.2. Quartile: 3. (Article).
- Ripolles-Melchor, J; Colomina, MJ; Aldecoa, C; Alonso-Cabello, J; Alonso-Inigo, JM; Aya, H; Basora, M; Clau-Terre, F; del Cojo-Peces, E; Cota-Delgado, F; Ferrandis-Comes, R; Galan-Menendez, P; García-López, D; Garruti, I; López, IJ; Jover-Pinillos, JL; LI. *Research priorities in perioperative fluid therapy and hemodynamic monitoring: A Delphi Consensus Survey from the Fluid Therapy and Hemodynamic Monitoring Subcommittee of the Hemostasis, Transfusion Medicine and Fluid Therapy Section (SHTF) of the Spanish.* REVISTA ESPAÑOLA DE ANESTESIOLOGIA Y REANIMACION. 2023; 70(6) 319-326. FI: 0.9. Quartile: 3. (Article).
- Calvo, A; De la Gala, F; Alonso, A; Romero, J. *A strange case of low back pain: can it have a vascular origin?.* REVISTA ESPAÑOLA DE ANESTESIOLOGIA Y REANIMACION. 2023; 70(5) 309-310. FI: 0.9. Quartile: 3. (Editorial Material).
- Díaz-Cambronero, O; Serrano, A; Abad-Gurumeta, A; Martínez, IG; Esteve, N; Alday, E; Ferrando, C; Mazzinari, G; Vila-Caral, P; Oyonarte, CLE. *Perioperative neuromuscular blockade. 2020 update of the SEDAR (Sociedad Española de Anestesiología y Reanimación) recommendations.* REVISTA ESPAÑOLA DE ANESTESIOLOGIA Y REANIMACION. 2023; 70(1) 37-50. FI: 0.9. Quartile: 3. (Editorial Material).
- Lucendo, AP; Otero, PP; Almudevar, PM; Carmona, SA; López, EL; Rueda, FR. *Individualised analgesia, sedation, delirium and comfort management strategies in the ICU: a narrative review.* REVISTA ESPAÑOLA DE ANESTESIOLOGIA Y REANIMACION. 2023; 70(9) 509-535. FI: 0.9. Quartile: 3. (Article).

- Zaballos, M; Fernández, I; Rodríguez, L; Álvarez-Zaballos, S; Duque, P; Terradillos, E; Piñeiro, P; Garutti, I; Guerrero, JE; Hortal, J. *Cohort study to assess the prevalence of prolonged QT and arrhythmias in critically ill patients during the early phase of the COVID-19 pandemic.* REVISTA ESPAÑOLA DE ANESTESIOLOGIA Y REANIMACION. 2023; 70(10) 561-568. FI: 0.9. Quartile: 3. (Article).
- Zaballos, M; Fernández, I; Rodríguez, L; Orozco, S; García, A; Juncos, M; Álvarez-Zaballos, S; Pineiro, P; Hortal, J. *Feasibility of using KardiaMobile-L6 for QT interval monitoring during the early phase of the COVID-19 pandemic in critical care patients.* SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).
- Mercader-Cidoncha, E; Zarain-Obrador, L; Lasso, JM; Simón-Adiego, C. *Surgical resources in advanced thyroid cancer treatment with aerodigestive tract invasion.* SURGICAL ONCOLOGY-OXFORD. 2023; 46. FI: 2.3. Quartile: 2. (Editorial Material).
- Alonso, A; De la Gala, F; Vara, E; Hortal, J; Piñeiro, P; Reyes, A; Simón, C; Garutti, I. *Lung and blood perioperative metalloproteinases in patients undergoing oncologic lung surgery: Prognostic implications.* THORACIC CANCER. 2023; 15(4) 307-315. FI: 2.3. Quartile: 2. (Article).
- Otero, R; Lobo, JL; López, R; Fernández, C; Jiménez, D; Muriel, A; Alfonso, M; Ballaz, A; Núñez-Ares, A; Rodríguez-Matute, C; de Miguel-Díez, J; Rodríguez-Chiaradia, DA; Alcalde, M; Elias, T; Jara-Palomares, L; Rivas, A; Alonso, A; García-Ortega, A; Sanch. *Feasibility of a screening algorithm for chronic thromboembolic pulmonary hypertension: The OSIRIS study.* THROMBOSIS RESEARCH. 2023; 228 1-9. FI: 3.7. Quartile: 1. (Article).

#### **Publications of the main WOS collection in journals indexed in the Journal Citation Reports without impact factor**

- López-de-Andrés, A; Jiménez-García, R; Carabantes-Alarcon, D; Hernández-Barrera, V; De-Miguel-Yanes, JM; De-Miguel-Díez, J; Zamorano-Leon, JJ; Del-Barrio, JL; Cuadrado-Corrales, N. *Use of Cardiac Procedures in People with Diabetes during the COVID Pandemic in Spain: Effects on the In-Hospital Mortality.* INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH. 2023; 20(1). (Article).



### Other publications

- López I; Aguinagalde B; Urreta I; Royo I; Bolufer S; Sánchez L; Zabaleta J; Fernández-Monge A; Recuero JL; Sesma J; Amor S; Moradiellos FJ; Arrarás MJ; Blanco AI; Boada M; Sánchez D; Cabañero A; Moreno N; Cal I; Moreno R; Cilleruelo Á; Crowley S; Gómez D;. *Results in mediastinal lymph node staging of surgical lung cancer: Data from the prospective cohort of the Spanish Video-Assisted Thoracic Surgery Group*. CIRUGIA ESPAÑOLA. 2023; 101(6) 408-416. (Article).
- Ramos R; de la Villa S; García-Ramos S; Padilla B; García-Olivares P; Piñero P; Garrido A; Hortal J; Muñoz P; Caamaño E; Benito P; Cedeño J; Garutti I. *COVID-19 associated infections in the ICU setting: A retrospective analysis in a tertiary-care hospital*. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA (ENGLISH ED.). 2023; 41(5) 278-283. (Article).
- López-de-Andrés A; Jiménez-García R; Zamorano-Leon JJ; Omaña-Palanco R; Carabantes-Alarcon D; Hernández-Barrera V; De Miguel-Díez J; Cuadrado-Corralles N. *Prevalence of Dementia among Patients Hospitalized with Type 2 Diabetes Mellitus in Spain, 2011-2020: Sex-Related Disparities and Impact of the COVID-19 Pandemic*. INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH. 2023; 20(6). (Article).
- Figueira-Gonçalves JM; de Miguel-Díez J; Molina París J; Valero Pérez JM; Fernández-Villar A. *Is it Reasonable to Start Bronchodilator Treatment Before Confirming the Diagnosis of COPD?*. OPEN RESPIRATORY ARCHIVES. 2023; 5(4) 100281-100281. (Editorial Material).
- Moya-Álvarez V; Castillo Villegas D; de Miguel Díez J. *Combined Pulmonary Fibrosis and Emphysema Syndrome: What is the Role of Airflow Limitation?*. OPEN RESPIRATORY ARCHIVES. 2023; 5(1) 100233-100233. (Editorial Material).



Group Directors: **JOSÉ MARÍA LASSO VÁZQUEZ**

Organisms involved: **HGUGM**

Type: **Associated Group**

## Research lines

### Axis 1: Cell Therapy

- ▶ L1: Composite tissue transplantation
- ▶ L2: Peripheral nerve regeneration

### Axis 2: Breast reconstruction

- ▶ L1: Prosthetic reconstruction

## Group members

- Arenas Domingo, Luis Javier.
- Cortina Acevedo, Edgar Alfonso.
- De la Torre Macías, Manuel.
- Lasso Vázquez, Jose María: R4. Leading Researcher.
- Lorca García, Concepción.
- Nava Pérez, Paola.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Publications Total Impact Factor: 3,8

|                                                        | Nº       | IF         |
|--------------------------------------------------------|----------|------------|
| Own publications                                       | 1        | 1,5        |
| Joint publications                                     | 1        | 2,3        |
| First decile publications                              | 0        | -          |
| First quartile publications                            | 0        | 0,0        |
| Second quartile publications                           | 1        | 2,3        |
| Third quartile publications                            | 1        | 1,5        |
| Fourth quartile publications                           | 0        | 0,0        |
| Nonindexed publications/No IF                          | 0        | –          |
| <b>Total publications (including those without IF)</b> | <b>2</b> | <b>3,8</b> |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Lasso, JM; Ibarra, G; Rivera, A; Fernández-Ibarburu, B; Olivares, M; de la Cruz, I; Gómez-Navarro, Y; García, M. *Anatomic and histomorphometric study of the nerve to the vastus lateralis in cadaver for its clinical application in facial reanimation*. MICROSURGERY. 2023; 43(4) 365-372. FI: 1.5. Quartile: 3. (Article).
- Mercader-Cidoncha, E; Zarain-Obrador, L; Lasso, JM; Simón-Adiego, C. *Surgical resources in advanced thyroid cancer treatment with aerodigestive tract invasion*. SURGICAL ONCOLOGY-OXFORD. 2023; 46. FI: 2.3. Quartile: 2. (Editorial Material).



Group Director: **ENRIQUE LLEDÓ GARCÍA**

Organisms involved: **HGUGM**

Type: **Emerging Group**

## Research lines

### Axis 1: Experimental Renal

- ▶ L1: Ischaemia-Reperfusion.

### Axis 2: Complex urethral reconstructive surgery

- ▶ L1: Treatment of anatomical and functional alterations of the urethra.

### Axis 3: Complex genital reconstructive surgery

- ▶ L1: Treatment of anatomical and functional alterations of the penis.
- ▶ L2: Treatment of anatomical and functional uro-digestive and uro-gynaecological disorders.

Urological surgical group with 2 fields of dedication: experimental renal preservation and complex urethral and genital reconstructive surgery, peyronie's disease.

## Group members

- **Aragón Chamizo, Juan.**
- **Cancho Gil, María José.**
- **Caño Velasco, Jorge.**
- **Escribano Patiño, Gregorio.**
- **González García, Francisco Javier.**
- **Hernández Fernández, Carlos.**
- **Herranz Amo, Felipe Bernardo.**
- **Jara Rascón, José.**
- **Lledo García, Enrique:** R4. Leading Researcher.
- **Ogaya Pinies, Gabriel.**
- **Rodríguez Fernández, María Elena.**
- **Subira Ríos, David:** R1. First Stage Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Industrial and intellectual property registrations

### Industrial property

| Title                | Reference*   | Owner  | Inventors    |
|----------------------|--------------|--------|--------------|
| Molde 3D Hemostático | EP22382407.9 | FIBHGM | David Subirá |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).



| Publications                                           | Total Impact Factor: 23,2 |             |
|--------------------------------------------------------|---------------------------|-------------|
|                                                        | Nº                        | IF          |
| Own publications                                       | 7                         | 12,1        |
| Joint publications                                     | 2                         | 11,1        |
| First decile publications                              | 0                         | –           |
| First quartile publications                            | 3                         | 14,5        |
| Second quartile publications                           | 1                         | 2,5         |
| Third quartile publications                            | 4                         | 4,8         |
| Fourth quartile publications                           | 1                         | 1,4         |
| Nonindexed publications/No IF                          | 5                         | –           |
| <b>Total publications (including those without IF)</b> | <b>14</b>                 | <b>23,2</b> |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Moreno-Cortés, JC; Herranz-Amo, F; Bataller-Monfort, V; Esteban-Labrador, L; Quintana-Álvarez, R; Subira-Rios, D; Moralejo-Garate, M; Hernández-Fernández, C. *Development of an immune-nutritional prognostic index in patients with muscle-infiltrating bladder cancer candidates for radical cystectomy*. ACTAS UROLOGICAS ESPAÑOLAS. 2023; 47(1) 34-40. FI: 1.2. Quartile: 3. (Article).
- Pujol, LP; Velasco, JC; García, JG; Amo, FH; García, EL; Chomon, GB; Castro, JMD; Chamizo, JA; Chacon, GA; Garate, MM; Rios, DS; Cordero, JMD; Merino, RD; Fernández, CH. *Extracci?n renal en donante cad?ver: revisi?n sistem?tica de la t?cnica quir?rgica*. ACTAS UROLOGICAS ESPAÑOLAS. 2023; 47(3) 140-148. FI: 1.2. Quartile: 3. (Review).
- Velasco, JC; Pujol, LP; Cortés, JCM; Puenteadura, AL; Fernández, CH. *Bladder Epicheck® for surveillance in high-risk non-muscle-invasive bladder cancer: Initial experience*. ACTAS UROLOGICAS ESPAÑOLAS. 2023; 47(8) 471-473. FI: 1.2. Quartile: 3. (Editorial Material).

- Cortés, JCM; García, JG; Velasco, JC; Chamizo, JA; Rios, DS. *Reconstruction Techniques After Partial Nephrectomy: Classic vs. Sutureless Approach-A Narrative Review*. CURRENT UROLOGY REPORTS. 2023; 25(2) 49-54. FI: 2.5. Quartile: 2. (Review).
- Boissier R; Rodríguez-Faba O; Zakri RH; Hevia V; Budde K; Figueiredo A; García EL; Olsburgh J; Regele H; Yuan CY; Breda A. *Evaluation of the Effectiveness of Interventions on Nephrolithiasis in Transplanted Kidney*. EUROPEAN UROLOGY FOCUS. 2023; 9(3). FI: 4.8. Quartile: 1. (Article).
- Zakri, RH; Hevia, V; Bossier, R; Rodríguez-Faba, O; García, EL; Budde, K; Breda, A; Olsburgh, J; Figueiredo, A. *Benefits and Harms of Benign Prostatic Obstruction Treatments in Renal Transplanted Patients*. EUROPEAN UROLOGY FOCUS. 2023; 9(6) 913-919. FI: 4.8. Quartile: 1. (Article).
- Torremade, J; Presa, M; Gorria, O; Torres, E; Oyaguez, I; Lledo, E. *Cost-consequence analysis of penile prosthesis implantation in outpatient setting in Spain*. INTERNATIONAL JOURNAL OF HEALTHCARE MANAGEMENT. 2023; 17(1) 160-167. FI: 1.4. Quartile: 4. (Article).
- Subira-Rios, D; Trapero-Moreno, D; Cano-Velasco, J; González-García, J; Moncada-Iribarren, I; Aragon-Chamizo, J; Fernández-Tamayo, A; de Miguel-Campos, E; Subira-Rios, J; Pérez-Mananes, R; Hernández-Fernández, C. *A new surgical technique for sutureless partial nephrectomy: renal sutureless device*. MINERVA UROLOGY AND NEPHROLOGY. 2023; 75(4) 521-528. FI: 4.9. Quartile: 1. (Article).
- Lledo, E; Tabbara, MM; Álvarez, A; Chandar, J; González, J; Vianna, R; Ciancio, G. *Venous vascular reconstruction of a robotically procured right kidney with two renal veins transplanted into a pediatric recipient*. PEDIATRIC TRANSPLANTATION. 2023; 28(1). FI: 1.2. Quartile: 3. (Article).

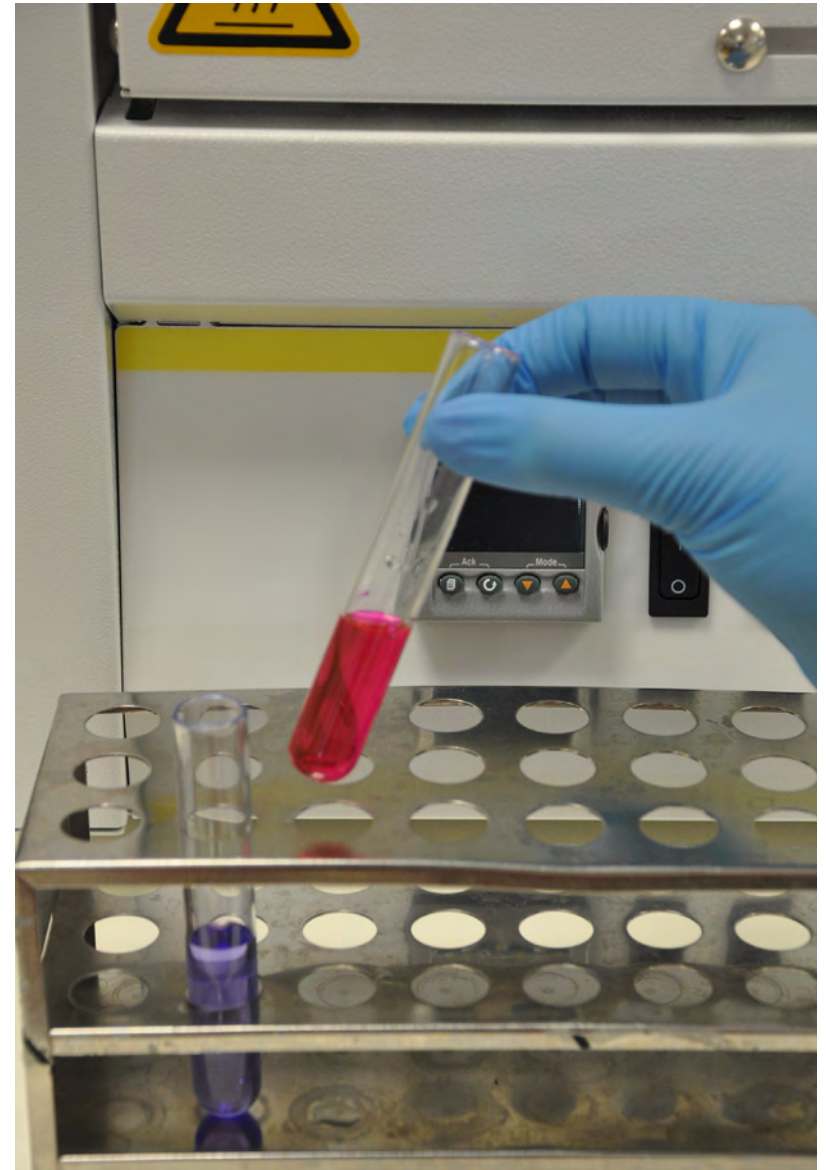
## Publications of the main WOS collection in journals indexed in the Journal Citation Reports without impact factor

- Salazar-M-Messias, I; Sotelo, R; Subirá-Rios, D; Elbalka, S; Medina, LG; Corona-Montes, VE; Saba, ASS; Hidaka, AK; Tobias-Machado, M. *Techniques, outcomes, and complications of minimally invasive inguinal lymphadenectomy in cancer of the penis: an international clinical review*. AME MEDICAL JOURNAL. 2023; 8. (Review).



### Other publications

- Gaya JM; Territo A; Woldu S; Schwartzmann I; Verri P; González-Pérez L; Cózar JM; Miñana B; Medina RA; de la Rosa-Kehrmann F; Lozano-Palacio F; Ribal MJ; Hernández C; Castiñeiras JJ; Requena MJ; Moreno J; Caraballido JA; Baena V; Breda A; Palou Redorta J. *Incidental diagnosis of bladder cancer in a national observational study in Spain*. ACTAS UROLOGICAS ESPAÑOLAS. 2023; 47(5) 296-302. (Article).
- Polanco Pujol L; Caño Velasco J; González García J; Herranz Amo F; Lledó García E; Bueno Chomón G; Mayor de Castro J; Aragón Chamizo J; Arnal Chacón G; Moralejo Gárate M; Subirá Ríos D; Díez Cordero JM; Durán Merino R; Hernández Fernández C. *Deceased donor kidney procurement: Systematic review of the surgical technique*. ACTAS UROLOGICAS ESPAÑOLAS. 2023; 47(3) 140-148. (Article).
- Torremadé J; Presa M; Gorriá Ó; de Burgos R; Oyagüez I; Lledó E. *Systematic review of the implantation of penile prosthesis in major ambulatory surgery*. ACTAS UROLOGICAS ESPAÑOLAS. 2023; 47(6) 341-350. (Article).
- Caño Velasco J; Polanco Pujol L; Moreno Cortés JC; Lafuente Puentedura A; Hernández Fernández C. *Bladder Epicheck® for surveillance in high-risk non-muscle-invasive bladder cancer: Initial experience and follow-up proposal*. ACTAS UROLOGICAS ESPAÑOLAS. 2023; 47(8) 471-473. (Editorial Material).



Photography: María Guembe





Group Director: **MARINA MORA SITJA**  
**AND MARÍA SANZ FERNÁNDEZ**

Organisms involved: **HGUGM**

Type: **Associated Group**

## Research lines

- ▶ L1: Hormone therapy.
- ▶ L2: Congenital Hypothyroidism.
- ▶ L3: Congenital Adrenal Hyperplasia.
- ▶ L4: Psychiatric Diseases in patients with type 1 DM.
- ▶ L5: Endocrinologic Diseases in patients with Oncologic Disease.
- ▶ L6: Endocrinologic Diseases in patients with Immunological Disease.

Main research group of Congenital Adrenal Hyperplasia and Congenital Hypothyroidism, congenital pathologies for which HGUGM is a reference centre in the Community of Madrid.

## Group members

- **Manzano Rodríguez, Gema:** R2. Recognised Researcher.
- **Mora Sitja, Marina:** R2. Recognised Researcher.
- **Rodríguez Sánchez, Amparo:** R2. Recognised Researcher.
- **Sanz Fernández, María:** R2. Recognised Researcher

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Publications

Total Impact Factor: 8,6

|                                                        | Nº       | IF         |
|--------------------------------------------------------|----------|------------|
| Own publications                                       | 3        | 5,6        |
| Joint publications                                     | 1        | 3,0        |
| First decile publications                              | 0        | –          |
| First quartile publications                            | 1        | 3,0        |
| Second quartile publications                           | 2        | 3,6        |
| Third quartile publications                            | 1        | 2,0        |
| Fourth quartile publications                           | 0        | 0,0        |
| Nonindexed publications/No IF                          | 1        | –          |
| <b>Total publications (including those without IF)</b> | <b>5</b> | <b>8,6</b> |



**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Sitja, MM; Aragonés, JH; Fernández, MS; Colino, CG. *Epidural lipomatosis secondary to corticotherapy*. ANALES DE PEDIATRIA. 2023; 98(5) 397-398. FI: 1.5. Quartile: 2. (Editorial Material).
- Romera, A; Barragan, L; Álvarez-Baena, L; Sanjuan, E; Ordonez, J; García-Casillas, MA; Mora, M; Sanz, M. *Management of hypocalcemia following thyroid surgery in children*. FRONTIERS IN PEDIATRICS. 2023; 11. FI: 2.1. Quartile: 2. (Article).
- Fernández, MS; Sitja, MM; González-Pinto, LC; Arteta, ELH; Sánchez, AR. *Assessment of the Degree of Clinical Suspicion of 21-Hydroxylase Deficiency Prior to the Newborn Screening Result*. HORMONE AND

METABOLIC RESEARCH. 2023; 55(08) 528-535. FI: 2. Quartile: 3. (Article).

- Carcavilla, A; Cambra, A; Santome, JL; Seidel, V; Cruz, J; Alonso, M; Pozo, J; Valenzuela, I; Guillén-Navarro, E; Santos-Simarro, F; González-Casado, I; Rodríguez, A; Medrano, C; López-Siguero, JP; Ezquieta, B. *Genotypic Findings in Noonan and Non-Noonan RASopathies and Patient Eligibility for Growth Hormone Treatment*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(15). FI: 3. Quartile: 1. (Article).

**Other publications**

- Mora Sitja M; Huerta Aragonés J; Sanz Fernández M; Garrido Colino C. *Lipomatosis epidural secundaria a corticoterapia*. ANALES DE PEDIATRIA. 2023; 98(5) 397-398. (Article).



Group Director: **FRANCISCO JAVIER VAQUERO MARTÍN**

Organisms involved: **HGUGM-UCM**

Type: **Emerging Group**

## Research lines

### Axis 1: Mesenchymal cells in TOC

- ▶ L1: MSC infusion in hip necrosis.
- ▶ L2: Influence of mechanical factors on cultures.

### Axis 2: Biomaterials

- ▶ L1: Bone cements with antibiotics.
- ▶ L2: Microencapsulation of antibiotics.

### Axis 3: 3D printing

- ▶ L1: Biomodels and customised surgical guides.
- ▶ L2: Custom-made implants.
- ▶ L3: AR/VR surgical navigation.
- ▶ L4: POC (Point-Of-Care) fabrication.

### Axis 4: Eco-guided surgery

- ▶ L1: Ultra-MIS surgery on the upper limb.
- ▶ L2: Ultrasound-guided pelvic surgery.

The group is composed mainly (although not exclusively) of specialists in Orthopedic Surgery and Traumatology from our and other national and foreign hospitals with the support of at least three universities in various projects (San Pablo CEU, Universidad Juan Carlos I, and ICAI, all of which are in Madrid). In some of the mentioned lines of research (below), work had already begun, thus confirming the group's viability and its role in promoting projects and doctoral theses.

There are currently 14 active members participating in some of these lines..

## Group members

- **Aburto Bernardo, Mikel:** R1. First Stage Researcher.
- **Arnal Burro, Juan Manuel:** R2. Recognised Researcher.
- **Calvo Haro, José Antonio:** R4. Leading Researcher.
- **Carbo Laso, Esther:** R3. Established Researcher.
- **Chana Rodríguez, Francisco:** R3. Established Researcher.
- **Fernández Fernández, Tanya.**
- **Forriol Campos, Francisco:** R3. Established Researcher.
- **Matas Díaz, José Antonio:** R2. Recognised Researcher.
- **Narbona Cárceles, Francisco Javier:** R3. Established Researcher.
- **Oteo Álvaro, Ángel:** R3. Recognised Researcher.
- **Pérez Mañanes, Rubén:** R4. Leading Researcher.
- **Rojo Manaute, José Manuel:** R3. Recognised Researcher.
- **Sanz Ruiz, Pablo:** R3. Established Researcher.
- **Vaquero Martín, Francisco Javier:** R4. Leading Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |



- Title: **Transformación digital en el tratamiento oncológico. Inteligencia artificial, impresión 3D y realidad aumentada para una medicina personalizada. (IAR3D-ONC).** TED2021-132200B-I00

Director: Calvo Haro, José Antonio

Project type: Research project

Funding body: MICINN/MINECO

Start date: 01/12/2022

End date: 30/11/2024

### Industrial and intellectual property registrations

#### Industrial property

| Title                                                                                          | Reference* | Owner        | Inventors                                                                                                                 |
|------------------------------------------------------------------------------------------------|------------|--------------|---------------------------------------------------------------------------------------------------------------------------|
| Implantes personalizados con actividad antimicrobiana para prevenir y tratar infecciones óseas | P202230220 | FIBHGM - UCM | Pablo Sanz, Almudena Ribed, Dolores Remedios, María Paloma Ballesteros, Elena María González, Luciano de León, Iván Yuste |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

### Publications

Total Impact Factor: 22,1

|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 3         | 8,9         |
| Joint publications                                     | 3         | 13,2        |
| First decile publications                              | 0         | —           |
| First quartile publications                            | 5         | 19,9        |
| Second quartile publications                           | 1         | 2,2         |
| Third quartile publications                            | 0         | 0,0         |
| Fourth quartile publications                           | 0         | 0,0         |
| Nonindexed publications/No IF                          | 7         | —           |
| <b>Total publications (including those without IF)</b> | <b>13</b> | <b>22,1</b> |



### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Márquez-Gómez, M; Díaz-Navarro, M; Visedo, A; Hafian, R; Matas, J; Muñoz, P; Vaquero, J; Guembe, M; Sanz-Ruiz, P. *An In Vitro Study to Assess the Best Strategy for the Chemical Debridement of Periprosthetic Joint Infection*. ANTIBIOTICS-BASEL. 2023; 12(10). FI: 4.3. Quartile: 1. (Article).
- Yuste, I; Luciano, FC; Anaya, BJ; Sanz-Ruiz, P; Ribed-Sánchez, A; González-Burgos, E; Serrano, DR. *Engineering 3D-Printed Advanced Healthcare Materials for Periprosthetic Joint Infections*. ANTIBIOTICS-BASEL. 2023; 12(8). FI: 4.3. Quartile: 1. (Review).
- Sánchez-Somolinos, M; Díaz-Navarro, M; Benjumea, A; Matas, J; Vaquero, J; Muñoz, P; Sanz-Ruiz, P; Guembe, M. *In Vitro Efficacy of Dalbavancin as a Long-Acting Anti-Biofilm Agent Loaded in Bone Cement*. ANTIBIOTICS-BASEL. 2023; 12(9). FI: 4.3. Quartile: 1. (Article).
- Arnal-Burró, J; Vidal-Fernández, C; Igualada-Blázquez, C; Cuervas-Mons, M; Martínez-Ayora, A; Dos Santos-Vaquinhas, A. *PLAR: a combined percutaneous and arthroscopic treatment for iliotibial band syndrome description of surgical technique and short-term results: description of surgical technique and short-term results*. BMC SPORTS SCIENCE MEDICINE AND REHABILITATION. 2023; 15(1). FI: 2.1. Quartile: 1. (Article).
- Chana-Rodríguez, F; Blokhuis, TJ; Hernández-Mateo, JM; Jazra, S; Maqungo, S; Santos-Machado, JK; Sakurai, A; Wong, RMY; Raymond, WK; Wagner, S; Dunbar, R. *Orthopaedic trauma residency programs: Perspectives from different countries across the world*. INJURY-INTERNATIONAL JOURNAL OF THE CARE OF THE INJURED. 2023; 54. FI: 2.2. Quartile: 2. (Article).
- Subira-Rios, D; Trapero-Moreno, D; Cano-Velasco, J; González-García, J; Moncada-Iribarren, I; Aragon-Chamizo, J; Fernández-Tamayo, A; de Miguel-Campos, E; Subira-Rios, J; Pérez-Mananes, R; Hernández-Fernández, C. *A new surgical technique for sutureless partial nephrectomy: renal sutureless device*. MINERVA UROLOGY AND NEPHROLOGY. 2023; 75(4) 521-528. FI: 4.9. Quartile: 1. (Article).

### Other publications

- Guzmán Á; Benjumea A; Hernández-Mateo JM; Sanz-Ruiz P; Vaquero J. *Four-day delay "metachronous" polymicrobial necrotizing fasciitis of lower limbs: a unique case report*. ACTA BIOMEDICA DE LATENEOPARMENSE. 2023; 94(S1). (Article).
- Sola-Duque B; Hernández-Mateo JM; López-Mombiela F; Aburto-Bernardo M; Pérez-Martín A; Álvarez-González JC. *Resultados del tratamiento de roturas irreparables de manguito rotador con el uso del balón subacromial*. ACTA ORTOPÉDICA MEXICANA. 2023; 37(1) 9-13. (Article).
- Sobrón FB; Hernández-Mateo JM; Fernández T; Alonso MB; Parra G; Vaquero J. *Locking versus nonlocking plates for the treatment of posterior malleolar ankle fractures: A retrospective cohort study and cost analysis*. FOOT. 2023; 56 102033-102033. (Article).
- Chesser TJ; Morán C; Willett K; Bouillon B; Sturm J; Flohé S; Ruchholtz S; Dijkink S; Schipper IB; Rubio-Suárez JC; Chana F; de Caso J; Guerado E. *Development of trauma systems in Europe-reports from England, Germany, the Netherlands, and Spain*. OTA INTERNATIONAL : THE OPEN ACCESS JOURNAL OF ORTHOPAEDIC TRAUMA. 2023; 2(Suppl 1). (Article).
- de Ridder VA; Pape HC; Chana-Rodríguez F; Boudissa M; Claudia G; Fabian S; Steven H; Tina H; Konstantinos T; Zoe D. *Managing periprosthetic fractures: perspectives on periprosthetic pelvic fractures*. OTA INTERNATIONAL : THE OPEN ACCESS JOURNAL OF ORTHOPAEDIC TRAUMA. 2023; 6(1 Suppl). (Article).
- Pérez-Mañanes R; Calvo-Haro J. *PERSONALISED MEDICINE: HOSPITAL-BASED ACADEMIC MANUFACTURING OF CUSTOMISED MEDICAL DEVICES IN ORTHOPAEDIC SURGERY AND TRAUMATOLOGY*. REVISTA ESPAÑOLA DE CIRUGIA ORTOPEDICA Y TRAUMATOLOGIA. 2023; 67(2) 81-82. (Editorial Material).
- Pérez-Mañanes R; Calvo-Haro J. *[Translated article] PERSONALISED MEDICINE: HOSPITAL-BASED ACADEMIC MANUFACTURING OF CUSTOMISED MEDICAL DEVICES IN ORTHOPAEDIC SURGERY AND TRAUMATOLOGY*. REVISTA ESPAÑOLA DE CIRUGIA ORTOPEDICA Y TRAUMATOLOGIA. 2023; 67(2). (Editorial Material).



Group Director: **JAVIER MUÑOZ GONZÁLEZ**  
Organisms involved: **HGUGM**  
Type: **Associated Group**

Research lines

- Axis 1: Epidemiology of mechanical ventilation.
- Axis 2: Mechanical ventilation in acute respiratory failure.
- Axis 3: Vasopressin in shock.
- Axis 4: Intensive care of oncohaematological patients.
- Axis 5: Bioethics of intensive care.

Group members

- **De la Calle Reviriego, Braulio.**
- **García Olivares, Pablo.**
- **Guerrero Sanz, José Eugenio.**
- **Muñoz González, Javier:** R4. Leading Researcher.
- **Peral-Gutiérrez de Ceballos, José.**
- **Sánchez Fernández, Guiomar.**
- **Santa Teresa Zamarro, Patricia.**
- **Sotillo Díaz, Juan Carlos.**

Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |





| Publications                                           |          | Total Impact Factor: 43,1 |
|--------------------------------------------------------|----------|---------------------------|
|                                                        | Nº       | IF                        |
| Own publications                                       | 0        | 0,0                       |
| Joint publications                                     | 4        | 43,1                      |
| First decile publications                              | 1        | 0,0                       |
| First quartile publications                            | 1        | 38,7                      |
| Second quartile publications                           | 1        | 2,6                       |
| Third quartile publications                            | 2        | 1,8                       |
| Fourth quartile publications                           | 0        | 0,0                       |
| Nonindexed publications/No IF                          | 0        | —                         |
| <b>Total publications (including those without IF)</b> | <b>4</b> | <b>43,1</b>               |

#### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Guereta LG; Rocafort AG; Gil Jaurena JM; Camino M; Gran F; Abella R; Burgos P; Jose Menendez J; Estebanez B; Zamorano J; Butragueño L; De La Calle B; Sánchez Salmeron V; Balcells J; Mazo C; Lorence E; Pérez Blanco A. *Pediatric heart transplantation in Spain after circulatory determination of death and in situ normothermic regional perfusion -*

**ERRATUM.** CARDIOLOGY IN THE YOUNG. 2023; 33(7) 1275-1275. FI: 0.9. Quartile: 3. (Article).

- Schmidt M; Hajage D; Landoll M; Pequignot B; Langouet E; Amalric M; Mekontso-Dessap A; Chiscano-Camon L; Surman K; Finnerty D; Santa-Teresa P; Arcadipane A; Millán P; Roncon-Albuquerque R Jr; Blandino-Ortiz A; Blanco-Schweizer P; Ricart P; Gimeno-Costa R;. *Comparative outcomes of extracorporeal membrane oxygenation for COVID-19 delivered in experienced European centres during successive SARS-CoV-2 variant outbreaks (ECMO-SURGES): an international, multicentre, retrospective cohort study.* LANCET RESPIRATORY MEDICINE. 2023; 11(2) 163-175. FI: 38.7. Quartile: 1. (Article).
- Zaballos, M; Fernández, I; Rodríguez, L; Álvarez-Zaballos, S; Duque, P; Terradillos, E; Piñeiro, P; Garutti, I; Guerrero, JE; Hortal, J. *Cohort study to assess the prevalence of prolonged QT and arrhythmias in critically ill patients during the early phase of the COVID-19 pandemic.* REVISTA ESPAÑOLA DE ANESTESIOLOGIA Y REANIMACION. 2023; 70(10) 561-568. FI: 0.9. Quartile: 3. (Article).

Villalonga, PM; Martínez-Alpuente, I; Fernández-Ruiz, M; Len, O; Bodro, M; Los-Arcos, I; Moya, J; de la Calle, B; Cid-Cumplido, M; Sánchez-Etayo, G; Avila, A; Moreno-González, G; Coll, E; Domínguez-Gil, B. *Transplantation of organs from SARS-CoV-2-positive donors: Preliminary experience from Spain.* TRANSPLANT INFECTIOUS DISEASE. 2023; 25(1). FI: 2.6. Quartile: 2. (Article).



Group Director: **M<sup>a</sup> BEGOÑA QUINTANA VILLAMANDOS  
AND JUAN FRANCISCO DEL CAÑIZO**

Organisms involved: **HGUGM**

Type: **Emerging Group**

## Research lines

### Axis 1: Ventricular remodelling

- ▶ L1: Immunohistopathology and ultrastructure of ventricular remodelling
- ▶ L2: Pathophysiology of ventricular remodelling
- ▶ L3: Serum biomarkers of cardiac pathology
- ▶ L4: New therapies in the regression of ventricular remodelling

### Axis 2: Vascular remodelling

- ▶ L1: Foetal origin of cardiovascular disease and nutrition
- ▶ L2: Structure and function in vascular remodelling
- ▶ L3: Serum biomarkers of vascular pathology
- ▶ L4: New therapies in the regression of vascular remodelling

### Axis 3: Mechanical circulatory support

- ▶ L1: Anaesthetic drugs and organ perfusion in mechanical circulatory support (MCA)
- ▶ L2: Advances in haemodynamic monitoring in MCA
- ▶ L3: Cardiovascular physiopathology and MCA
- ▶ L4: Pulsatile vs. continuous flow in MCA

### Axis 4: Hepatic physiopathology

- ▶ L1: Decellularisation of the liver
- ▶ L2: Normothermic perfusion of isolated liver

### Axis 5: 3D printing

- ▶ L1: 3D skin printing

**M**ultidisciplinary group (various institutions, various specialties, clinicians and basic) focused on the physiopathology of the cardiovascular system and circulatory support.

## Group members

- **Arnalich Montiel, Ana:** R2. Recognised Researcher.
- **Arribas Rodríguez, Silvia Magdalena:** R3. Established Researcher.
- **Barrio Gutiérrez, José María:** R2. Recognised Researcher.
- **Beneyto Cruz, Rosario.**
- **Cuerpo Caballero, Gregorio Pablo:** R2. Recognised Researcher.
- **Del Cañizo López, Juan Francisco:** R4. Leading Researcher.
- **Delgado Baeza, Emilio:** R3. Established Researcher.
- **Delgado Martos, María Jesús:** R2. Recognised Researcher.
- **Fernández López, Ignacio:** R2. Recognised Researcher.
- **Iglesias de la Vega, Mario:** R2. Recognised Researcher.
- **Martín Oropesa, Raquel:** R2. Recognised Researcher.
- **Morillas Sendín, Paloma:** R2. Recognised Researcher.
- **Pazo Sayos, Laia:** R2. Recognised Researcher.
- **Pedraz Prieto, Álvaro:** R2. Recognised Researcher.
- **Quintana Villamandos, María Begoña:** R4. Leading Researcher.
- **Ruiz Fernández, Manuel:** R2. Recognised Researcher.
- **Vega Sánchez, Victoria Eugenia:** R1. First Stage Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      |                         |            |                    |            |
| Regional      |                         | 2          |                    |            |



## Not managed by the FIBHGM

- Title: **Tres años después del estado de alarma por COVID-19: nueva propuesta metodológica internacional en la docencia universitaria.** PROYECTO INNOVA-DOCENCIA UCM 273  
Director: Quintana Villamandos, María Begoña  
Project type: Research project  
Funding body: UCM  
Start date: 01/09/2023  
End date: 01/09/2024
- Title: **Barrera lingüística, otro frente para avanzar en la internacionalización de la docencia universitaria en Medicina.** INNOVA-DOCENCIA UCM 405  
Director: Quintana Villamandos, María Begoña  
Project type: Research project  
Funding body: UCM  
Start date: 01/09/2022  
End date: 01/09/2023

## Industrial and intellectual property registrations

### Industrial property

| Title                                                                 | Reference*   | Owner                      | Inventors                                                           |
|-----------------------------------------------------------------------|--------------|----------------------------|---------------------------------------------------------------------|
| Equipo y simulación para control de hemorragias                       | P 2017 30568 | FIBHGM – Medical Simulator | Manuel Desco, Juan Francisco del Cañizo                             |
| Dispositivo para prevenir la neumonía asociada a ventilación mecánica | U 2014 30814 | FIBHGM                     | Juan Francisco del Cañizo, Emilio Bouza, M <sup>a</sup> Jesús Pérez |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

## Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate               | Title                                                                                                                                                             | Name/s Director/s                                                                           | University | Date Defended |
|-----------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------|---------------|
| Ph Thesis | Irma María Barrio Pérez | Sevoflurano y desflurano en la reparación del aneurisma de aorta. Ensayo clínico aleatorizado Fase IV                                                             | María Begoña Quintana Villamandos/<br>Alberto Lázaro Fernández/<br>Carmen Fernández Riveira | UCM        | 19/01/2023    |
| Ph Thesis | Alba Burgos Santamaría  | Biomarcadores de estrés oxidativo y capacidad antioxidante en cirugía endovascular de aorta con agentes anestésicos inhalados: sevoflurano frente a desflurano.   | María Begoña Quintana Villamandos/<br>Pilar Rodríguez Rodríguez/<br>Ana Arnalich Montiel    | UCM        | 29/11/2023    |
| Ph Thesis | María Lema Tomé         | Estudio sobre los resultados clínicos de la técnica epidural obstétrica en el Hospital General Universitario Gregorio Marañón. Búsqueda de la excelencia clínica. | María Begoña Quintana Villamandos                                                           | UCM        | 21/12/2023    |
| Ph Thesis | Andrés Rivera Muñoz     | Fisiopatología del proceso de isquemia-reperusión y aplicabilidad de la perfusión normotérmica en hígado porcino                                                  | Juan Francisco del Cañizo                                                                   | UCM        | 20/12/2023    |



## Clinical Practice Guidelines

| Authors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Title                                                                                                      | Journal/Reference               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------|
| Martínez-Sellés M; Hernández-Pérez FJ; Uribarri A; Martín Villén L; Zapata L; Alonso JJ; Amat-Santos IJ; Ariza-Solé A; Barrabés JA; Barrio JM; Canteli Á; Alonso-Fernández-Gatta M; Corbí Pascual MJ; Díaz D; Crespo-Leiro MG; de la Torre-Hernández JM; Ferrera C; García González MJ; García-Carreño J; García-Guereta L; García Quintana A; Jorge Pérez P; González-Juanatey JR; López de Sá E; Sánchez PL; Monteagudo M; Palomo López N; Reyes G; Rosell F; Solla Buceta MA; Segovia-Cubero J; Sionis Green A; Stepanenko A; Iglesias Álvarez D; Viana Tejedor A; Voces R; Fuset Cabanes MP; Gimeno Costa JR; Díaz J; Fernández-Avilés F | Cardiogenic shock code 2023. Expert document for a multidisciplinary organization that allows quality care | REV ESP CARDIOL. PMID: 36565750 |

## Publications

Total Impact Factor: 36,0

|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 1         | 0,0         |
| Joint publications                                     | 8         | 36,0        |
| First decile publications                              | 1         | 0,0         |
| First quartile publications                            | 5         | 32,4        |
| Second quartile publications                           | 1         | 2,7         |
| Third quartile publications                            | 0         | 0,0         |
| Fourth quartile publications                           | 3         | 0,9         |
| Nonindexed publications/No IF                          | 1         | —           |
| <b>Total publications (including those without IF)</b> | <b>10</b> | <b>36,0</b> |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Zaballos, M; Fernández, I; Melone, A; Rodríguez, L; Varela, O; García, S; Quintela, O; Vázquez, E; Anadon, MJ; Almendral, J. *Sodium bicarbonate reverts electrophysiologic cardiotoxicity of ropivacaine faster than lipid emulsions in a porcine model*. BASIC & CLINICAL PHARMACOLOGY & TOXICOLOGY. 2023; 132(2) 211-222. FI: 2.7. Quartile: 2. (Article).
- Gutiérrez, EM; Ruiz, MC; Sos, FH; Núñez, GL; Aroca, JMB; Stuart, JRR; García, EB; Caballero, GC; Alcázar, MC; Sorli, MJD; Fuster, RG; Carretero, EG; Jiménez, JMG; Cardona, JG; Hernández, VB; Pérez, RS; Menendez, JL; Berberl, DO. *Temporal ordering criteria for surgical interventions in cardiovascular and endovascular pathology. 2022 version*. CIRUGIA CARDIOVASCULAR. 2023; 30(1) 24-33. FI: 0.3. Quartile: 4. (Article).
- Cuerpo, G. *Coronary surgery and scientific evidence?*. CIRUGIA CARDIOVASCULAR. 2023; 30(2) 73-76. FI: 0.3. Quartile: 4. (Editorial Material).
- Carnero-Alcázar, M; Cuerpo-Caballero, G; López-Menendez, J; Centella-Hernández, T; Polo-López, L; García-Fuster, R; Monguio-Santin, E; García-Verdugo, PG; Stuart, JRR. *Spanish cardiovascular surgery report 2021: The annual updated registry of the Spanish Society for Cardiovascular and Endovascular Surgery*. CIRUGIA CARDIOVASCULAR. 2023; 30(3) 151-163. FI: 0.3. Quartile: 4. (Article).
- Anguita-Gamez, M; Giraldo, MA; Nombela-Franco, L; Esteve, AE; Cuerpo, G; López-Menendez, J; Gómez-Polo, JC; Tirado-Conte, G; Torres, B; Prieto, AP; Jiménez-Quevedo, P; López-Gude, MJ; Mahia, P; Cobiella, J; Zamorano, JL; Vilacosta, I; Maroto, L; Carnero-A. *Validation of the TRI-SCORE in patients undergoing surgery for isolated tricuspid regurgitation*. HEART. 2023; 109(18) 1401-1406. FI: 5.1. Quartile: 1. (Article).
- Sandner, S; Misfeld, M; Caliskan, E; Boning, A; Aramendi, J; Salzberg, SP; Choi, YH; Perrault, LP; Tekin, I; Cuerpo, GP; López-Menendez, J; Weltert, LP; Bohm, J; Krane, M; González-Santos, JM; Tellez, JC; Holubec, T; Ferrari, E; Doros, G; Vitarello, CJ; E. *Clinical outcomes and quality of life after contemporary isolated coronary bypass grafting: a prospective cohort study*. INTERNATIONAL JOURNAL OF SURGERY. 2023; 109(4) 707-715. FI: 12.5. Quartile: 1. (Article).



- Martínez-Sellés M; Hernández-Pérez FJ; Uribarri A; Martín Villén L; Zapata L; Alonso JJ; Amat-Santos IJ; Ariza-Solé A; Barrabés JA; Barrio JM; Canteli Á; Alonso-Fernández-Gatta M; Corbí Pascual MJ; Díaz D; Crespo-Leiro MG; de la Torre-Hernández JM; Ferrer. *Cardiogenic shock code 2023. Expert document for a multidisciplinary organization that allows quality care*. REVISTA ESPAÑOLA DE CARDIOLOGIA. 2023; 76(4) 261-269. FI: 7.2. Quartile: 1. (Article).
- Zaballos, M; Varela, O; Fernández, I; Rodríguez, L; García, S; Quintela, O; Vázquez, E; Anadon, MJ; Almendral, J. *Assessment of cardiotoxicity and plasma ropivacaine concentrations after serratus intercostal fascial plane block in an experimental model*. SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).
- Zaballos, M; Fernández, I; Rodríguez, L; Orozco, S; García, A; Juncos, M; Álvarez-Zaballos, S; Pineiro, P; Hortal, J. *Feasibility of using KardiaMobile-L6 for QT interval monitoring during the early phase of the COVID-19 pandemic in critical care patients*. SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).

### Other publications

- Hualde AM; Mantilla JA; Rincón JO; Regí AR; Kestler M; Muñoz P; Delgado-Montero A; Cuerpo-Caballero G; Pinilla B; Alonso Farto JC. *Relevance of [(18)F]FDG-PET/CT in the detection of colon pathology, in patients studied by bacteriemia or infectious endocarditis caused by enteropathogenic microorganisms*. REVISTA ESPAÑOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR. 2023; 42(3) 139-146. (Article).

## 7.18. Peritransplant evaluation of the liver



Group Director: **JOSÉ MARÍA PÉREZ PEÑA**

Organisms involved: **HGUGM**

Type: **Associated Group**

### Research lines

- ▶ L1: Evaluation of early graft function in human liver transplantation.
- ▶ L2: Usefulness of cardiac biomarkers in liver transplantation.

The members of the research group are part of the Anaesthesiology and Resuscitation Department of the Gregorio Marañón Hospital, where they carry out their healthcare work with special dedication to the field of anaesthesia and postoperative care in hepatobiliopancreatic surgery and liver transplantation. Since 1990, when we started the liver transplant (LT) programme at the HGU Gregorio Marañón, we have been part of the anaesthesia team in charge of LT, developing in recent years in close collaboration with the Hepatology and Surgery Services the following lines of research in the field of LT and major liver surgery:

1. Methods for the early diagnosis of early graft malfunction in liver transplantation
2. Utility of cardiac biomarkers and cardiac haemodynamic monitoring in cirrhotic patients during liver transplantation.
3. Usefulness of coagulation parameters for optimising the management of plasma derivatives and early diagnosis of graft dysfunction.

4. In 2021, the programme for the recovery of organs initially discarded for liver transplantation began. In this programme we collaborate with the surgery and hepatology services within the liver transplant unit, investigating the mechanisms involved and the effect of preservation with a normothermic perfusion machine prior to transplantation on the liver function of these initially discarded organs, as well as the effects of hypothermic perfusion in grafts from asystole donors.

### Group members

- **Duque González, Patricia:** R3. Established Researcher.
- **Lisbona Saez, Cristina Julia:** R2. Recognised Researcher.
- **Pérez Peña, José María:** R4. Leading Researcher.
- **Vílchez Monge, Almudena Lucía:** R2. Recognised Researcher.

### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |





| Publications                                    |    | Total Impact Factor: 2,8 |
|-------------------------------------------------|----|--------------------------|
|                                                 | Nº | IF                       |
| Own publications                                | 1  | 1,9                      |
| Joint publications                              | 1  | 0,9                      |
| First decile publications                       | 0  | -                        |
| First quartile publications                     | 0  | 0,0                      |
| Second quartile publications                    | 0  | 0,0                      |
| Third quartile publications                     | 2  | 2,8                      |
| Fourth quartile publications                    | 0  | 0,0                      |
| Nonindexed publications/No IF                   | 0  | —                        |
| Total publications (including those without IF) |    | 2,8                      |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Zaballos, M; Fernández, I; Rodríguez, L; Álvarez-Zaballos, S; Duque, P; Terradillos, E; Piñeiro, P; Garutti, I; Guerrero, JE; Hortal, J. *Cohort study to assess the prevalence of prolonged QT and arrhythmias in critically ill patients during the early phase of the COVID-19 pandemic*. REVISTA ESPAÑOLA DE ANESTESIOLOGIA Y REANIMACION. 2023; 70(10) 561-568. FI: 0.9. Quartile: 3. (Article).
- Duque, P; Korte, W. *Factor XIII in the Acute Care Setting and Its Relevance in Obstetric Bleeding*. TRANSFUSION MEDICINE AND HEMOTHERAPY. 2023; 50(1) 10-16. FI: 1.9. Quartile: 3. (Review).





Group Director: **CARMEN FERNÁNDEZ RIVEIRA**

Organisms involved: **HGUGM**

Type: **Associated Group**

## Group members

- **Del Castillo Fernández de Betoño, Teresa:** R1. First Stage Researcher.
- **Díaz Ruano, Susana:** R1. First Stage Researcher.
- **Fernández Fernández, Alejandro:** R1. First Stage Researcher.
- **Fernández Riveira, María del Carmen:** R4. Leading Researcher.
- **Membrillo Rubalcaba, María José:** R1. First Stage Researcher.
- **Miguel Guijarro, María Ángeles:** R1. First Stage Researcher.
- **Orozco Galeano, Hugo David:** R1. First Stage Researcher.
- **Palencia, Jorge María:** R1. First Stage Researcher.
- **Reyes Osorio, Fidel Eduardo:** R1. First Stage Researcher.
- **Riaño Méndez, Bibiana:** R1. First Stage Researcher.
- **San Juan López, Erika:** R1. First Stage Researcher.
- **Sanz Fernández, Javier:** R2. Recognised Researcher.
- **Torre Oñate, María Teresa:** R1. First Stage Researcher.
- **Valera Cabo, Jesús Alberto:** R1. First Stage Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Publications

Total Impact Factor: **4,2**

|                                                        | Nº       | IF         |
|--------------------------------------------------------|----------|------------|
| Own publications                                       | 0        | 0,0        |
| Joint publications                                     | 3        | 4,2        |
| First decile publications                              | 0        | –          |
| First quartile publications                            | 0        | 0,0        |
| Second quartile publications                           | 1        | 3,0        |
| Third quartile publications                            | 1        | 0,9        |
| Fourth quartile publications                           | 1        | 0,3        |
| Nonindexed publications/No IF                          | 0        | –          |
| <b>Total publications (including those without IF)</b> | <b>3</b> | <b>4,2</b> |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Costas, DG; Sánchez, AR; Manzorro, AG; Martínez, IG; Fernández, FJS; Sanz, BT; Bermejo, SH; Herranz-Alonso, AM; Sanjurjo, M. *Impact of preoperative pharmaceutical care consultation on medication errors in surgical patients: a comprehensive analysis*. EXPERT OPINION ON DRUG SAFETY. 2023. FI: 3. Quartile: 2. (Article).
- Eraso, A; Sanz, J; Ibáñez, R; Alonso, LM; Calín, A; Casamayor, MC; Pla, MJ; Piñero, A; Ripoll, F; Algara, M. *First Spanish consensus on the use of intraoperative radiotherapy in breast cancer. Conclusions of the expert panel*. REVISTA DE SENOLOGIA Y PATOLOGIA MAMARIA. 2023; 36(3). FI: 0.3. Quartile: 4. (Review).
- Duquea, P; Varela, JA; Garrido, P; Valencia, O; Terradillos, E. *Impact of prebriefing on emotions in a high-fidelity simulation session: A randomized controlled study*. REVISTA ESPAÑOLA DE ANESTESIOLOGIA Y REANIMACION. 2023; 70(8) 447-457. FI: 0.9. Quartile: 3. (Article).



Group Director: **MATILDE ZABALLOS GARCÍA**

Organisms involved: **HGUGM**

Type: **Associated Group**

## Research lines

### Axis 1: Anaesthesia, toxins and arrhythmias

- ▶ L1: Electrophysiology of anaesthetic agents
- ▶ L2: Cardiac toxicology of local anaesthetics and antidotes
- ▶ L3: Cardiac toxicology of consumer substances and antidotes

The research group is made up of anaesthesiologists, toxicologists and cardiologists. The group's research career stands out in the area of research into anaesthesia, toxicants and arrhythmias in animal models. The multidisciplinary composition has made it possible to address studies with common aspects of the different specialties, which would otherwise be very complex to make them coincide.

## Group members

- **Almendral Garrote, Jesús:** R3. Established Researcher.
- **Álvarez Baena, Lucía:** R1. First Stage Researcher.
- **Anadón Baselga, María José:** R3. Established Researcher.
- **Bravo Serrajo, Begoña:** R3. Established Researcher.
- **García Ramos, Sergio:** R2. Recognised Researcher.
- **Quintela, Jorge, Óscar:** R3. Established Researcher.
- **Rodríguez Rodríguez, Lucía:** R1. First Stage Researcher.
- **Zaballos García, Matilde:** R3. Established Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate           | Title                                                                                                                                           | Name/s Director/s                                                                 | University | Date Defended |
|-----------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------|---------------|
| Ph Thesis | Lucía Álvarez Baena | Concentración al final de la espiración (end tidal) de sevoflurano para la inserción de la mascarilla laríngea supreme™ en niños entre 10-50 kg | María Teresa López Gil/<br>Matilde Zaballos García/<br>Manuel Cuervas-Mons Cantón | UCM        | 10/10/2023    |



| Publications                                           | Total Impact Factor: 16,3 |             |
|--------------------------------------------------------|---------------------------|-------------|
|                                                        | Nº                        | IF          |
| Own publications                                       | 5                         | 13,3        |
| Joint publications                                     | 1                         | 3,0         |
| First decile publications                              | 0                         | –           |
| First quartile publications                            | 3                         | 10,6        |
| Second quartile publications                           | 2                         | 4,8         |
| Third quartile publications                            | 1                         | 0,9         |
| Fourth quartile publications                           | 0                         | 0,0         |
| Nonindexed publications/No IF                          | 1                         | –           |
| <b>Total publications (including those without IF)</b> | <b>7</b>                  | <b>16,3</b> |

#### **Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Zaballos, M; Fernández, I; Melone, A; Rodríguez, L; Varela, O; García, S; Quintela, O; Vázquez, E; Anadon, MJ; Almendral, J. *Sodium bicarbonate reverts electrophysiologic cardiotoxicity of ropivacaine faster than lipid emulsions in a porcine model*. BASIC & CLINICAL PHARMACOLOGY & TOXICOLOGY. 2023; 132(2) 211-222. FI: 2.7. Quartile: 2. (Article).
- Romera, A; Barragan, L; Álvarez-Baena, L; Sanjuan, E; Ordonez, J; García-Casillas, MA; Mora, M; Sanz, M. *Management of hypocalcemia following thyroid surgery in children*. FRONTIERS IN PEDIATRICS. 2023; 11. FI: 2.1. Quartile: 2. (Article).

- García-Ramos, S; Caamano, E; Benítez, PR; Benito, P; Calvo, A; Ramos, S; Power, M; Garutti, I; Pineiro, P. *Mortality Risk Prediction in Abdominal Septic Shock Treated with Polymyxin-B Hemoperfusion: A Retrospective Cohort Study*. JOURNAL OF PERSONALIZED MEDICINE. 2023; 13(7). FI: 3. Quartile: 1. (Article).
- Zaballos, M; Fernández, I; Rodríguez, L; Álvarez-Zaballos, S; Duque, P; Terradillos, E; Piñeiro, P; Garutti, I; Guerrero, JE; Hortal, J. *Cohort study to assess the prevalence of prolonged QT and arrhythmias in critically ill patients during the early phase of the COVID-19 pandemic*. REVISTA ESPAÑOLA DE ANESTESIOLOGIA Y REANIMACION. 2023; 70(10) 561-568. FI: 0.9. Quartile: 3. (Article).
- Zaballos, M; Fernández, I; Rodríguez, L; Orozco, S; García, A; Juncos, M; Álvarez-Zaballos, S; Pineiro, P; Hortal, J. *Feasibility of using KardiaMobile-L6 for QT interval monitoring during the early phase of the COVID-19 pandemic in critical care patients*. SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).
- Zaballos, M; Varela, O; Fernández, I; Rodríguez, L; García, S; Quintela, O; Vázquez, E; Anadon, MJ; Almendral, J. *Assessment of cardiotoxicity and plasma ropivacaine concentrations after serratus intercostal fascial plane block in an experimental model*. SCIENTIFIC REPORTS. 2023; 13(1). FI: 3.8. Quartile: 1. (Article).

#### **Other publications**

- Ramos R; de la Villa S; García-Ramos S; Padilla B; García-Olivares P; Piñero P; Garrido A; Hortal J; Muñoz P; Caamaño E; Benito P; Cedeño J; Garutti I. *COVID-19 associated infections in the ICU setting: A retrospective analysis in a tertiary-care hospital*. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA (ENGLISH ED.). 2023; 41(5) 278-283. (Article).



Group Director: **JOSÉ ANTONIO SERRA REXACH**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Frailty and geriatric syndromes

- ▶ L1: Frailty and cardiovascular disease
- ▶ L2: Frailty and cognition
- ▶ L3: Frailty and hip fracture
- ▶ L4: Use of communication and information technologies (CIT) to help frailty patients with disability

### Axis 2: Hospitalization-associated disability

- ▶ L1: Physical exercise to prevent hospitalization-associated disability

### Axis 3: Geriatric oncology

- ▶ L1: Relevance of comprehensive geriatric assessment in colorectal cancer older patients
- ▶ L2: Physical exercise for older people with colorectal cancer

Our group develops its research activity in the clinical field with a clear vocation for translational research. The group is currently made up of three main clinical researchers (Vidán, Ortiz, Serra) who are able to successfully apply for competitive calls for projects and human resources.

Our field of research covers a wide range of pathology related to ageing, especially linked to frailty: cardiovascular pathology, hip fractures, physical activity, etc. We have also designed interventions to improve the prognosis in hospitalised elderly people (prevention of functional deterioration and confusional disorder). We have also assessed the usefulness of ICTs in

the care of the elderly. Our most relevant contributions have contributed to modify clinical practice in pathologies as important as the management of acute confusional disorder or hip fracture.

Recently, we have consolidated the opening of a new research line of observational and intervention studies on the relevance of comprehensive geriatric assessment, as well as the role of physical exercise in the treatment of elderly patients with colorectal cancer, which is funded by the ISCIII. On the other hand, our group (Dr. Vidán) has participated in the design of an Integrated Project of Excellence 'Athero-Brain: Heart to Head (H2H) Study', together with the National Centre for Cardiovascular Research and the Cardiology Service of the Hospital 12 de Octubre in Madrid.

This solid track record has contributed to our group being part of one of the 20 CIBER groups on 'frailty and ageing' (CIBERFES), which facilitates collaboration and optimisation of resources that ultimately help to promote knowledge and innovation in this area.

## Group members

- **González Senac, Nicolás María:** R1. First Stage Researcher.
- **Montero Fernández, Nuria:** R2. Recognised Researcher.
- **Ortíz Alonso, Javier:** R3. Established Researcher.
- **Rodríguez López, Carlos:** R2. Recognised Researcher.
- **Romero Estarlich, Vicente:** R1. First Stage Researcher.
- **Serra Rexach, José Antonio:** R4. Leading Researcher.
- **Vidán Astiz, María Teresa:** R3. Established Researcher.
- **Zarralanga Lasobras Teresa:** R1. First Stage Researcher.



## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Efecto de un programa personalizado de ejercicio físico sobre la capacidad funcional y la calidad de vida en personas mayores con cáncer colorectal.** PI21/01729

Director: Serra Rexach, José Antonio

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2022

End date: 30/06/2026

## Cooperative Research Structures

| Type (RICORS, CIBER, others)          | Name of Network                         | Role                | Code     |
|---------------------------------------|-----------------------------------------|---------------------|----------|
| CIBER                                 | CIBERFES                                | Collaborating group | CIBERFES |
| Other: National Hip Fracture Registry | Registro Nacional de Fractura de Cadera | Collaborating group | RNFC     |

## Publications

Total Impact Factor: 30,9

|                                                        | Nº       | IF          |
|--------------------------------------------------------|----------|-------------|
| Own publications                                       | 5        | 17,8        |
| Joint publications                                     | 4        | 13,1        |
| First decile publications                              | 0        | -           |
| First quartile publications                            | 4        | 16,8        |
| Second quartile publications                           | 3        | 9,2         |
| Third quartile publications                            | 2        | 4,9         |
| Fourth quartile publications                           | 0        | 0,0         |
| Nonindexed publications/No IF                          | 0        | —           |
| <b>Total publications (including those without IF)</b> | <b>9</b> | <b>30,9</b> |

**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Ayesta, A; Valero-Masa, MJ; Vidan, MT; Segovia-Cubero, J; García-Cosío, MD; López-Ibor, JV; Caravaca, P; Luna-López, R; Pérez-Gómez, L; Nuche, J; Martínez-Díaz, J; Delgado, J; Gómez-Bueno, M; Fernández-Cordon, C; López-Azor, JC; Martínez-Selles, M. *Frailty Is Common in Heart Transplant Candidates But Is Not Associated With Clinical Events and Is Reversible After Heart Transplantation*. AMERICAN JOURNAL OF CARDIOLOGY. 2023; 205 28-34. FI: 2.3. Quartile: 2. (Article).
- Macias-Valle, A; Rodríguez-López, C; González-Senac, NM; Mayordomo-Cava, J; Vidan, MT; Cruz-Arnes, ML; Jiménez-Gómez, LM; Dujovne-Lindenbaum, P; Pérez-Menendez, ME; Ortiz-Alonso, J; Valenzuela, PL; Rodríguez-Romo, G; Serra-Rexach, JA. *Exercise effects on functional capacity and quality of life in older patients with colorectal cancer: study protocol for the ECOOL randomized controlled trial*. BMC GERIATRICS. 2023; 23(1). FI: 3.4. Quartile: 2. (Article).
- Zarralanga-Lasobras, T; Romero-Estarlich, V; Carrasco-Paniagua, C; Serra-Rexach, JA; Mayordomo-Cava, J. *«Inspiratory muscle weakness*





*in acutely hospitalized patients 75 years and over»: a secondary analysis of a randomized controlled trial on the effectiveness of multicomponent exercise and inspiratory muscle training. EUROPEAN GERIATRIC MEDICINE. 2023; 15(1) 83-94. FI: 3.5. Quartile: 2. (Article).*

- Mac Eochagain, C; Senac, NMG; Cavanagh, M; Roy, M; Ciccone, AS; Contreras, B; Testa, GD; Velasco, R; Marinho, J; Serrano, AG; Schiaffino, MK; Gomes, F. *Digital health in geriatric oncology: A Young International Society of Geriatric Oncology review. JOURNAL OF GERIATRIC ONCOLOGY. 2023; 14(8) 101649-101649. FI: 3. Quartile: 3. (Review).*
- Tor-Roca, A; Mayordomo-Cava, J; Andrés-Lacueva, C; Serra-Rexach, JA; Urpi-Sarda, M. *Adherence to Mediterranean Diet and Response to an Exercise Program to Prevent Hospitalization-Associated Disability in Older Adults: A Secondary Analysis from a Randomized Controlled Trial. JOURNAL OF NUTRITION HEALTH & AGING. 2023; 27(7) 500-506. FI: 4.3. Quartile: 1. (Article).*
- Rodríguez-López, C; Santalla, A; Valenzuela, PL; Real-Martínez, A; Villarreal-Salazar, M; Rodríguez-Gómez, I; Pinos, T; Ara, I; Lucia, A. *Muscle glycogen unavailability and fat oxidation rate during exercise: Insights from McArdle disease. JOURNAL OF PHYSIOLOGY-LONDON. 2023; 601(3) 551-566. FI: 4.7. Quartile: 1. (Article).*
- González-Senac, NM; Somoza-Fernández, G; Ramírez, EO; Romero-Estarlich, V; Ortiz-Alonso, FJ; Serra-Rexach, JA; Vidan, MT. *Effects of reminiscence therapy on anxiety and depression during acute hospitalization in older patients: Controlled study. JOURNAL OF THE AMERICAN GERIATRICS SOCIETY. 2023; 71(1) 36-45. FI: 4.3. Quartile: 1. (Article).*
- Bouza, E; Navarro, JAG; Alonso, S; Alonso, JCD; Escobar, C; Gómez, BJF; Borrás, MIG; Rojas, AJG; Pavon, FJG; Gracia, D; Rodríguez, JG; Kestler, M; Cuervo, FM; Sánchez, FJM; Melero, C; Villanueva, RM; Muñoz, P; Palomo, E; Garrote, JMPC; Rexach, JAS; Santae. *Infection control in long term care institutions for the elderly: A reflection document on the situation in Spain. REVISTA ESPAÑOLA DE QUIMIOTERAPIA. 2023; 36(4) 346-379. FI: 1.9. Quartile: 3. (Review).*
- Baltasar-Fernández, I; Losa-Reyna, J; Carretero, A; Rodríguez-López, C; Alfaro-Acha, A; Guadalupe-Grau, A; Ara, I; Alegre, LM; Gómez-Cabrera, MC; García-García, FJ; Alcázar, J. *Residual effects of 12 weeks of power-oriented resistance training plus high-intensity interval training on muscle dysfunction, systemic oxidative damage, and antioxidant capacity after 10 months of training cessation in older people with COPD. SCANDINAVIAN JOURNAL OF MEDICINE & SCIENCE IN SPORTS. 2023; 33(9) 1661-1676. FI: 3.5. Quartile: 1. (Article).*





Group Director: **MANUEL SÁNCHEZ-LUNA**

Organisms involved: **HGUGM**

Type: **Emerging Group**

## Research lines

### Axis 1: Lung protection

- ▶ L1: Prevention of ventilator-induced lung damage.
- ▶ L2: Bronchopulmonary dysplasia.

### Axis 2: Personalized nutrition

- ▶ L1: Impact on reduction of prematurity-associated pathology.

### Axis 3: Neurosciences applied to neonatology

- ▶ L1: Prematurity and long-term neurological sequelae

### Axis 4: Image

- ▶ L1: ung ultrasound

### Axis 5: Neonatal Resuscitation

Group with established lines of research in animal and clinical experimental respiratory physiology, neonatal neurobiology, pain and personalised nutrition.

## Group members

- **Arriaga Redondo, María:** R2. Recognised Researcher.
- **Bernardo Atienza, Ana Belén:** R2. Recognised Researcher.
- **Blanco Bravo, Dorotea:** R4. Leading Researcher.
- **Caballero Martín, Sylvia:** R2. Recognised Researcher.
- **Chimenti Camacho, Paz:** R2. Recognised Researcher.
- **González Pacheco, Noelia:** R4. Leading Researcher.
- **Gregorio Hernández, Rebeca:** R4. Leading Researcher.
- **Maderuelo Rodríguez, Elena:** R2. Recognised Researcher.
- **Marsinyach Ros, María Itziar:** R3. Established Researcher.
- **Merino Hernández, Amaia:** R1. First Stage Researcher.
- **Pérez Pérez, Alba:** R2. Recognised Researcher.
- **Pescador Chamorro, María Isabel:** R2. Recognised Researcher.
- **Ramos Navarro, María Cristina:** R4. Leading Researcher.
- **Rodríguez Corrales, Elena:** R2. Recognised Researcher.
- **Rodríguez Sánchez de la Blanca, Ana:** R3. Established Researcher.
- **Sánchez Gómez de Orgaz, María del Carmen:** R2. Recognised Researcher.
- **Sánchez Luna, Manuel:** R4. Leading Researcher.
- **Sanz López, Ester:** R2. Recognised Researcher.
- **Vigil Vázquez, Sara:** R1. First Stage Researcher.
- **Villar Castro, Sonia:** R1. First Stage Researcher.
- **Zamora Flores, Elena:** R1. First Stage Researcher.
- **Zeballos Sarrato, Gonzalo:** R3. Established Researcher.
- **Zeballos Sarrato, Susana Elena:** R2. Recognised Researcher.



### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Surfactante aerosolizado combinado con ventilación de alta frecuencia oscilatoria con volumen garantizado en la prevención del daño pulmonar inducido por ventilación en un modelo animal neonatal.** PI20/01331  
Director: Sánchez Luna, Manuel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 30/06/2025

### Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate            | Title                                                                                                                                     | Name/s Director/s                                                     | University | Date Defended |
|-----------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------|---------------|
| Ph Thesis | Ana Gutiérrez Vélez  | Prevalencia, etiología y abordaje terapéutico del dolor persistente en el neonato crítico                                                 | Itziar Marsinyach Ros/ Manuel Sánchez Luna                            | UCM        | 31/05/2023    |
| Ph Thesis | Gonzalo Solís García | Nuevas estrategias de ventilación mecánica protectora en neonatología: ventilación de alta frecuencia oscilatoria con volumen garantizado | Cristina Ramos Navarro / Noelia González Pacheco/ Manuel Sánchez Luna | UCM        | 24/10/2023    |

### Clinical Practice Guidelines

| Authors                                                                                                                                                                                                       | Title                                                                                                                                         | Journal/Reference                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Sánchez Luna M, Pérez Muñuzuri A, Couce Pico M; en representación de la Junta Directiva, Comité Asesor y Comité de Estándares de la Sociedad Española de Neonatología.                                        | Cribado de cardiopatías congénitas críticas en el periodo neonatal. Actualización de la recomendación de la Sociedad Española de Neonatología | An Pediatr (Engl Ed). 2021 Dec;95(6):492-493.      |
| Zeballos Sarrato G, Ávila-Álvarez A, Escrig Fernández R, Izquierdo Renau M, Ruiz Campillo CW, Gómez Robles C, Iriondo Sanz M; Neonatal Resuscitation Group of the Spanish Society of Neonatology (GRN-SENeo). | Spanish guide for neonatal stabilization and resuscitation 2021: Analysis, adaptation and consensus on international recommendations.         | An Pediatr (Engl Ed). 2022 Feb;96(2):145.e1-145.e9 |

### Publications

Total Impact Factor: 62,8

|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 14        | 26,8        |
| Joint publications                                     | 9         | 36,0        |
| First decile publications                              | 1         | 0,0         |
| First quartile publications                            | 12        | 47,0        |
| Second quartile publications                           | 7         | 12,4        |
| Third quartile publications                            | 2         | 3,0         |
| Fourth quartile publications                           | 2         | 0,4         |
| Nonindexed publications/No IF                          | 3         | –           |
| <b>Total publications (including those without IF)</b> | <b>26</b> | <b>62,8</b> |



**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Gutiérrez-Velez, A; Castro-Rodríguez, C; Jove-Blanco, A; Aguilera-Alonso, D; Rincon-López, EM; Hernanz-Lobo, A; Gómez, MN; Hernández-Sampelayo, T; Alonso-Fernández, R; Saavedra-Lozano, J. *Acute Epstein-Barr virus infection: Diagnostic challenge in young children, risk factors for hospitalisation and cytomegalovirus co-detection*. ACTA PAEDIATRICA. 2023; 112(6) 1287-1295. FI: 2.4. Quartile: 1. (Article).
- Arriaga-Redondo, M; Sanz-López, E; de la Blanca, ARS; Marsinyach-Ros, I; Lambea-Rueda, L; Díaz-Redondo, A; Sánchez-Luna, M. *Parent Perception of Child Safety following Admission to a Neonatal Unit*. AMERICAN JOURNAL OF PERINATOLOGY. 2023; 40(04) 424-431. FI: 1.5. Quartile: 2. (Article).
- Gregorio-Hernández, R; Chimenti-Camacho, P; del Hoyo, AA; Sánchez-Luna, M. *A case of neonatal tuberous sclerosis diagnosed by lung ultrasound*. ANALES DE PEDIATRIA. 2023; 99(1) 71-73. FI: 1.5. Quartile: 2. (Editorial Material).
- Pérez-Munuzuri, A; Boix, H; Sánchez-Redondo, MD; Cernada, M; Espinosa-Fernández, MG; González-Pacheco, N; Martín-Ancel, A; Couce, ML; Luna, MS. *Care levels in neonatal units in Spain: An updated vision for a new reality*. ANALES DE PEDIATRIA. 2023; 98(4) 301-307. FI: 1.5. Quartile: 2. (Article).
- Luna, M; Colomer, B; Pico, ML. *Recommendations of the Spanish Society of Neonatology for the prevention of severe respiratory syncytial virus infections with nirsevimab, for the 2023-2024 season*. ANALES DE PEDIATRIA. 2023; 99(4) 264-265. FI: 1.5. Quartile: 2. (Letter).
- Monteagudo, BF; Castro, SV; García, PC; Sarrato, SZ; Luna, MS. *Neuroprotective effect of magnesium sulfate in premature infants: Analysis after establishing an antenatal administration protocol in a tertiary care hospital*. ANALES DE PEDIATRIA. 2023; 99(4) 224-231. FI: 1.5. Quartile: 2. (Article).
- Martín-Vicente, M; Carrasco, I; Muñoz-Gómez, MJ; Lobo, AH; Mas, V; Vigil-Vázquez, S; Vázquez, M; Manzanares, A; Cano, O; Alonso, R; Sepulveda-Crespo, D; Tarancon-Díez, L; Muñoz-Fernández, MA; Muñoz-Chapulí, M; Resino, S; Navarro, ML; Martínez, I. *Antibody levels to SARS-CoV-2 spike protein in mothers and children from delivery to six months later*. BIRTH-ISSUES IN PERINATAL CARE. 2023; 50(2) 418-427. FI: 2.8. Quartile: 1. (Article).
- Vigil-Vázquez, S; Manzanares, A; Hernanz-Lobo, A; Carrasco-García, I; del Pozo, CZ; Pérez-Pérez, A; Rincon-López, EM; Santiago-García, B; Pintado-Recarte, MD; Alonso-Fernández, R; Sánchez-Luna, M; Navarro-Gómez, ML. *Serologic evolution and follow-up to IgG antibodies of infants born to mothers with gestational COVID*. BMC PREGNANCY AND CHILDBIRTH. 2023; 23(1). FI: 2.8. Quartile: 1. (Article).
- Escrig-Fernández, R; Zeballos-Sarrato, G; Gormaz-Moreno, M; Avila-Álvarez, A; Toledo-Parreno, JD; Vento, M. *The Respiratory Management of the Extreme Preterm in the Delivery Room*. CHILDREN-BASEL. 2023; 10(2). FI: 2. Quartile: 2. (Review).
- El-Atawi, Khaled; De Luca, Daniele; Ramanathan, Ranagasamy; Luna, Manuel Sánchez; Alsaedi, Saad; Wahab, Muzafar Gani Abdul; Hamdi, Moataz; Saleh, Maysa. *Efficacy and Safety of Palivizumab as a Prophylaxis for Respiratory Syncytial Virus (RSV) Disease: An Updated Systemic Review and MetaAnalysis*. CUREUS JOURNAL OF MEDICAL SCIENCE. 2023; 15(12). FI: 1. Quartile: 3. (Review).
- Gregorio-Hernández, R; Ramos-Navarro, C; Vigil-Vázquez, S; Rodríguez-Corrales, E; Pérez-Pérez, A; Arriaga-Redondo, M; Sánchez-Luna, M. *Lung ultrasound and postoperative follow-up of congenital diaphragmatic hernia*. EUROPEAN JOURNAL OF PEDIATRICS. 2023; 182(9) 3973-3981. FI: 3. Quartile: 1. (Article).
- Pérez-Pérez, A; Vigil-Vázquez, S; Gutiérrez-Velez, A; Solis-García, G; López-Blázquez, M; Martínez, JLZ; López, CM; Gil-Jaurena, JM; de Agustin-Asensio, JC; Sánchez-Luna, M. *Chylothorax in newborns after cardiac surgery: a rare complication?*. EUROPEAN JOURNAL OF PEDIATRICS. 2023; 182(4) 1569-1578. FI: 3. Quartile: 1. (Article).
- Gizzi, C; Gagliardi, L; Trevisanuto, D; Ghirardello, S; Di Fabio, S; Beke, A; Buonocore, G; Charitou, A; Cucerea, M; Degtyareva, MV; Filipovic-Grcic, B; Jekova, NG; Koc, E; Saldanha, J; Luna, MS; Stoniene, D; Varendi, H; Calafatti, M; Vertecchi, G; Mosca, . *Variation in delivery room management of preterm infants across Europe: a survey of the Union of European Neonatal and Perinatal Societies*. EUROPEAN JOURNAL OF PEDIATRICS. 2023; 182(9) 4173-4183. FI: 3. Quartile: 1. (Article).



- Pérez-Pérez, A; González-Pacheco, N; Arriaga-Redondo, M; Ramos-Navarro, C; Rodríguez-Corrales, E; de la Blanca, ARS; González-Navarro, P; Santos-González, M; Sánchez-Luna, M. *Impact on cerebral hemodynamics of the use of volume guarantee combined with high frequency oscillatory ventilation in a neonatal animal respiratory distress model*. EUROPEAN JOURNAL OF PEDIATRICS. 2023; 183(1) 157-167. FI: 3. Quartile: 1. (Article).
- Gregorio-Hernández, R; Sánchez-Luna, M. *Reply to: Lung ultrasound in neonates with congenital diaphragmatic hernia and the need for a quantitative evaluation*. EUROPEAN JOURNAL OF PEDIATRICS. 2023; 182(12) 5715-5716. FI: 3. Quartile: 1. (Letter).
- Muñoz-Gómez MJ; Martín-Vicente M; Vigil-Vázquez S; Carrasco I; Lobo AH; Mas V; Vázquez M; Manzanares A; Cano O; Zamora C; Alonso R; Sepulveda-Crespo D; Tarancon-Díez L; Muñoz-Fernández MÁ; Muñoz-Chapuli M; Resino S; Navarro ML; Martínez I. *IgG antibody levels against the SARS-CoV-2 spike protein in mother-child dyads after COVID-19 vaccination*. INFECTION. 2023; 52(3) 813-824. FI: 5.4. Quartile: 1. (Article).
- Merino-Hernández, A; Zeballos-Sarrato, S; Tolin-Hernani, M; Barredo-Valderrama, E; Sánchez-Luna, M. *Neonatal Cholestasis as a Side Effect of Ketogenic Diet*. JOURNAL OF CLINICAL NEONATOLOGY. 2023; 12(4) 160-162. FI: 0.2. Quartile: 4. (Article).
- Sánchez, PJ; Prusakov, P; Romero, CD; Zamora-Flores, E; Escamilla, MCR; White, NO; Miller, RR; Moraille, R; Theile, AR; Magers, JK. *Short-course empiric antibiotic therapy for possible early-onset sepsis in the NICU*. JOURNAL OF PERINATOLOGY. 2023; 43(6) 741-745. FI: 2.4. Quartile: 1. (Article).
- De Luca, D; Sánchez-Luna, M; Schettler, K; Bont, L; Baraldi, E. *Universal infant immunisation against respiratory syncytial virus and European inequalities: the pandemics lesson has not been learnt*. LANCET REGIONAL HEALTH-EUROPE. 2023; 34. FI: 13.6. Quartile: 1. (Editorial Material).
- Raimondi, F; Dolce, P; Veropalumbo, C; Sierchio, E; Hernández, RG; Fanjul, JR; Meneghin, F; Raschetti, R; Bonadies, L; Corsini, I; Ojembarrena, AA; Salomè, S; Fernández, LR; Luna, MS; Lista, G; Mosca, F; Dani, C; Baraldi, E; Giordano, L; Davis, PG; Capass. *External Validation of a Multivariate Model for Targeted Surfactant Replacement*. NEONATOLOGY. 2023; 121(1) 17-24. FI: 2.6. Quartile: 1. (Article).
- García-Alix, A; Arnaez, J; Herranz-Rubia, N; Alarcon, A; Arca, G; Valverde, E; Blanco, D; Lubian, S; Grupo Cerebro Neonatal. *Ten years since the introduction of therapeutic hypothermia in neonates with perinatal hypoxic-ischaemic encephalopathy in Spain*. NEUROLOGIA. 2023; 38(5) 364-371. FI: 2.9. Quartile: 2. (Review).
- Pérez-Pérez, A; Zeballos-Sarrato, SE; Pescador-Chamorro, I; Sánchez-Luna, M. *Extreme sodium alterations during the neonatal period: two case reports*. REVISTA MEDICA CLINICA LAS CONDES. 2023; 34(3) 242-246. FI: 0.2. Quartile: 4. (Article).
- Corsini, I; Rodríguez-Fanjul, J; Raimondi, F; Boni, L; Berardi, A; Aldecoa-Bilbao, V; Alonso-Ojembarrena, A; Ancora, G; Aversa, S; Beghini, R; Meseguer, NB; Capasso, L; Chesi, F; Ciarcia, M; Concheiro, A; Corvaglia, L; Ficial, B; Filippi, L; Carballal, JF. *Lung Ultrasound Guided surfactant therapy in preterm infants: an international multicenter randomized control trial (LUNG study)*. TRIALS. 2023; 24(1). FI: 2. Quartile: 3. (Article).

### Other publications

- Merino-Hernández A; Sánchez-Barriopedro L; Villar-Castro S; Aguado-Del Hoyo A; Marsinyach-Ros I; Sánchez-Luna M. *Cost-effectiveness of a cytomegalovirus screening strategy in neonates born after 34 weeks small for gestational age*. ANALES DE PEDIATRIA. 2023; 98(1) 41-47. (Article).
- Pérez-Moreno J; Gutiérrez-Vélez A; Torres Soblechero L; González Martínez F; Toledo Del Castillo B; Vierge Hernán E; Rodríguez-Fernández R. *Do we overestimate intravenous fluid therapy needs? Adverse effects related to isotonic solutions during pediatric hospital admissions*. NEFROLOGIA. 2023; 42(6) 688-695. (Article).
- García-Alix A; Arnaez J; Herranz-Rubia N; Alarcón A; Arca G; Valverde E; Blanco D; Lubian S. *Ten years since the introduction of therapeutic hypothermia in neonates with perinatal hypoxic-ischaemic encephalopathy in Spain*. NEUROLOGIA (BARCELONA, SPAIN). 2023; 38(5) 364-371. (Article).



Group Director: **NIEVES LÓPEZ FRESNEÑA**

Organisms involved: **HGUGM**

Type: Emerging Group

Evaluation of the use of health services and clinical epidemiology: Adequacy of health care. Epidemiological research on patient safety and quality of care. Evaluation of HCAI prevention and control strategies. Epidemiology of antimicrobial resistance. Efficacy and effectiveness of vaccination in immunocompromised and at-risk groups.

## Research lines

### Axis 1: Evaluation of the use of health services

- ▶ L1: Adequacy of the use of health services: over-utilisation
- ▶ L2: Effectiveness of healthcare
- ▶ L3: Qualitative research on quality of care
- ▶ L4: Patient experience

### Axis 2: Clinical epidemiology

- ▶ L1: Epidemiology of adverse events associated with hospitalisation
- ▶ L2: Epidemiology of healthcare-associated infection: frequency and associated factors
- ▶ L3: Evaluation of HCAI prevention and control strategies
- ▶ L4: Epidemiology of micro-organisms with multidrug-resistance to antimicrobials.
- ▶ L5: Efficacy and effectiveness of vaccination of immunocompromised and at-risk groups.

## Group members

- **Almendo Martínez, Isabel:** R1. First Stage Researcher.
- **Díaz Redondo, Alicia.**
- **Fernán Pérez, Patricia.**
- **García Expósito, Esther.**
- **Grande Arnesto, Marta Beatriz.**
- **Izquierdo Membrilla, María Isabel.**
- **López Fresneña, Nieves.**
- **Martín García, Paula.**
- **Martínez de Albéniz Arriarán, María Elena.**
- **Morano Vázquez, Aitana.**
- **Rapela Freire, Alba.**
- **Rodríguez Campelo, Dan.**
- **Ruano Santa Engracia, María Jesús.**
- **Ruiz Tornero, Ana.**





### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

### Publications

Total Impact Factor: 11,5

|                                                        | Nº       | IF          |
|--------------------------------------------------------|----------|-------------|
| Own publications                                       | 2        | 4,1         |
| Joint publications                                     | 2        | 7,4         |
| First decile publications                              | 1        | 0,0         |
| First quartile publications                            | 2        | 8,5         |
| Second quartile publications                           | 2        | 3,0         |
| Third quartile publications                            | 0        | 0,0         |
| Fourth quartile publications                           | 0        | 0,0         |
| Nonindexed publications/No IF                          | 1        | –           |
| <b>Total publications (including those without IF)</b> | <b>5</b> | <b>11,5</b> |

### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Arriaga-Redondo, M; Sanz-López, E; de la Blanca, ARS; Marsinyach-Ros, I; Lambeca-Rueda, L; Díaz-Redondo, A; Sánchez-Luna, M. *Parent Perception of Child Safety following Admission to a Neonatal Unit*. AMERICAN JOURNAL OF PERINATOLOGY. 2023; 40(04) 424-431. FI: 1.5. Quartile: 2. (Article).
- Díaz-García, RS; Sánchez-Gómez, A; López-Zambrano, MA; Esteban-Vasallo, MD; Llabres, SC; Rodríguez, MAG; Carbajo, MDL. *Cobertura y adherencia a la vacunación frente a la gripe en menores de 15 años con condiciones de riesgo en la Comunidad de Madrid*. ANALES DE PEDIATRIA. 2023; 98(1) 3-11. FI: 1.5. Quartile: 2. (Article).
- Diest, APV; Vilagut, G; Alayo, I; Ferrer, M; Amigo, F; Amann, BL; Aragon-Pena, A; Aragonés, E; Del Barco, AA; Campos, M; del Cura-González, I; Espuga, M; González-Pinto, A; Haro, JM; Larrauri, A; López-Fresnena, N; de Salazar, AM; Molina, JD; Orti-Lucas, . *Traumatic stress symptoms among Spanish healthcare workers during the COVID-19 pandemic: a prospective study*. EPIDEMIOLOGY AND PSYCHIATRIC SCIENCES. 2023; 32. FI: 5.9. Quartile: 1. (Article).
- Martín-García, P; Alonso-Arroyo, A; Catala-López, F. *Tumour necrosis factor (TNF) antagonist therapy for paediatric inflammatory bowel disease: A systematic review*. MEDICINA CLINICA. 2023; 160(11) 501-516. FI: 2.6. Quartile: 1. (Review).

### Other publications

- Fernández Chávez AC; García Comas L; Gómez Barroso D; Ramis Prieto R; López Fresneña N; Bishofberguer Valdes C; Aranaz Andrés JM. *Spatial and temporal analysis of invasive pneumococcal disease due to erythromycin-resistant serotypes*. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA (ENGLISH ED.). 2023; 41(2) 92-98. (Article).



Group Director: **MARÍA SANJURJO SÁEZ**

Organisms involved: **HGUGM**

Type: **Consolidated Group**

## Research lines

### Axis 1: Pharmacotherapy and Safety

- ▶ L1: Pharmaceutical care and quality in pharmacotherapy
- ▶ L2: Safety in the process of drug use
- ▶ L3: New models in the production of medicinal products

### Axis 2. Pharmacogenetics and Pharmacogenomics

- ▶ L1: Pharmacogenetics and Pharmacogenomics

The Hospital Pharmacy and Pharmacogenomics research group is included in the Research Area called Large System Pathology and Organ Transplantation. This research group was set up in 2009 and is currently classified as a consolidated group. Its head is Dra. María Sanjurjo Sáez, Head of the Pharmacy Service. Its mission is to combine clinical research of a high scientific-technical level with quality basic research in order to improve people's health and quality of life by contributing to scientific progress.

## Group members

- **Ais Larisgoitia, María Aránzazu:** R1. First Stage Researcher.
- **Alba Risquet, Fe Victoria:** R1. First Stage Researcher.
- **Bustelo Paz, Fernando:** R2. Recognised Researcher.
- **Carrillo Burdallo, Anais:** R1. First Stage Researcher.

- **Chamorro de Vega, Esther:** R2. Recognised Researcher.
- **Collado Borrell, Roberto:** R2. Recognised Researcher.
- **De Lorenzo Pinto, Ana:** R2. Recognised Researcher.
- **Del Barrio Bueno, Silvia:** R1. First Stage Researcher.
- **Durán García, María Esther:** R2. Recognised Researcher.
- **Escudero Vilaplana, Vicente:** R2. Recognised Researcher.
- **Ferris Villanueva, María:** R1. First Stage Researcher.
- **García González, Xandra:** R2. Recognised Researcher.
- **García Moreno, Félix Jesús:** R1. First Stage Researcher.
- **Giménez Manzorro, Álvaro:** R2. Recognised Researcher.
- **Gómez Costas, Daniel:** R1. First Stage Researcher.
- **González-Haba Peña, Eva:** R2. Recognised Researcher.
- **Herranz Alonso, Ana:** R2. Recognised Researcher.
- **Herrero Bermejo, Sergio:** R1. First Stage Researcher.
- **Ibáñez García, Sara:** R2. Recognised Researcher.
- **Lobato Matilla, María Elena:** R1. First Stage Researcher.
- **López Fernández, Luis Andrés:** R3. Established Researcher.
- **López Santiago, Marta:** R1. First Stage Researcher.
- **Maldonado Yagüe, Laura:** R1. First Stage Researcher.
- **Manrique Rodríguez, Silvia:** R2. Recognised Researcher.
- **Martín Barbero, María Luisa:** R1. First Stage Researcher.
- **Martín Bartolomé, María:** R1. First Stage Researcher.
- **Martínez Fernández-Llamazares, Cecilia:** R2. Recognised Researcher.
- **Montero Antón, María Pilar:** R1. First Stage Researcher.
- **Mur Mur, Ana:** R1. First Stage Researcher.

Continued on next page



## Group members (cont.)

- **Narrillos Moraza, Álvaro:** R1. First Stage Researcher.
- **Ortega Navarro, María Cristina:** R1. First Stage Researcher.
- **Pernia López, María Sagrario:** R1. First Stage Researcher.
- **Pizarro Gómez, Carolina:** R1. First Stage Researcher.
- **Prieto Romero, Antonio:** R1. First Stage Researcher.
- **Ramos Álvarez, Claudia:** R1. First Stage Researcher.
- **Ranz Ortega, Pilar:** R1. First Stage Researcher.
- **Redondo Galán, Carmen:** R1. First Stage Researcher.
- **Revuelta Herrero, José Luis:** R1. First Stage Researcher.
- **Ribed Sánchez, Almudena:** R2. Recognised Researcher.
- **Rioja Díez, Yeray:** R1. First Stage Researcher.
- **Rodríguez González, Carmen Guadalupe:** R2. Recognised Researcher.
- **Romero Jiménez, Rosa María:** R2. Recognised Researcher.
- **Ruiz Briones, Paula:** R1. First Stage Researcher.
- **Salvador Martín, Sara:** R2. Recognised Researcher.
- **Sánchez Fresneda, María Norberta:** R1. First Stage Researcher.
- **Sanjurjo Saez, María:** R4. Leading Researcher.
- **Sarobe González, Camino:** R1. First Stage Researcher.
- **Somoza Fernández, Beatriz:** R1. First Stage Researcher.
- **Taladriz Sender, Irene:** R1. First Stage Researcher.
- **Torroba Sanz, Beatriz:** R1. First Stage Researcher.
- **Vicente Valor, Juan:** R1. First Stage Researcher.
- **Villanueva Bueno, Cristina:** R2. Recognised Researcher.
- **Zapata Cobo, Paula:** R1. First Stage Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 7                       |            |                    |            |
| Regional      |                         |            | 1                  |            |

- Title: **Desarrollo de una herramienta de predicción de respuesta a terapia biológica en niños con enfermedad inflamatoria intestinal.** PI22/00584  
Director: López Fernández, Luis Andrés  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Marcadores genéticos, transcriptómicos y celulares de respuesta a terapia biológica en enfermedad inflamatoria intestinal pediátrica.** PI19/00792  
Director: López Fernández, Luis Andrés  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 31/12/2023
- Title: **Proyecto iPHARMGx: Estudio colaborativo nacional para evaluar la efectividad y eficiencia de la implementación de biomarcadores farmacogenéticos mediante una estrategia de genotipado anticipado en el SNS.** PMP22/00055  
Director: López Fernández, Luis Andrés  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 14/12/2023  
End date: 31/12/2025



- Title: **Medicina Personalizada de Precisión 2021 (Farmacia)**. PMP21/00051-2  
Director: Herranz Alonso, Ana  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2025
- Title: **Instrumento automatizado para la evaluación del uso y la resistencia a los antimicrobianos (AI-AMS)**. CPP2022-009977  
Director: Sanjurjo Saez, María  
Project type: Research project  
Funding body: MICINN/MINECO  
Start date: 01/05/2023  
End date: 30/04/2026
- Title: **Identificación de variantes genéticas asociadas a Trastorno por dolor, Trastorno por Uso de Opioides y otros Trastornos mentales (patología dual) y Evaluación de la implantación de un programa de atención integral**. DRO2021/057  
Director: López Fernández, Luis Andrés  
Project type: Research project  
Funding body: Ministerio de Sanidad, SS Sociales e Igualdad  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: **Salud Móvil: implementación y expansión de un modelo asistencial no presencial de atención farmacéutica**. SEFH21/01  
Director: Herranz Alonso, Ana  
Project type: Research project  
Funding body: Sociedad Española de Farmacia Hospitalaria (SEFH)  
Start date: 01/09/2022  
End date: 31/08/2024
- Title: **Young employment contract. Research Assistant**. PEJ-2021-AI/BMD-21866  
Director: López Fernández, Luis Andrés (Zapata Cobo, Paula)  
Project type: Human resources  
Funding body: Comunidad Autónoma de Madrid  
Start date: 01/10/2022  
End date: 30/09/2024

## Industrial and intellectual property registrations

### Industrial property

| Title                                                                                          | Reference* | Owner        | Inventors                                                                                                                 |
|------------------------------------------------------------------------------------------------|------------|--------------|---------------------------------------------------------------------------------------------------------------------------|
| Implantes personalizados con actividad antimicrobiana para prevenir y tratar infecciones óseas | P202230220 | FIBHGM - UCM | Pablo Sanz, Almudena Ribed, Dolores Remedios, María Paloma Ballesteros, Elena María González, Luciano de León, Iván Yuste |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

### Copyright

| Title                                                                                                                                             | Reference                          | Owner  | Inventors                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------|------------------------------------------------------------------------------------------------|
| Recomendaciones sobre el manejo de Infecciones Fúngicas Invasoras (IFIs)                                                                          | Nº Asiento Registral: 16/2014/5265 | FIBHGM | Patricia Muñoz, Emilio Bouza, María Sanjurjo, Carmen Rodríguez, Maricela Valerio               |
| Biblioteca de fármacos para bombas de infusión inteligentes en las unidades de cuidados intensivos pediátricos                                    | Nº Asiento Registral: 16/2011/7360 | FIBHGM | Amelia Caridad Sánchez y Silvia Manrique Rodríguez                                             |
| Curso sobre el manejo seguro de los sistemas automatizados de dispensación por el personal de enfermería de planta y evaluación de su competencia | Nº Asiento Registral: 16/2015/503  | FIBHGM | Elena Lobato, María Sanjurjo, Ana Herranz, Carmen Rodríguez                                    |
| E-OncoSalud: Programa de Telemedicina aplicado al tratamiento ambulatorio del paciente onco-hematológico                                          | Nº Asiento Registral: 16/2016/987  | FIBHGM | María Sanjurjo, Ana Mª Herranz, Vicente Escudero, Almudena Ribed, Roberto Collado, Sara Ibáñez |

Continued on next page



## Copyright (Cont.)

| Title                                                                                                                                         | Reference                          | Owner  | Inventors                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NefroRules: Reglas clínicas para aumentar la seguridad del tratamiento en pacientes con insuficiencia renal                                   | Nº Asiento Registral: 16/2016/989  | FIBHGM | Sara Ibáñez, María Sanjurjo, Ana Herranz, Carmen Rodríguez, M <sup>a</sup> Luisa Martín, M <sup>a</sup> Ángeles Goicoechea, Eduardo Verde, José Luño                                                  |
| Thromborules: reglas clínicas para aumentar la seguridad del tratamiento en pacientes anticoagulantes o/ antiagregados                        | Nº Asiento Registral: 16/2017/507  | FIBHGM | Sara Ibáñez, Ana de Lorenzo, Ana Herranz, María Sanjurjo, Ana María Rodríguez                                                                                                                         |
| Control- Sugar24: calculadora para la insulinización subcutánea del paciente diabético durante las primeras 24 horas de atención hospitalaria | Nº Asiento Registral: 16/2017/6705 | FIBHGM | Ana de Lorenzo, María Sanjurjo, Raquel García, Rogelio García                                                                                                                                         |
| PK-GUIDE: Guía para monitorización clínica de fármacos                                                                                        | Nº Asiento Registral: 16/2017/6956 | FIBHGM | Xandra García, Sara Ibáñez, Ana Herranz, Gema Sánchez, Gabriela Rodríguez, M <sup>a</sup> Luisa Galiano, Margarita Ganzo, María Sanjurjo, M <sup>a</sup> Teresa Vidán                                 |
| PK-RULES: Reglas clínicas para aumentar la seguridad y eficacia de los tratamientos mediante monitorización farmacocinética                   | Nº Asiento Registral: 16/2017/6957 | FIBHGM | Xandra García, Sara Ibáñez, Ana Herranz, Gema Sánchez, Gabriela Rodríguez, M <sup>a</sup> Luisa Galiano, Margarita Ganzo, María Sanjurjo, M <sup>a</sup> Teresa Vidán                                 |
| Rentaensayos: Herramientas para analizar los costes evitados en medicamentos con los ensayos clínicos oncológicos                             | 16/2022/2482                       | FIBHGM | Vicente Damián Escudero, María Sanjurjo, Ana Herranz, Eva González-Haba, Norberta Sánchez, Roberto Collado, José Luis Revuelta, Miguel Martín, Sebastián García, Ana Mur, María Sánchez, Belén Marzal |

| Title                                                                                                                                                    | Reference                          | Owner  | Inventors                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manual de Atención farmacéutica al paciente oncohematológico                                                                                             | Nº Asiento Registral: 16/2021/7894 | FIBHGM | José Luis Revuelta, Belén Marzal, Irene Taladriz, Eva González-Haba, Roberto Collado, Vicente Escudero, María Norberta Sánchez, Ana Herranz, María Sanjurjo                              |
| e-MIDCARE: aplicación de la e-Salud en la comunicación y seguimiento de los pacientes diagnosticados de enfermedades inflamatorias inmunomediadas (IMID) | 16/2022/660                        | FIBHGM | Vicente Damián Escudero, Rosa María Romero, Eshter Chamorro, María Aranzazu Ais, María Elena Lobato, Ana María Herranz, María Sanjurjo                                                   |
| Programa de Humanización 2020 - 2023 del Servicio de Farmacia del Hospital General Universitario Gregorio Marañón                                        | 16/2022/7358                       | FIBHGM | María Sanjurjo, Ana Herranz, Camino Sarobe, Carmen Guadalupe Rodríguez, Belén Marzal, Eva González-Haba, Nuria García                                                                    |
| Guía del paciente intervenido de trasplante cardíaco                                                                                                     | 16/2023/3213                       | FIBHGM | Carmen Román, Leticia Benito, M <sup>a</sup> Carmen Hassen, Eva María de Frutos, Sara Ibáñez, Xandra García                                                                              |
| Unidad Innovadora de Tratamiento de enfermedades inflamatorias de base inmunológica - CEIMI                                                              | 16/2023/2717                       | FIBHGM | Ofelia Baniandrés, Rafael Bañares, Sonia García, Carlos González, Ana María Herranz, María Carmen Lobo, Luis Alberto Menchén, Indalecio Monteagudo, María Sanjurjo, Ricardo María Suárez |

■ Transferred Intellectual Property.



### Cooperative Research Structures

| Type (RICORS, CIBER, Platform, Others) | Name of Network                                            | Role                | Code |
|----------------------------------------|------------------------------------------------------------|---------------------|------|
| Platform                               | Plataforma ISCIII de soporte para la investigación clínica | Collaborating group |      |

### Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate                 | Title                                                                               | Name/s Director/s                                          | University             | Date Defended |
|-----------|---------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------|---------------|
| Ph Thesis | Cristina Villanueva Bueno | Diseño y validación de las dosis diaria definida de antimicrobianos en neonatología | María Victoria Gil Navarro/<br>María Teresa Morales Millán | Universidad de Sevilla | 14/04/2023    |

### Clinical Practice Guidelines

| Authors                                                                                                                                                                                                                                                                                                          | Title                                                                                                                                                   | Journal/Reference                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Marta Juan Aguila Servicio de Farmacia, Castellón Miriam Casellas, M <sup>a</sup> Teresa Acín Gericó, Rosa M <sup>a</sup> Romero Jiménez, Olatz Ibarra Barrueta, Beatriz Baza Martínez, Julia Sánchez Gundín, Nuria Carballo Martínez, Ana Belén Nievas Baños, Córdoba Cristina Capilla Montes, Gabriel Mercadal | Guía de práctica farmacéutica en dermatitis atópica.                                                                                                    | SEFH. Sociedad Española de Farmacia Hospitalaria. SBN: 978-84-09-50504-3                                                                                                            |
| Jesús López-Herce Cid, Custodio Calvo Macías, Gonzalo Zeballos Sarrato, Cecilia Martínez Fernández-Llamazares                                                                                                                                                                                                    | MATERIAL Y CARROS DE REANIMACION CARDIOPULMONAR PEDIATRICA Y NEONATAL                                                                                   | Manual de RCP pediátrica y neonatal. ISBN: 978-84-945715-4-1                                                                                                                        |
| Enrique Contreras Macías, Ramón Morillo Verdugo, María de las Aguas Robustillo Cortés, Pilar Taberner Bonastre, José Manuel Vinuesa Hernando, Ismael Escobar Rodríguez, Carlos Folguera Ollas, Rosa Fuster Ruiz de Apodaca, Mercedes Gimeno Gracia, Aitziber Illaro                                              | Guía práctica de atención farmacéutica multidisciplinar y multidimensional para Pacientes con infección por VIH en tratamiento con fármacos long-acting | <a href="https://www.sefh.es/bibliotecavirtual/sefh_vih/guiapract_VIH.pdf?ts=20221201091642">https://www.sefh.es/bibliotecavirtual/sefh_vih/guiapract_VIH.pdf?ts=20221201091642</a> |

| Authors                                                                                                                                                                                                                                                                              | Title                                                                                                                                                                                                                                 | Journal/Reference                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Roberto Collado Borrell, Anna de Dios López, Vicente Escudero Vilaplana, Mar Gomis Pastor, Ana Herranz Alonso, María Antònia Manges Bafalluy                                                                                                                                         | Guía práctica para la implantación de apps de salud en los Servicios de Farmacia. Proyecto Salud Móvil SEFH                                                                                                                           | ISBN: 978-84-09-40911-2                                                                                                            |
| Escudero-Vilaplana V, Bernal E, Casado G, Collado-Borrell R, Díez-Fernández R, Fernández Román AB, Folguera C, González-Cortijo L, Herrero-Fernández M, Marquina G, Martínez Nieto C, Rodríguez MA, Rubio AR, Sanmartín-Fenollera P, Vázquez Castillo MJ, Comellas                   | Defining a Standard Set of Patient-Reported Outcomes for Patients With Advanced Ovarian Cancer                                                                                                                                        | Front Oncol. 2022 May 18;12:885910. doi: 10.3389/fonc.2022.885910                                                                  |
| Pilar García-Alfonso, Miriam Saiz-Rodríguez, Rebeca Mondéjar, Juliana Salazar Blanco, David Páez, Alberto Borobía Pérez, María José Safont Aguilera, Irene García García, Ramon Colomer, Xandra García-González, María José Herrero, Luis A. López Fernández, Francisco Abad-Santos. | Consensus of experts from the Spanish Pharmacogenetics and Pharmacogenomics Society and the Spanish Society of Medical Oncology for the genotyping of DPYD in cancer patients who are candidates for treatment with fluoropyrimidines | Clinical and Translational Oncology. 2022;24(3):483-494; doi: 10.1007/s12094-021-02708-4                                           |
| Ramón Morillo; Amaya Arrondo; Roberto Collado; Marcelo Domínguez; Aurora Fernández; Mar Gomis; Elena González; Esperanza Gutiérrez; Aránzazu Linares; María Ángeles Parro; Miguel Ángel                                                                                              | Guía de Telefarmacia para profesionales                                                                                                                                                                                               | SEFH- ESTRATEGIA DE DESARROLLO Y EXPANSIÓN DE LA TELEFARMACIA EN ESPAÑA. Documentos de apoyo metodológico. ISBN: 978-84-09-38412-9 |
| Ramón Morillo; Amaya Arrondo; Roberto Collado; Marcelo Domínguez; Aurora Fernández; Mar Gomis; Elena González; Esperanza Gutiérrez; Aránzazu Linares; María Ángeles Parro; Miguel Ángel                                                                                              | Guía de Telefarmacia para pacientes                                                                                                                                                                                                   | SEFH- ESTRATEGIA DE DESARROLLO Y EXPANSIÓN DE LA TELEFARMACIA EN ESPAÑA. Documentos de apoyo metodológico. ISBN: 978-84-09-37543-1 |
| Joaquín Borrás-Blasco, Esther Ramírez Herráiz, Piedad López Sánchez, Rosa Romero-Jiménez, Andrés Navarro-Ruiz, Nuria Rudi Sola                                                                                                                                                       | Consenso de la Sociedad Española de Farmacia Hospitalaria en manejo farmacoterapéutico óptimo de la dermatitis atópica                                                                                                                | Farmacia Hospitalaria. 2023;47(4):T148-T154                                                                                        |

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## Clinical Practice Guidelines (Cont.)

| Authors                                                                                                                                                                                                                                                                                                                                                                                                                                      | Title                                                                                                                                                        | Journal/Reference                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Ramos-Ruperez E, Escudero-Vilaplana V, Ruiz-Briones P, Collado-Borrell R, Villanueva-Bueno C, Revuelta-Herrero JL, González-Haba E, García-González X, Ibañez-García S, Pérez-Ramírez S, Zatarain-Nicolás E, Herranz A, Sanjurjo M.                                                                                                                                                                                                          | Medication guide for dose adjustment and management of cardiotoxicity and lipid metabolic adverse events of oral antineoplastic therapy                      | Front Oncol. 2023Aug;13:1220305. doi.org/10.3389/fonc.2023.1220305                           |
| Jose M Alonso Herreros, Silvia Berisa Prado, Carmen Cañete Ramírez, Carmela Dávila Pousa, Begoña Feal Cortizas, María Pilar Flox Benítez, Raquel Fuentes Irigoyen, Marta García Palomo, Carmen López Cabezas, Ana María Martín de Rosales, Vicente merino Bohorquez, Berta Montero Pastor, Catalina Perelló Alomar, Sagrario Pernía López, Virginia Puebla García, Beatriz Ramos Martínez, Ana Cristina Riestra Ayora, Nieves Vila Clérigues | Preparaciones orales sólidas y fraccionamiento de medicamentos                                                                                               | Manual de Farmacotecnia. Sociedad Española de Farmacia Hospitalaria. ISBN: 978-84-09-50880-8 |
| Ramón Morillo-Verdugo, PhD, Tamara Aguilar Pérez, Mercedes Gimeno-Gracia, PhD, Carmen Rodríguez-González, PhD, and María de las Aguas Robustillo-Cortés <sup>1</sup> , representing the project research team belonging to the HIV Pharmaceutical Care group of the Sociedad Española de Farmacia Hospitalaria (SEFH)                                                                                                                        | Simplification and Multidimensional Adaptation of the Stratification Tool for Pharmaceutical Care in People Living With HIV                                  | Annals of Pharmacotherapy 2023;57(2)163-174. doi: 10.1177/10600280221096759                  |
| Jesús Ruiz Ramos, Beatriz Calderón Hernanz, Yolanda Castellanos Clemente, Manuel Bonete Sánchez, Emili Vallve Alcon, M. <sup>a</sup> Rosario Santolaya Perrin, M. <sup>a</sup> Ángeles García Martín, Ana de Lorenzo Pinto, José Manuel Real Campaña, Javier Ramos Rodríguez, et al.                                                                                                                                                         | Atención farmacéutica en los servicios de urgencias: documento de posicionamiento de la SEFH y SEMES                                                         | Emergencias 2023 Jun;35(3):205-217                                                           |
| María Teresa Martín Conde, Emilio Monte Boquet, Herminia Navarro Aznares, María de las Aguas Robustillo Cortés, Carmen Rodríguez González, Joaquín Ignacio Serrano López de las Hazas, Ramón Morillo Verdugo                                                                                                                                                                                                                                 | Actualización de los indicadores para la calidad asistencial y la atención farmacéutica a las personas que viven con el virus de la inmunodeficiencia humana | Farm Hosp. 2023Jun;47(3):113-120                                                             |

## Publications

Total Impact Factor: 116,8

|                                                        | Nº        | IF           |
|--------------------------------------------------------|-----------|--------------|
| Own publications                                       | 20        | 61,5         |
| Joint publications                                     | 19        | 55,3         |
| First decile publications                              | 5         | 0,0          |
| First quartile publications                            | 15        | 76,5         |
| Second quartile publications                           | 6         | 18,0         |
| Third quartile publications                            | 4         | 8,3          |
| Fourth quartile publications                           | 14        | 14,0         |
| Nonindexed publications/No IF                          | 4         | —            |
| <b>Total publications (including those without IF)</b> | <b>43</b> | <b>116,8</b> |

**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Vendrell, MCM; Fuentes, DPI; Suárez, JA; Lozano, IJ; Fernández-Llamazares, CM; Trisancho-Pérez, A; Romero, LY; Roca, CM; Villalustre, CO; Robles, AG; Corro, BG; Marrodán, BR. *Medication reconciliation at admission in paediatric patients with chronic illness: A multicentre study*. ANALES DE PEDIATRIA. 2023; 99(6) 376-384. FI: 1.5. Quartile: 2. (Article).
- Morillo-Verdugo, R; Pérez, TA; Gimeno-Gracia, M; Rodríguez-González, C; Robustillo-Cortés, MD. *Simplification and Multidimensional Adaptation of the Stratification Tool for Pharmaceutical Care in People Living With HIV*. ANNALS OF PHARMACOTHERAPY. 2023; 57(2) 163-174. FI: 2.3. Quartile: 3. (Article).
- Montecatine-Alonso, E; Mejias-Trueba, M; Goycochea-Valdivia, WA; Chavarri-Gil, E; Fernández-Llamazares, CM; Dolz, E; Gutiérrez-Urbón, JM; Gallego-Fernández, C; Llorente-Gutiérrez, J; Gil-Navarro, MV. *Development of Antimicrobial Defined Daily Dose (DDD) for the Pediatric Population*. ANTIBIOTICS-BASEL. 2023; 12(2). FI: 4.3. Quartile: 1. (Article).
- Villanueva-Bueno, C; Montecatine-Alonso, E; Jiménez-Parrilla, F; González-López, M; Manrique-Rodríguez, S; Moreno-Ramos, F; Canete-Ramírez, C; Dolz, E; García-Robles, A; Caro-Teller, JM; Moral-Pumarega, MT; Bergón-Sendin, E; Calvo, MTGT; Gallego-Fernández. *Antimicrobial*



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- Beatriz GC; María José O; Inés JL; Yolanda HG; Concha ÁD; Javier TS; Cecilia M FL. *Medication errors in children visiting pediatric emergency departments*. FARMACIA HOSPITALARIA. 2023; 47(4). (Article).
- Borrás-Blasco J; Herráiz ER; Sánchez PL; Romero-Jiménez R; Navarro-Ruiz A; Sola NR. *Consensus of Spanish Society of Hospital Pharmacy on optimal medication therapy management of atopic dermatitis*. FARMACIA HOSPITALARIA. 2023; 47(4) 148-154. (Article).



Group Director: **MARÍA CRISTINA DE LA CUERDA COMPÉS**

Organisms involved: **HGUGM**

Type: **Emerging Group**

## Research lines

### Axis 1: Assessment of nutritional status

- ▶ L1: Spanish translation and validation VGS-GP Questionnaire
- ▶ L2: Nutritional Screening at hospital admission
- ▶ L3: Role of Vitamin D deficiency in the key events of hepatic cyrosis and impact of supplementation
- ▶ L4: Evolution of energy expenditure and blood levels of amino acids and acylcarnitines in patients undergoing haematopoietic precursor transplantation.
- ▶ L5: Assessment of nutritional status and body composition in PC patients undergoing cytoreduction and QUIOH
- ▶ L6: Sarcopenic obesity in severely obese patients
- ▶ L7: Study of body composition and risk of non-hereditary metabolic diseases in adult patients with inherited metabolic diseases
- ▶ L8: Assessment of sarcopenic obesity in the pneumology hospitalised patient
- ▶ L9: Assessment of body composition in patients with head and neck cancer by bioimpedanciometry during radiotherapy treatment

### Axis 2: Artificial nutrition at home

- ▶ L1: Virtual Reality for management and care of central venous access for NPD
- ▶ L2: Retrospective cost study in NPD and CIS patients
- ▶ L3: VectivBio reports positive interim clinical data from STARS Nutrition, a phase 2 study investigating apraglutide in patients with short bowel syndrome with intestinal failure (SBS-IF) and continuous colon (CIC).
- ▶ L4: Effect of Continued Nutritional support at Hospital Discharge on Mortality, Frailty, Functional Outcomes and Recovery Trial: Project EFFORT II

- ▶ L5: Effects of enteral nutrition on quality of life in patients with Amyotrophic Lateral Sclerosis: a real-life study.
- ▶ L6: A prospective multicentre registry for patients with short bowel syndrome

The mission of the Clinical Nutrition research group is to contribute to research in the area of nutrition, with the aim of improving the quality of life of patients with nutritional pathologies through a multidisciplinary approach.

## Group members

- **Arhip, Loredana:** R2. Recognised Researcher.
- **Bielza González, María Atocha:** R1. First Stage Researcher.
- **Bretón Lesmes, Irene:** R3. Established Researcher.
- **Camblor Álvarez, Miguel:** R1. First Stage Researcher.
- **Carrascal Fabián, María Luisa:** Other.
- **De la Cuerda Compés, María Cristina:** R4. Leading Researcher.
- **Hernández Hernández, Tamara.**
- **Motilla de la Cámara, Marta Luisa:** R1. First Stage Researcher.
- **Serrano Moreno, Clara:** R1. First Stage Researcher.
- **Rodríguez Herrera, Beatriz:** R1. First Stage Researcher.
- **Velasco Gimeno, Cristina:** R1. First Stage Researcher.





## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 1                       |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Utilidad de la realidad virtual y uso de una app para la enseñanza y monitorización de los cuidados de catéter en pacientes con nutrición parenteral domiciliaria.** PI19/01275

Director: De la Cuerda Compés, María Cristina

Project type: Research project

Funding body: Instituto de Salud Carlos III

Start date: 01/01/2020

End date: 30/06/2024

## Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate                  | Title                                                                                                                                                                                 | Name/s Director/s      | University | Date Defended |
|-----------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------|---------------|
| Ph Thesis | Ángela Morales Cerchiaro   | Repercusión clínica y económica de la implantación de una herramienta de cribado nutricional en un hospital terciario                                                                 | Cristina Cuerda Compés | UCM        | 17/07/2023    |
| Ph Thesis | Marta Motilla de la Cámara | Evolución del gasto energético, microbiota intestinal y de los niveles en sangre de aminoácidos y acilcarnitina en pacientes en programa de trasplante de precursores hematopoyéticos | Cristina Cuerda Compés | UCM        | Pendiente     |

## Clinical Practice Guidelines

| Authors                                                                                                                                                                                                                                                                                                                                      | Title                                                                                                                | Journal/Reference                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Pironi, L; Cuerda, C; Jeppesen, PB; Joly, F; Jonkers, C; Krznaric, Z; Lal, S; Lamprecht, G; Lichota, M; Mundi, MS; Schneider, SM; Szczepanek, K; Van Gossum, A; Wanten, G; Wheatley, C; Weimann, A                                                                                                                                           | ESPEN guideline on chronic intestinal failure in adults- Update 2023                                                 | Clinical Nutrition 42 (2023) 1940-2021           |
| Bischoff, SC; Austin, P; Boeykens, K; Chourdakis, M; Cuerda, C; Jonkers-Schuitema, C; Lichota, M; Nyulasi, I; Schneider, SM; Stanga, Z; Pironi, L; Cantón, A                                                                                                                                                                                 | ESPEN practical guideline: Home enteral nutrition                                                                    | Nutricion Hospitalaria 2023 Aug 28;40(4):858-885 |
| Stephan C Bischoff, Johann Ockenga, Ahad Eshraghian, Rocco Barazzoni, Luca Busetto, Marjo Campmans-Kuijpers, Vincenzo Cardinale, Irit Chermesh, Haluk Tarik Kani, Wafaa Khannoussi, Laurence Lacaze, Miguel León-Sanz, Juan M Mendive, Michael W Müller, Frank Tacke, Anders Thorell, Darija Vranesic Bender, Arved Weimann, Cristina Cuerda | Practical guideline on obesity care in patients with gastrointestinal and liver diseases - Joint ESPEN/UEG guideline | Clinical Nutrition 42 (2023) 987-1024            |

## Publications

Total Impact Factor: 74,2

|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 4         | 17,4        |
| Joint publications                                     | 13        | 56,8        |
| First decile publications                              | 8         | 0,0         |
| First quartile publications                            | 10        | 60,6        |
| Second quartile publications                           | 0         | 0,0         |
| Third quartile publications                            | 5         | 11,2        |
| Fourth quartile publications                           | 2         | 2,4         |
| Nonindexed publications/No IF                          | 2         | —           |
| <b>Total publications (including those without IF)</b> | <b>19</b> | <b>74,2</b> |





**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Bischoff, SC; Ockenga, J; Eshraghian, A; Barazzoni, R; Busetto, L; Campmans-Kuijpers, M; Cardinale, V; Chermesh, I; Kani, HT; Khannoussi, W; Lacaze, L; Leon-Sanz, M; Mendive, JM; Muller, MW; Tacke, F; Thorell, A; Bender, DV; Weimann, A; Cuerda, C. *Practical guideline on obesity care in patients with gastrointestinal and liver diseases- Joint ESPEN/UEG guideline*. CLINICAL NUTRITION. 2023; 42(6) 987-1024. FI: 6.6. Quartile: 1. (Article).
- Joly, F; Mundi, M; Barazzoni, R; Berger, MM; Bozzetti, F; Cuerda, C; Jeppesen, PB; Lal, S; Lamprecht, G; Szczepanek, K; Van Gossum, A; Schneider, S; Shenkin, A; Wanten, G; Pironi, L. *How to deal with micronutrient product shortage - Editorial*. CLINICAL NUTRITION. 2023; 42(2) 143-147. FI: 6.6. Quartile: 1. (Editorial Material).
- Cappellari, GG; Guillet, C; Poggiogalle, E; Pomar, MDB; Batsis, JA; Boirie, Y; Breton, I; Frara, S; Genton, L; Gepner, Y; González, MC; Heyms, SB; Kiesswetter, E; Laviano, A; Prado, CM; Santini, F; Serlie, MJ; Siervo, M; Villareal, DT; Volkert, D; Voortma. *Sarcopenic obesity research perspectives outlined by the sarcopenic obesity global leadership initiative (SOGLI)- Proceedings from the SOGLI consortium meeting in rome November 2022*. CLINICAL NUTRITION. 2023; 42(5) 687-699. FI: 6.6. Quartile: 1. (Article).
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- Blasco, LG; Corrales, PJP; Hanzu, F; Martínez, AF; Lesmes, IB; San Martín, JE. *A survey on the perception of the specialty of Endocrinology and Nutrition among students preparing for the entrance exam for medical specialty training in Spain*. ENDOCRINOLOGIA DIABETES Y NUTRICION. 2023; 70(4) 240-244. FI: 1.8. Quartile: 3. (Article).



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- Bischoff, SC; Austin, P; Boeykens, K; Chourdakis, M; Cuerda, C; Jonkers-Schuitema, C; Lichota, M; Nyulasi, I; Schneider, SM; Stanga, Z; Pironi, L; Cantón, A. *ESPEN practical guideline: Home enteral nutrition*. NUTRICION HOSPITALARIA. 2023; 40(4) 858-885. FI: 1.2. Quartile: 4. (Article).
- García-Almeida, JM; García-García, C; Ballesteros-Pomar, MD; Oliveira, G; López-Gómez, JJ; Bellido, V; Lesmes, IB; Burgos, R; Sanz-Paris, A; Matia-Martín, P; Romero, FB; Breton, JO; Murillo, AZ; Bellido, D. *Expert Consensus on Morphofunctional Assessment in Disease-Related Malnutrition. Grade Review and Delphi Study*. NUTRIENTS. 2023; 15(3). FI: 4.8. Quartile: 1. (Article).

#### Other publications

- Matía Martín P; Álvarez Hernández J; de la Cuerda Compés C. *¿Es la atención nutricional durante la enfermedad un derecho humano?*. NUTRICION HOSPITALARIA. 2023; 40(Spec No1) 58-65. (Article).
- Bretón I. *Controversia 1. ¿Cómo realizar la valoración nutricional y de la sarcopenia, y el cálculo de requerimientos de proteínas necesarias? ¿Deben ser específicas?*. NUTRICION HOSPITALARIA. 2023; 40(Spec No1) 34-40. (Article).





Group Director: **FRANCISCO PÉREZ-VIZCAÍNO**

Organisms involved: **UCM**

Type: **Consolidated Group**

## Research lines

### Axis 1. Pulmonary Hypertension

- ▶ L1: Pulmonary vascular dysfunction in pulmonary hypertension (PH).
- ▶ L2: Role of vitamin D and the microbiota in pulmonary hypertension (PH)
- ▶ L3: Role of TASK1 and Kv7 potassium channels in pulmonary hypertension.
- ▶ L4: Role of mutations in the KCNA5 gene in pulmonary hypertension patients
- ▶ L5: Liver-lung axis. How liver exosomes from healthy and cirrhotic animals influence the lung.

### Axis 2. Erectile dysfunction

- ▶ L1: Role of vitamin D and microbiota in erectile dysfunction.

### Axis 3. Acute lung damage

- ▶ L1: Acute respiratory distress syndrome (ARDS)
- ▶ L2: Bronchodysplasia pneumonia (BDP).

Pulmonary hypertension is a condition characterised by increased pulmonary vascular resistance whose pathophysiology is complex and not yet well characterised. Our interest is primarily focused on the mechanisms involved in pulmonary vasodilation and inhibition of cell proliferation in order to identify and design new drugs that may be potentially useful in the treatment of pulmonary hypertension.

Acute lung injury (ALI) or its more severe form, acute respiratory distress syndrome (ARDS), is characterised by pulmonary oedema and alveolar collapse leading to severe arterial hypoxaemia. Although protective

ventilatory support strategies have improved patient prognosis, associated mortality remains intolerably high. We are interested in characterising the pulmonary vascular inflammatory response associated with acute lung injury and in identifying therapeutic targets to improve prognosis in these patients.

Our work focuses on analysing the pathophysiological and therapeutic role of different signalling pathways in these pathologies:

- 1) Vitamin D and VDR signaling.
- 2) K<sup>+</sup> channels.
- 3) Endothelial progenitor cells.
- 4) VDR signalling

## Group members

- **Barón Argos, Lourdes:** R1. First Stage Researcher.
- **Barreira Barba, Bianca:** R1. First Stage Researcher.
- **Carrión Marchante, Rebeca:** R1. First Stage Researcher.
- **Cogolludo Torralba, Ángel:** R3. Established Researcher.
- **Da Costa Adao, Rui Miguel:** R2. Recognised Researcher.
- **Gimeno Longas, María José:** R2. Recognised Researcher.
- **Morales Cano, Daniel:** R2. Recognised Researcher.
- **Moreno Gutiérrez, Laura:** R3. Established Researcher.
- **Olivencia Plaza, Miguel Ángel:** R1. First Stage Researcher.
- **Pérez Vizcaíno, Francisco:** R4. Leading Researcher.
- **Sancho González, María:** R2. Recognised Researcher.
- **Villegas Esguevillas, Marta:** R1. First Stage Researcher.



### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 2                       | 3          |                    |            |
| Regional      |                         | 3          |                    | 4          |

- Title: **Papel del inflamasoma en la disfunción de células progenitoras endoteliales en pacientes con hipertensión arterial pulmonar asociada a cardiopatías congénitas.** PI22/01302  
Director: Moreno Gutiérrez, Laura  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Papel de la hipoxia y la inflamación en la disfunción de células endoteliales progenitoras en hipertensión pulmonar pediátrica.** PI19/01616  
Director: Moreno Gutiérrez, Laura  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 30/06/2024

#### Not managed by the FIBHGM

- Title: **Papel fisiopatológico de la vitamina D y la microbiota en la hipertensión pulmonar y en la disfunción eréctil VIMIPHED.** PID2019-107363RB-I00  
Director: Pérez Vizcaíno, Francisco  
Project type: Research project

Funding body: Plan Nacional de I+D (CICYT)

Start date: 01/01/2020

End date: 31/05/2024

- Title: **Canales Kv como dianas farmacológicas en la hipertensión arterial pulmonar y la disfunción eréctil.** PID2020-117939RB-I00  
Director: Cogolludo Torralba, Ángel  
Project type: Research project  
Funding body: Plan Nacional de I+D (CICYT)  
Start date: 01/09/2021  
End date:
- Title: **Consecuencias funcionales de mutaciones en el gen KCNA5 encontradas en pacientes españoles con Hipertensión Pulmonar.**  
Director: Cogolludo Torralba, Ángel  
Project type: Research project  
Funding body: Fundación Contra la Hipertensión Pulmonar (FCHP)  
Start date: 10/01/2021  
End date:
- Title: **Bioingeniería de células satélite de músculo esquelético como nueva estrategia de diferenciación a cardiomiocitos y regeneración cardiaca.** CARDIOBOOST-CM. S2022/BMD-7245  
Director: Torres, Miguel / Pérez Vizcaíno, Francisco  
Project type: Research project  
Funding body: Comunidad Autónoma de Madrid (CAM)  
Start date: 16/01/2023  
End date:
- Title: **Identificación de Mecanismos, Biomarcadores e Intervenciones en comorbilidad en Enfermedades Respiratorias Hipoxémicas mediante abordajes preclínicos, clínicos y computacionales.** INSPIRA. S2022/BMD-7224  
Director: Calzada, María Jose / Cogolludo, Ángel  
Project type: Research project  
Funding body: Comunidad Autónoma de Madrid (CAM)  
Start date: 16/01/2023  
End date:



- Title: **Vesículas extracelulares en la fisiopatología hepática: Relevancia mecanística, diagnóstica y terapéutica (EXOHEP2-CM).** S2022/BMD-7409

Director: Vaquero, Javier / Moreno, Laura

Project type: Research project

Funding body: Comunidad Autónoma de Madrid (CAM)

Start date: 16/01/2023

End date:

- Title: **Pre-doctoral contracts for research staff in training.** CT63/19-CT64/19

Director: Pérez Vizcaino, Francisco

Project Type: Human Resources

Funding Body: Ucm

Start Date: 16/11/2020

End Date: 05/05/2024

- Title: **Pre-doctoral contracts for research staff in training.** CT82/20-CT83/20

Director: Cogolludo Torralba, Ángel

Project Type: Human Resources

Funding Body: Ucm

Start Date: 01/11/2021

End Date:

- Title: **Postdoctoral Contracts UNA4CAREER.** UNA4CAREER-2021-2

Director: Perez Vizcaíno, Francisco

Project Type: Human Resources

Funding Body: Ucm

Start Date: 01/10/2022

End Date:

- Title: **Investigo Programme.** CT19/23-INVM-137

Director: Moreno Gutiérrez, Laura

Project Type: Human Resources

Funding Body: Comunidad Autónoma de Madrid

Start Date: 01/06/2023

End Date: 30/04/2024

### Cooperative Research Structures

| Type (RICORS, CIBER, others) | Name of Network | Role               | Code         |
|------------------------------|-----------------|--------------------|--------------|
| CIBER                        | CIBERES         | Coordinating group | CB06/06/1084 |

### Doctoral theses. Bachelor theses and Master theses

| Type      | Candidate                    | Title                                                                                                                           | Name/s Director/s                                | University | Date Defended |
|-----------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------|---------------|
| Ph Thesis | Miguel Macías Montero        | Papel de las vesículas extracelulares en las complicaciones pulmonares asociadas a daño hepático                                | Laura Moreno Gutiérrez/ Ángel Cogolludo Torralba | UCM        | 29/03/2023    |
| Ph Thesis | Miguel Ángel Olivencia Plaza | Vitamin D deficiency and chronic alcohol consumption as predisposing factors of erectile dysfunction and pulmonary hypertension | Francisco Pérez Vizcaino                         | UCM        | 03/11/2023    |

### Publications

Total Impact Factor: 67,7

|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 6         | 38,0        |
| Joint publications                                     | 5         | 29,7        |
| First decile publications                              | 5         | 0,0         |
| First quartile publications                            | 11        | 67,7        |
| Second quartile publications                           | 0         | 0,0         |
| Third quartile publications                            | 0         | 0,0         |
| Fourth quartile publications                           | 0         | 0,0         |
| Nonindexed publications/No IF                          | 0         | —           |
| <b>Total publications (including those without IF)</b> | <b>11</b> | <b>67,7</b> |





**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Vera-Zambrano, A; Lago-Docampo, M; Gallego, N; Franco-González, JF; Morales-Cano, D; Cruz-Utrilla, A; Villegas-Esguevillas, M; Fernández-Malave, E; Escribano-Subias, P; Tenorio-Castano, JA; Pérez-Vizcaino, F; Valverde, D; González, T; Cogolludo, A. *Novel Loss-of-Function KCNA5 Variants in Pulmonary Arterial Hypertension*. AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY. 2023; 69(2) 147-158. FI: 5.9. Quartile: 1. (Article).
- García-Díez, E; López-Oliva, ME; Pérez-Vizcaino, F; Pérez-Jiménez, J; Ramos, S; Martín, MA. *Dietary Supplementation with a Cocoa-Carob Blend Modulates Gut Microbiota and Prevents Intestinal Oxidative Stress and Barrier Dysfunction in Zucker Diabetic Rats*. ANTIOXIDANTS. 2023; 12(8). FI: 6. Quartile: 1. (Article).
- Villegas-Esguevillas, M; Cho, SH; Vera-Zambrano, A; Kwon, JW; Barreira, B; Telli, G; Navarro-Dorado, J; Morales-Cano, D; de Olaiz, B; Moreno, L; Greenwood, I; Pérez-Vizcaino, F; Kim, SJ; Climent, B; Cogolludo, A. *The novel KV7 channel activator URO-K10 exerts enhanced pulmonary vascular effects independent of the KCNE4 regulatory subunit*. BIOMEDICINE & PHARMACOTHERAPY. 2023; 164. FI: 6.9. Quartile: 1. (Article).
- Olivencia, MA; de Biedma-Elduayen, LG; Giménez-Gómez, P; Barreira, B; Fernández, A; Angulo, J; Colado, MI; O'Shea, E; Pérez-Vizcaino, F. *Oxidized soluble guanylyl cyclase causes erectile dysfunction in alcoholic mice*. BRITISH JOURNAL OF PHARMACOLOGY. 2023; 180(18) 2361-2376. FI: 6.8. Quartile: 1. (Article).
- Blanco, I; Marquina, M; Tura-Ceide, O; Ferrer, E; Ramírez, AM; López-Meseguer, M; Callejo, M; Pérez-Vizcaino, F; Peinado, VI; Barbera, JA. *Survivin inhibition with YM155 ameliorates experimental pulmonary arterial hypertension*. FRONTIERS IN PHARMACOLOGY. 2023; 14. FI: 4.4. Quartile: 1. (Article).
- Morales-Cano, D; Izquierdo-García, JL; Barreira, B; Esquivel-Ruiz, S; Callejo, M; Pandolfi, R; Villa-Valverde, P; Rodríguez, I; Cogolludo, A; Ruiz-Cabello, J; Pérez-Vizcaino, F; Moreno, L. *Impact of a TAK-1 inhibitor as a single or as an add-on therapy to riociguat on the metabolic reprogramming and pulmonary hypertension in the SUGEN5416/hypoxia rat model*. FRONTIERS IN PHARMACOLOGY. 2023; 14. FI: 4.4. Quartile: 1. (Article).
- Olivencia, MA; Villegas-Esguevillas, M; Sancho, M; Barreira, B; Paternoster, E; Adao, R; Larriba, MJ; Cogolludo, A; Pérez-Vizcaino, F. *Vitamin D Receptor Deficiency Upregulates Pulmonary Artery Kv7 Channel Activity*. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(15). FI: 4.9. Quartile: 1. (Article).
- Willer, ASM; Santos-Gomes, J; Adao, R; Bras-Silva, C; Eyries, M; Pérez-Vizcaino, F; Capuano, V; Montani, D; Antigny, F. *Physiological and pathophysiological roles of the KCNK3 potassium channel in the pulmonary circulation and the heart*. JOURNAL OF PHYSIOLOGY-LONDON. 2023; 601(17) 3717-3737. FI: 4.7. Quartile: 1. (Review).
- Olivencia, MA; Esposito, E; Brancialeone, V; Castaldo, S; Cirino, G; Pérez-Vizcaino, F; Sorrentino, R; Bianca, RDD; Mitidieri, E. *Hydrogen sulfide regulates the redox state of soluble guanylate cyclase in CSE-/- mice corpus cavernosum microcirculation*. PHARMACOLOGICAL RESEARCH. 2023; 194. FI: 9.1. Quartile: 1. (Article).
- Vera-Zambrano, A; Baena-Nuevo, M; Rinne, S; Villegas-Esguevillas, M; Barreira, B; Telli, G; de Benito-Bueno, A; Blázquez, JA; Climent, B; Pérez-Vizcaino, F; Valenzuela, C; Decher, N; González, T; Cogolludo, A. *Sigma-1 receptor modulation fine-tunes K(V)1.5 channels and impacts pulmonary vascular function*. PHARMACOLOGICAL RESEARCH. 2023; 189. FI: 9.1. Quartile: 1. (Article).
- Kumar, R; Aktay-Cetin, V; Craddock, V; Morales-Cano, D; Kosanovic, D; Cogolludo, A; Pérez-Vizcaino, F; Avdeev, S; Kumar, A; Ram, AK; Agarwal, S; Chakraborty, A; Savai, R; Pérez, VD; Graham, BB; Butrous, G; Dhillon, NK. *Potential long-term effects of SARS-CoV-2 infection on the pulmonary vasculature: Multilayered cross-talks in the setting of coinfections and comorbidities*. PLOS PATHOGENS. 2023; 19(1). FI: 5.5. Quartile: 1. (Review).





Group Director: **SANTIAGO LIZÁRRAGA BONELLI  
AND JUAN ANTONIO DE LEÓN LUIS**

Organisms involved: **HGUGM**

Type: **Emerging Group**

## Research lines

- ▶ L1: Role of the maternal, placental, and embryonic profile in maternal-perinatal morbidity and mortality
- ▶ L2: Hemodynamic changes in adverse perinatal outcomes
- ▶ L3: Cancer and pregnancy
- ▶ L4: Algorithm for ultrasound examination of the extended fetal cardiovascular system
- ▶ L5: Maternal-perinatal morbidity and mortality in twin pregnancies
- ▶ L6: Fetal surgery in the monochorionic pregnancy
- ▶ L7: Care during labor and breastfeeding
- ▶ L8: Maternal-neonatal morbidity and mortality during and after labor
- ▶ L9: Role of female sex hormones on vaginal immunity
- ▶ L10: Role of progesterone on development of melanoma
- ▶ L11: Chemotherapy-induced ovarian failure
- ▶ L12: Genomic predictors of response to therapy in breast cancer
- ▶ L13: Prediction of response to taxane-based adjuvant chemotherapy in breast cancer
- ▶ L14: Multimodal guidance and planning in breast cancer surgery
- ▶ L15: Conservative and surgical treatment in gynecological disease

## Group members

- **Arday Vílches, Manuel.**
- **Bravo Arribas, Coral.**
- **Caballero Campo, Miguel:** R2. Recognised Researcher.
- **Ceballos García, Elena:** R2. Recognised Researcher.
- **Cuesta Campins, Nieves.**
- **De León Luis, Juan Antonio:** R4. Leading Researcher.
- **García Díaz, Cecilia:** R1. First Stage Researcher.
- **García Ruiz, Esther María.**
- **García-Tizón Larroca, Santiago:** R2. Recognised Researcher.
- **Gersol Fernández, Sandra.**
- **Lizarraga Bonelli, Santiago:** R4. Leading Researcher.
- **Llamas Santos, Leticia:** R1. First Stage Researcher I.
- **Maricalva Agudo, Bárbara.**
- **Martínez Payo, Cristina:** R3. Established Researcher.
- **Mendizábal Vicente, Elsa:** R2. Recognised Researcher.
- **Menéndez de Luarda Bellido, Patricia:** R1. First Stage Researcher.
- **Mercader Cidoncha, Enrique:** R2. Recognised Researcher.
- **Moreno Hernández, Sonsoles:** R1. First Stage Researcher.
- **Moreno Molinero, Verónica:** R1. First Stage Researcher.
- **Moreno Ochoa, Laura:** R1. First Stage Researcher.
- **Muñoz-Chapulí Gutiérrez, María Mar:** R1. First Stage Researcher.
- **Navarro González, Teresa:** R1. First Stage Researcher.
- **Pérez Fernández-Pacheco, Ricardo:** R2. Recognised Researcher A.
- **Pérez Milán, Federico:** R3. Established Researcher.
- **Pintado Recarte, Pilar:** R2. Recognised Researcher.
- **Relloso Cereceda, Miguel:** R3. Established Researcher.
- **Ruiz Labarta, Javier:** R1. First Stage Researcher.
- **Trobo Marina, Duna:** R1. First Stage Researcher.
- **Veiga Fernández, Amanda:** R1. First Stage Researcher.
- **Viñuela Beneitez, M<sup>a</sup> del Carmen:** R1. First Stage Researcher.



### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      | 3                       |            |                    |            |
| Regional      |                         |            | 2                  |            |

- Title: Valor de los anticuerpos anti-espermatozoides como marcadores de daño testicular por SARS-CoV-2 en la post-pandemia y su efecto en enfermedades de transmisión sexual.** PI22/00035  
 Director: Relloso Cereceda, Miguel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2023  
 End date: 31/12/2025
- Title: La respuesta inflamatoria anti-espermatozoide para evitar la diseminación de infecciones de transmisión sexual como causa de infertilidad.** PI19/00078  
 Director: Relloso Cereceda, Miguel  
 Project type: Research project  
 Funding body: Instituto de Salud Carlos III  
 Start date: 01/01/2020  
 End date: 30/06/2024
- Title: Estudio del impacto del factor de género en el pronóstico del melanoma cutáneo: análisis epidemiológico y búsqueda de patrones pronósticos.** FMM20/04  
 Director: Mercader Cidoncha, Enrique  
 Project type: Research project  
 Funding body: Fundación Mutua Madrileña  
 Start date: 19/10/2020  
 End date: 18/10/2023

- Title: Young employment contract. Laboratory Technician.** PEJ-2021-TL/BMD-22394  
 Director: Relloso Cereceda, Miguel (Herrero Rufo, Alicia)  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/10/2022  
 End date: 31/08/2023
- Title: Young employment contract. Laboratory Technician.** PEJ-2021-TL/BMD-22394  
 Director: Relloso Cereceda, Miguel (Baca Cornejo, Katia Ruth)  
 Project type: Human resources  
 Funding body: Comunidad Autónoma de Madrid  
 Start date: 01/10/2022  
 End date: 30/09/2024

### Industrial and intellectual property registrations

#### Industrial property

| Title                     | Reference*   | Owner  | Inventors         |
|---------------------------|--------------|--------|-------------------|
| Maqueta didáctica armable | U 2015 30218 | FIBHGM | Juan Antonio León |

■ Transferred Industrial Property.

\* Reference: P (Patent), PCT (international patent), EP (European patent), US (USA patent), U (Utility model), M (Trademark).

#### Copyright

| Title                 | Reference                          | Owner  | Inventors                      |
|-----------------------|------------------------------------|--------|--------------------------------|
| Parto vaginal en 3d   | Nº Asiento Registral: 16/2019/2823 | FIBHGM | Juan Antonio de León           |
| Pelvitainer anatómico | 16/2022/3186                       | FIBHGM | Juan Antonio León, Coral Bravo |

■ Transferred Intellectual Property.



| Publications                                           | Total Impact Factor: 105,2 |              |
|--------------------------------------------------------|----------------------------|--------------|
|                                                        | Nº                         | IF           |
| Own publications                                       | 7                          | 15,6         |
| Joint publications                                     | 22                         | 89,6         |
| First decile publications                              | 3                          | 0,0          |
| First quartile publications                            | 18                         | 80,6         |
| Second quartile publications                           | 9                          | 22,0         |
| Third quartile publications                            | 2                          | 2,6          |
| Fourth quartile publications                           | 0                          | 0,0          |
| Nonindexed publications/No IF                          | 0                          | –            |
| <b>Total publications (including those without IF)</b> | <b>29</b>                  | <b>105,2</b> |

#### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- García-Montero, C; Fraile-Martínez, O; De Leon-Oliva, D; Boaru, DL; García-Puente, LM; De León-Luis, JA; Bravo, C; Díaz-Pedrero, R; López-González, L; Álvarez-Mon, M; García-Honduvilla, N; Saez, MA; Ortega, MA. *Exploring the Role of Mediterranean and Westernized Diets and Their Main Nutrients in the Modulation of Oxidative Stress in the Placenta: A Narrative Review*. ANTIOXIDANTS. 2023; 12(11). FI: 6. Quartile: 1. (Review).
- Ortega, MA; Fraile-Martínez, O; García-Montero, C; Rodríguez-Martín, S; Monux, RF; Bravo, C; De Leon-Luis, JA; Saz, JV; Saez, MA; Guijarro, LG; Lahera, G; Monserrat, J; Mora, F; Quintero, J; Bujan, J; García-Honduvilla, N; Álvarez-Mon, M; Álvarez-Mon, MA. *Evidence of Increased Oxidative Stress in the Placental Tissue of Women Who Suffered an Episode of Psychosis during Pregnancy*. ANTIOXIDANTS. 2023; 12(1). FI: 6. Quartile: 1. (Article).
- Ortega, MA; Fraile-Martínez, O; García-Montero, C; Monux, RMF; Rodríguez-Martín, S; Bravo, C; De Leon-Luis, JA; Saz, JV; Saez, MA; Guijarro, LG; Lahera, G; Mora, F; Fernández-Rojo, S; Quintero, J; Monserrat, J; García-Honduvilla, N; Bujan, J; Álvarez-Mon, M. *The Placentas of Women*

*Who Suffer an Episode of Psychosis during Pregnancy Have Increased Lipid Peroxidation with Evidence of Ferroptosis*. BIOMOLECULES. 2023; 13(1). FI: 4.8. Quartile: 1. (Article).

- García-Puente, LM; Fraile-Martínez, O; García-Montero, C; Bujan, J; De León-Luis, JA; Bravo, C; Rodríguez-Benítez, P; Pintado, P; Ruiz-Labarta, FJ; Álvarez-Mon, M; García-Honduvilla, N; Cancelo, MJ; Saez, MA; Ortega, MA. *Placentas from Women with Late-Onset Preeclampsia Exhibit Increased Expression of the NLRP3 Inflammasome Machinery*. BIOMOLECULES. 2023; 13(11). FI: 4.8. Quartile: 1. (Article).
- Martín-Vicente, M; Carrasco, I; Muñoz-Gómez, MJ; Lobo, AH; Mas, V; Vigil-Vázquez, S; Vázquez, M; Manzanares, A; Cano, O; Alonso, R; Sepulveda-Crespo, D; Tarancon-Díez, L; Muñoz-Fernández, MA; Muñoz-Chapuli, M; Resino, S; Navarro, ML; Martínez, I. *Antibody levels to SARS-CoV-2 spike protein in mothers and children from delivery to six months later*. BIRTH-ISSUES IN PERINATAL CARE. 2023; 50(2) 418-427. FI: 2.8. Quartile: 1. (Article).
- Vigil-Vázquez, S; Manzanares, A; Hernanz-Lobo, A; Carrasco-García, I; del Pozo, CZ; Pérez-Pérez, A; Rincon-López, EM; Santiago-García, B; Pintado-Recarte, MD; Alonso-Fernández, R; Sánchez-Luna, M; Navarro-Gómez, ML. *Serologic evolution and follow-up to IgG antibodies of infants born to mothers with gestational COVID*. BMC PREGNANCY AND CHILDBIRTH. 2023; 23(1). FI: 2.8. Quartile: 1. (Article).
- Gómez-Ramírez, J; Luengo, P; Mercader, E; Quintana, A; de Nova, JLM; Febrero, B; Ruz-Caracuel, I; Rodríguez, JM. *Desmoplastic reaction in medullary thyroid carcinoma predicts presence of lymph node metastasis*. BRITISH JOURNAL OF SURGERY. 2023; 110(8) 1011-1012. FI: 8.6. Quartile: 1. (Letter).
- Fernández-Serra, A; López-Reig, R; Marquez, R; Gallego, A; de Sande, LM; Yubero, A; Pérez-Segura, C; Ramchandani-Vaswani, A; Barretina-Ginesta, MP; Mendizabal, E; Esteban, C; Gálvez, F; Sánchez-Heras, AB; Guerra-Alia, EM; Gaba, L; Quindos, M; Palacio, I. *The Scarface Score: Deciphering Response to DNA Damage Agents in High-Grade Serous Ovarian Cancer-A GEICO Study*. CANCERS. 2023; 15(11). FI: 4.5. Quartile: 1. (Article).



- Mercader-Cidoncha, E; Amunategui-Prats, I; Escat-Cortés, JL; Zarain-Obrador, L. *Completion thyroidectomy employing endoscopic remote bilateral axilo-breast approach (BA-BA). A highly versatile technique.* CIRUGIA ESPAÑOLA. 2023; 101(1) 59-59. FI: 1.3. Quartile: 3. (Editorial Material).
- Ríos, A; Puñal-Rodríguez, JA; Moreno, P; Mercader-Cidoncha, E; Ferrero-Herrero, E; Durán, M; Ruiz-Merino, G; Ruiz-Pardo, J; Rodríguez, JM; Gutiérrez, PR. *Protocolization of multicenter clinical studies in the digital era. Is useful data centralization by a data-manager?.* CIRUGIA ESPAÑOLA. 2023; 101(11) 755-764. FI: 1.3. Quartile: 3. (Article).
- Rios, A; Ruiz-Pardo, J; Balaguer-Roman, A; Punal, JA; Moreno, P; Mercader, E; Ferrero, E; Morlan, MA; Martín, J; Durán, M; Bravo, JM; Casanova, D; Salvador-Egea, MP; Torregrosa, NM; Exposito-Rodríguez, A; Martínez-Fernández, G; Carrion, AM; Vidal, O; Herr. *Is unicentric familial papillary thyroid microcarcinoma different from multicentric?.* ENDOCRINE. 2023; 82(3) 613-621. FI: 3. Quartile: 2. (Article).
- García-Montero, C; Fraile-Martínez, O; Rodríguez-Martín, S; Saz, JV; Rodríguez, RA; Moreno, JMP; Labarta, JR; García-Honduvilla, N; Álvarez-Mon, M; Bravo, C; De Leon-Luis, JA; Ortega, MA. *The Use of Prebiotics from Pregnancy and Its Complications: Health for Mother and Offspring-A Narrative Review.* FOODS. 2023; 12(6). FI: 4.7. Quartile: 1. (Review).
- Carrera, M; Alonso, L; Domínguez, JA; Alcázar, JL; Carugno, J; Moratalla, E; Milan, FP; Caballero, M. *Hysteroscopic metroplasty for the treatment of the dysmorphic uterus: A SWOT analysis.* FRONTIERS IN SURGERY. 2023; 9. FI: 1.6. Quartile: 2. (Review).
- Cunarro-López, Y; Llanos, LS; Hernández, IC; De Zumarraga, BGG; Recarte, MDP; Labarta, FJR; Cano-Valderrama, O; Ocana, OA; Lucas, RP; Beneitez, MDV; Angullo, ZRR; Muñoz, MF; Moreno, JMP; Rodríguez, MMS; Rodríguez, RA; Burrell, LP; Prat, AS; López, AF; Del. *Workshop for Basic Gynaecological Examinations: Improving Medical Student Learning through Clinical Simulation.* HEALTHCARE. 2023; 11(16). FI: 2.4. Quartile: 2. (Article).
- Ortega MA; Fraile-Martínez O; García-Montero C; Rodríguez-Martín S; Funes Moñux RM; Pekarek L; Bravo C; De Leon-Luis JA; Saez MA; Guijarro LG; Lahera G; Monserrat J; Rodríguez-Jiménez R; Saz JV; Bujan J; García-Honduvilla N; Álvarez-Mon M; Álvarez-Mon MA. *Women with psychotic episodes during pregnancy show increased markers of placental damage with Tenney-Parker changes.* HISTOLOGY AND HISTOPATHOLOGY. 2023; 38(10) 1109-1118. FI: 2.5. Quartile: 2. (Article).
- Muñoz-Gómez MJ; Martín-Vicente M; Vigil-Vázquez S; Carrasco I; Lobo AH; Mas V; Vázquez M; Manzanares A; Cano O; Zamora C; Alonso R; Sepulveda-Crespo D; Tarancon-Díez L; Muñoz-Fernández MÁ; Muñoz-Chapuli M; Resino S; Navarro ML; Martínez I. *IgG antibody levels against the SARS-CoV-2 spike protein in mother-child dyads after COVID-19 vaccination.* INFECTION. 2023; 52(3) 813-824. FI: 5.4. Quartile: 1. (Article).
- Minig, L; Segovia, MG; Arencibia, O; Zorrero, C; Marti, L; Pineda, VG; Cespedes, J; Niguez, I; Gil-Ibáñez, B; Díaz-Feijoo, B; Fidalgo, S; Valencia, I; Alonso-Gutiérrez, T; González, L; Veiga-Fernández, A; Chacon, E; Negredo, I; Sutil, LA; Gorostidi, M; Za. *Oncological outcomes among young women with non-epithelial ovarian cancer: the YOC-Care study (Young Ovarian Cancer - Care).* INTERNATIONAL JOURNAL OF GYNECOLOGICAL CANCER. 2023; 33(6) 915-921. FI: 4.1. Quartile: 1. (Article).
- González-González, NL; González-Davila, E; Megia, A; Pintado, P; Vega, B; Padron, E; Pérez-Conde, L; Villalba, N; Bugatto, F. *The NDDG criteria versus the IADPSG or the ADA criteria for diagnosing early-onset gestational diabetes mellitus or abnormal glucose tolerance.* INTERNATIONAL JOURNAL OF GYNECOLOGY & OBSTETRICS. 2023; 160(3) 906-914. FI: 2.6. Quartile: 2. (Article).
- Moreno, JMP; Minaya, MR; López, AF; Hidalgo, MF; Abad, VO; Larroca, SGT. *Importance of the early diagnosis of incarcerated gravid uterus: Case report and systematic review.* INTERNATIONAL JOURNAL OF GYNECOLOGY & OBSTETRICS. 2023; 162(1) 193-201. FI: 2.6. Quartile: 2. (Review).
- Conthe, A; Ibáñez-Samaniego, L; Muñoz, MF; Ortega, V; Yunquera, AF; Romero, M; Yllana, F; Catalina, MV; Larroca, SGT; Banares, R. *Pregnancy outcomes in patients with portal cavernoma: A case series study.* INTERNATIONAL JOURNAL OF GYNECOLOGY & OBSTETRICS. 2023; 163(1) 277-281. FI: 2.6. Quartile: 2. (Article).
- Ortega, MA; Sánchez-Gil, MA; Fraile-Martínez, O; García-Montero, C; Guijarro, LG; Díaz-Pedrero, R; López-González, L; De Leon-Luis, J; Bravo,



C; Álvarez-Mon, M; Bujan, J; Saez, MA; García-Honduvilla, N. *Increased Expression of Tetraspanins, ALIX and HSP-70 in the Placenta Tissue of Women with Chronic Venous Disease during Pregnancy*. INTERNATIONAL JOURNAL OF MEDICAL SCIENCES. 2023; 20(13) 1744-1754. FI: 3.2. Quartile: 1. (Article).

- Ortega, MA; García-Montero, C; Fraile-Martínez, O; De Leon-Oliva, D; Boaru, DL; Bravo, C; De Leon-Luis, JA; Saez, MA; Asunsolo, A; Romero-Gerechter, I; Sanz-Giancola, A; Díaz-Pedrero, R; López-González, L; Guijarro, LG; Barrena-Blázquez, S; Bujan, J; Garc. *Assessment of Tissue Expression of the Oxytocin-Vasopressin Pathway in the Placenta of Women with a First-Episode Psychosis during Pregnancy*. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(12). FI: 4.9. Quartile: 1. (Article).
- Gambacorti-Passerini, ZM; Payo, CM; Arribas, CB; Larroca, SGT; García-Honduvilla, N; Ortega, MA; Fernández-Pachecho, RP; Luis, JD. *First-Trimester Ultrasound Imaging for Prenatal Assessment of the Extended Cardiovascular System Using the Cardiovascular System Sonographic Evaluation Algorithm (CASSEAL)*. JOURNAL OF CARDIOVASCULAR DEVELOPMENT AND DISEASE. 2023; 10(8). FI: 2.4. Quartile: 2. (Article).
- Ortega, MA; Pekarek, T; Fraile-Martínez, O; García-Montero, C; Pekarek, L; Rodríguez-Martín, S; Monux, RMF; Bravo, C; De Leon-Luis, JA; Lahera, G; Monserrat, J; Quintero, J; Bujan, J; García-Honduvilla, N; Álvarez-Mon, M; Álvarez-Mon, MA. *A Review: Integrative Perspectives on the Features and Clinical Management of Psychotic Episodes in Pregnancy*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(2). FI: 3. Quartile: 1. (Review).
- Ruiz-Labarta, FJ; Rodríguez, RA; Prat, AS; Burrel, LP; Moreno, JMP; Rodríguez, MS; Recarte, MPP; García-Honduvilla, N; Ortega, MA; Velasco,

JA; Corral, AP; Bravo, C; De Leon-Luis, JA. *Red Blood Cell Transfusion after Postpartum Hemorrhage: Clinical Variables Associated with Lack of Postpartum Hemorrhage Etiology Identification*. JOURNAL OF CLINICAL MEDICINE. 2023; 12(19). FI: 3. Quartile: 1. (Article).

- Sánchez-Trujillo, L; Fraile-Martínez, O; García-Montero, C; García-Puente, LM; Guijarro, LG; De Leon-Oliva, D; Boaru, DL; Gardon-Alburquerque, D; Lobo, MDT; Royuela, M; García-Tunon, I; Rios-Parra, A; De Leon-Luis, JA; Bravo, C; Álvarez-Mon, M; Bujan, J. *Chronic Venous Disease during Pregnancy Is Related to Inflammation of the Umbilical Cord: Role of Allograft Inflammatory Factor 1 (AIF-1) and Interleukins 10 (IL-10), IL-12 and IL-18*. JOURNAL OF PERSONALIZED MEDICINE. 2023; 13(6). FI: 3. Quartile: 1. (Article).
- Soriano-Ramos, M; Esquivel-De la Fuente, E; Vicent, EA; de la Calle, M; Baquero-Artigao, F; Domínguez-Rodríguez, S; Cabanes, M; Gómez-Montes, E; Gonce, A; Valdes-Bango, M; Vinuela-Beneitez, MC; Gutiérrez, MMC; Saavedra-Lozano, J; Pérez, IC; Encinas, B; Vi. *The role of the T-cell mediated immune response to Cytomegalovirus infection in intrauterine transmission*. PLOS ONE. 2023; 18(2). FI: 2.9. Quartile: 1. (Article).
- Mercader-Cidoncha, E; Zarain-Obrador, L; Lasso, JM; Simón-Adiego, C. *Surgical resources in advanced thyroid cancer treatment with aerodigestive tract invasion*. SURGICAL ONCOLOGY-OXFORD. 2023; 46. FI: 2.3. Quartile: 2. (Editorial Material).
- Domínguez, JA; Pacheco, LA; Moratalla, E; Carugno, JA; Carrera, M; Pérez-Milan, F; Caballero, M; Alcázar, JL. *Diagnosis and management of isthmocele (Cesarean scar defect): a SWOT analysis*. ULTRASOUND IN OBSTETRICS & GYNECOLOGY. 2023; 62(3) 336-344. FI: 6.1. Quartile: 1. (Review).



Group Director: **MARTA SUPERVÍA POLA AND SONIA ESTEBAN**

Organisms involved: **HUGUM**

Type: **Emerging Group**

## Research lines

- L1: Evolution of body composition in cardiac rehabilitation.

## Group members

- **Arroyo Riaño, Olga:** R2. Recognised Researcher.
- **Carrascosa Salcedo, Francisco.**
- **Crespo Cobo, Pilar:** R2. Recognised Researcher.
- **Echevarría Ulloa, Mirley:** R2. Recognised Researcher.
- **Esteban Román, Sonia:** R4. Leading Researcher.
- **García Delgado, Isabel.**
- **López Chicharro, José:** R2. Recognised Researcher.
- **Moreno Palacios, Juan Antonio:** R2. Recognised Researcher.
- **Pérez Ruiz, Margarita:** R2. Recognised Researcher.
- **Reboredo Redondas, María Dolores.**
- **Supervia Pola, Marta:** R4. Leading Researcher.
- **Ubeda Tikkanen, Ana Aletha:** R3. Established Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         |            |                    |            |
| National      |                         |            |                    |            |
| Regional      | 1                       |            |                    |            |

- Title: **EXPLORER: Primer portfolio de dispositivos de uso doméstico destinado a la rehabilitación de pacientes afectados por trastornos de la marcha.** PMPTA22/00106  
Director: Arroyo Riaño, Olga  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2024

## Publications

Total Impact Factor: 17,8

|                                                        | Nº       | IF          |
|--------------------------------------------------------|----------|-------------|
| Own publications                                       | 1        | 0,0         |
| Joint publications                                     | 4        | 17,8        |
| First decile publications                              | 1        | 0,0         |
| First quartile publications                            | 1        | 9,6         |
| Second quartile publications                           | 3        | 8,1         |
| Third quartile publications                            | 0        | 0,0         |
| Fourth quartile publications                           | 1        | 0,1         |
| Nonindexed publications/No IF                          | 2        | –           |
| <b>Total publications (including those without IF)</b> | <b>7</b> | <b>17,8</b> |





**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor**

- Palacios, JAM; Martínez, IM; Fernández, RJ; Blanco, EL; Sanz, MA; Román, SE. *Functional results and mortality in elderly patients with major lower limb amputation*. ANGIOLOGIA. 2023; 75(4) 204-211. FI: 0.1. Quartile: 4. (Article).
- Turk-Adawi, K; Supervia, M; Ghisi, G; Cuenza, L; Yeo, TJ; Chen, SY; Anchique-Santos, C; Grace, SL. *The impact of ICCPR's Global Audit of Cardiac Rehabilitation: where are we now and where do we need to go?*. ECLINICALMEDICINE. 2023; 61. FI: 9.6. Quartile: 1. (Editorial Material).
- Zhang, WL; Supervia, M; Dun, Y; Lennon, RJ; Ding, RJ; Sandhu, G; Tilbury, T; Squires, RW; Vardar, U; Tabatabaei, N; Thomas, RJ. *The Association Between a Second Course of Cardiac Rehabilitation and Cardiovascular Outcomes Following Repeat Percutaneous Coronary Intervention Events*. JOURNAL OF CARDIOPULMONARY REHABILITATION AND PREVENTION. 2023; 43(2) 101-108. FI: 3.3. Quartile: 2. (Article).

- Barranco, MC; Velasquez, ABC; Supervia, M; Riano, MOA; Smith, JR. *Cardiac Rehabilitation Program in Children With Congenital Heart Disease: Promising Results*. JOURNAL OF CARDIOPULMONARY REHABILITATION AND PREVENTION. 2023; 43(2) 145-146. FI: 3.3. Quartile: 2. (Letter).
- Sadeghi, M; Turk-Adawi, K; Supervia, M; Fard, MR; Noohi, F; Roohafza, H; Sarrafzadegan, N; Grace, SL. *Availability and nature of cardiac rehabilitation by province in Iran: A 2018 update of ICCPR's global audit*. JOURNAL OF RESEARCH IN MEDICAL SCIENCES. 2023; 28(1) 1-1. FI: 1.5. Quartile: 2. (Article).

**Other publications**

- Begazo Flores P; Supervia M; Gimeno González M; Morata Crespo AB. *Impacto de la pandemia por COVID-19 en los Servicios de Rehabilitación de España*. REHABILITACION. 2023; 57(2) 100736-100736. (Article).
- Sainz de Murieta E; Supervia M; de Miguel C. *Necesidades de rehabilitación en pacientes con sobrepeso y obesidad*. REHABILITACION. 2023; 57(1) 100757-100757. (Editorial Material).



Group Director: **JAVIER MENÁRGUEZ PALANCA**

Organisms involved: **HGUGM**

Type: **Emerging Group**

## Research lines

- ▶ L1: Prognostic and predictive factors in digestive cancer.
- ▶ L2: Prognostic and predictive factors in urogenital cancer.
- ▶ L3: Prognostic and predictive factors in sarcomas.
- ▶ L4: Prognostic and predictive factors in CNS neoplasms.
- ▶ L5: Prognostic factors in lupus nephropathy.
- ▶ L6: Renal transplant pathology.
- ▶ L7: Pathology of hepatic transplantation.

## Group members

- **Agra Pujol, Carolina:** R1. First Stage Researcher.
- **Alijo Serrano, Francisco:** R1. First Stage Researcher.
- **De la Peña Navarro, Itziar:** R1. First Stage Researcher.
- **Díaz Crespo, Francisco Javier:** R1. First Stage Researcher.
- **García Martos, María:** R1. First Stage Researcher.
- **López Martínez-Bernal, Beatriz:** R1. First Stage Researcher.
- **López Vacas, Rocío:** R1. First Stage Researcher.
- **López Varela, Carmen:** R1. First Stage Researcher.
- **Menárguez Palanca, Francisco Javier.**
- **Parra Blanco, Verónica.**
- **Sola Vendrell, Emma:** R1. First Stage Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |

## Publications

Total Impact Factor: 91,5

|                                                        | Nº        | IF          |
|--------------------------------------------------------|-----------|-------------|
| Own publications                                       | 2         | 2,0         |
| Joint publications                                     | 18        | 89,5        |
| First decile publications                              | 2         | 0,0         |
| First quartile publications                            | 12        | 77,4        |
| Second quartile publications                           | 5         | 11,8        |
| Third quartile publications                            | 1         | 0,9         |
| Fourth quartile publications                           | 2         | 1,4         |
| Nonindexed publications/No IF                          | 0         | –           |
| <b>Total publications (including those without IF)</b> | <b>20</b> | <b>91,5</b> |

## Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor:

- Nieto-Benito, LM; Huerta-Aragones, J; Parra-Blanco, V; Campos-Domínguez, M. *Kaposiform hemangioendothelioma and tufted angioma: two entities of the same clinicopathological spectrum*. ANAIS BRASILEIROS DE DERMATOLOGIA. 2023; 98(3) 391-394. FI: 2.6. Quartile: 2. (Letter).



- Cuellar, CN; Urmeneta, AS; Marcos, RL; Antúñez-Conde, R; López, AL; de Vera, JLDP; Martín-Moro, JG; Carretero, JLC; Serrano, FA; Orabona, GD; Zamorano-Leon, JJ; Cuellar, IN. *Prognostic Value of Lymph Node Density in Lingual Squamous Cell Carcinoma*. APPLIED SCIENCES-BASEL. 2023; 13(9). FI: 2.5. Quartile: 1. (Article).
- González, RS; Pastríán, LG; Pyatibrat, S; Arias, HDQ; Gil, YR; Booth, AL; Navarro, ID; Garmendia-Irizar, M; Lapointe, JR; Mobarki, M; Nova-Camacho, LM; Parini, G; Romio, E; Alayza, AR; Pritt, BS; Ruz-Caracuel, I. *Submucosal Necrotic Nodule of the Colon An Enigmatic Entity Potentially Related to Anisakis Infection*. ARCHIVES OF PATHOLOGY & LABORATORY MEDICINE. 2023; 147(11) 1315-1319. FI: 3.7. Quartile: 1. (Article).
- Salmeron-Villalobos, J; Castrejon-de-Anta, N; Guerra-García, P; Ramis-Zaldivar, JE; López-Guerra, M; Mato, S; Colomer, D; Díaz-Crespo, F; Menárguez, J; Garrido-Pontnou, M; Andrés, M; García-Fernández, E; Llavador, M; Frigola, G; García, N; González-Farre, J. *Decoding the molecular heterogeneity of pediatric monomorphic post-solid organ transplant lymphoproliferative disorders*. BLOOD. 2023; 142(5) 434-445. FI: 21. Quartile: 1. (Article).
- Álvarez, RA; Manzano, A; Pujol, CA; Raventos, VA; Correa, R; Jurado, JC; Fernández, JA; del Muro, XG; González, JA; Hindi, N; Lominchar, PL; Martínez-Trufero, J; Mendez, R; Muñoz, M; Casares, CM; Castellanos, FO; Fernández, RO; González, MP; Redondo, A; M. *Updated Review and Clinical Recommendations for the Diagnosis and Treatment of Patients with Retroperitoneal Sarcoma by the Spanish Sarcoma Research Group (GEIS)*. CANCERS. 2023; 15(12). FI: 4.5. Quartile: 1. (Review).
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- Galera, M; Álvarez, R; Arregui, M; Paniagua, M; Álvarez, A; Crisostomo, RAG; Díazgranados, A; Gutiérrez, N; Calles, A; Agra, C. *A Clear Cell Sarcoma Case: A Diagnostic and Treatment Challenge, with a Promising Response to Trabectedin*. CASE REPORTS IN ONCOLOGY. 2023; 16(1) 1542-1550. FI: 0.7. Quartile: 4. (Article).
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Group Director: **ISABEL DEL CURA GONZÁLEZ  
AND JESÚS MARTÍN FERNÁNDEZ**

Organisms involved: **HGUGM**

Type: **Consolidated in process of integration group**

Research group that brings together researchers who carry out their research mainly in the community and in primary care.

## Research lines

### Axis 1. Epidemiology and characterisation of chronicity

- ▶ L1: Characterisation of chronic diseases, multimorbidity and frailty.
- ▶ L2: Characterisation of health status from the patient's perspective.
- ▶ L3: Evaluation of performance and health policies in the care of chronically ill patients. Navigating the chronically ill in the health care system.

### Axis 2. Effectiveness and cost-effectiveness of interventions at the community level

- ▶ L1: Comparative effectiveness of interventions and strategies implemented in primary care, both from the perspective of effectiveness and efficiency.
- ▶ L2: Evaluation of care interventions

### Axis 3. Social determinants of health and health inequalities

- ▶ L1: Health and vulnerable populations
- ▶ L2: Gender and social determinants

### Axis 4. Precision Medicine

- ▶ L1: Prevention and health promotion
- ▶ L2: Risk stratification and predictive modelling in chronic diseases

### Axis 5. Impact of Covid 19 at Community level

- ▶ L1: Impact on care
- ▶ L2: Impact on the mental health of professionals
- ▶ L3: Impact on professional performance

## Group members

- **Álvarez Villalba, María del Mar:** R2. Recognised Researcher.
- **Ares Blanco, Sara:** R1. First Stage Researcher.
- **Ariza Cardiel, Gloria:** R2. Recognised Researcher.
- **Barrio Cortés, Jaime:** R2. Recognised Researcher.
- **Del Cura González, Isabel:** R4. Leading Researcher.
- **Estevan Burdeus, Patricia:** R2. Recognised Researcher.
- **Folguera Álvarez, María del Carmen:** R3. Established Researcher.
- **Garrido Elustondo, Sofía:** R3. Established Researcher.
- **Gefaell Larrondo, Ileana.**
- **González González, Ana Isabel:** R3. Established Researcher.
- **Herraiz Ahijado, Borja Jesús:** R1. First Stage Researcher.
- **López Rodríguez, Juan Antonio:** R2. Recognised Researcher.
- **Lozano Hernández, Cristina:** R1. First Stage Researcher.
- **Martín Fernández, Jesús:** R4. Leading Researcher.
- **Medina García, Rodrigo:** R1. First Stage Researcher.
- **Minue Estirado, María:** R1. First Stage Researcher.
- **Morey Montalvo, Mariel:** R1. First Stage Researcher.
- **Nuevo Coello, Lucía:** R1. First Stage Researcher.
- **Olmedo Galindo, Jorge:** R2. Recognised Researcher.
- **Polentinos Castro, Elena:** R3. Established Researcher.
- **Rico Blázquez, Milagros:** R1. First Stage Researcher.
- **Rodríguez Barrientos, Ricardo:** R2. Recognised Researcher.
- **Rogero Blanco, María Eloisa:** R2. Recognised Researcher.
- **Rumayor Lorenzo, Mercedes:** R3. Established Researcher.
- **Saldaña Alonso, Irmira:** R1. First Stage Researcher.
- **Sánchez Celaya del Pozo, Marta:** R3. Established Researcher.
- **Sanz Cuesta, Teresa:** R3. Established Researcher.



### Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      |                         | 5          |                    |            |
| National      | 2                       | 6          |                    |            |
| Regional      |                         |            |                    | 2          |

- Title: **Efectividad y coste efectividad de una comunidad de práctica virtual para la mejora del empoderamiento de personas de mediana edad con multimorbilidad: ECA.** PI22/01124  
Director: González González, Ana Isabel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: **Multimorbilidad en el Sistema Nacional de Salud: Caracterización poblacional e impacto de sus patrones y trayectorias en personas mayores (Proyecto MM-SNS).** PI22/00768  
Director: Del Cura González, Isabel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025

#### Not managed by the FIBHGM

- Title: **Cancer prevention and early detection among the homeless population in Europe: Co-adapting and implementing the Health Navigator Model. CANCERLESS. 965351.** H2020-SC1-2020-Single-Stage-RTD  
COIP: Barrio Cortés, Jaime  
Project type: European research project

Funding body: H2020  
Start date: 01/06/2021  
End date: 31/05/2024

- Title: **BEhavioral and Adherence Model for improving quality, health outcomes and cost-Effectiveness of healthcaRe. BEAMER. 101034369.** H2020-JTI-IMI2-2020-23-two-stage  
COIP: Barrio Cortés, Jaime  
Project type: European research project  
Funding body: H2020  
Start date: 01/09/2021  
End date: 31/08/2026
- Title: **Pre-Commercial Procurement of Innovative Triage Management Systems Strengthening Resilience and Interoperability of Emergency Medical Services. iProcureSecurity PCP. 101022061.** H2020-SU-SEC-2020  
COIP: Barrio Cortés, Jaime  
Project type: European research project  
Funding body: H2020  
Start date: 01/09/2021  
End date: 31/08/2024
- Title: **CO-CAPTAIN.** 101104784 HORIZON-MISS-2022-CANCER-01  
COIP: Polentinos Castro, Elena  
Project type: European research project  
Funding body: H2020  
Start date: 01/01/2023  
End date: 31/12/2026
- Title: **Stratification of Patients using advanced Integrative modeling of Data Routinely acquired for diagnosing Rheumatic complaints, SPIDDER.** 101080711-2 HORIZON-HLTH-2022-TOOL-12-two-stage  
Director: Del Cura González, María Isabel  
Project type: European research project  
Funding body: H2020  
Start date: 01/01/2023  
End date: 31/12/2026





- Title: Patrones temporales de multimorbilidad, adherencia a las recomendaciones de seguimiento y uso de servicios sanitarios en la cohorte de supervivientes de cáncer de mama utilizando datos del mundo real.** PI22/00020  
COIP: Sanz Cuesta, María Teresa  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: Estudio multicéntrico sobre el impacto de la pandemia por SARS-CoV-2 en los cuidados y estado de salud de las personas de 75 años o más y sus cuidadores (Proyecto CUIDAMOS+75).** PI21/00190  
Director: Rico Blázquez, Milagros  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2022  
End date: 31/12/2024
- Title: Infección del tracto urinario en adultos en atención primaria en España: incidencia, etiología, prescripción y resistencias antibióticas (2009-2018). ESTUDIO ITURA-AP.** PI19/00170  
COIP: Rodríguez Barrientos, Ricardo  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2020  
End date: 30/06/2024
- Title: Medicina personalizada en la detección precoz del deterioro cognitivo preclínico. Desarrollo de un modelo predictivo de riesgo.** PMP22/00084  
COIP: Rico Blázquez, Milagros  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2025
- Title: Salud pública y Medicina preventiva de precisión combinando exploración física, hábitos de vida e información genómica: monitorización de la pandemia de obesidad a través de extensión de la**

#### Cohorte IMPaCT (Obes-IMPaCT). PMP22/00003

Director: Del Cura González, María Isabel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2023  
End date: 31/12/2026

- Title: Programa de Medicina Predictiva - Infraestructura de Medicina de Precisión asociada a la Ciencia y Tecnología (IMPaCT).** IMP/00021  
Director: Del Cura González, María Isabel  
Project type: Research project  
Funding body: Instituto de Salud Carlos III  
Start date: 01/01/2021  
End date: 31/12/2023
- Title: Investigo Programme.** E28-2023-0603023  
Director: Del Cura González, Isabel  
Project Type: Human Resources  
Funding Body: Comunidad Autónoma de Madrid  
Start Date: 07/04/2023  
End Date: 07/04/2025
- Title: Investigo Programme.** E-28-2023-1487627  
Director: Rico Blázquez, Milagros  
Project Type: Human Resources  
Funding Body: Comunidad Autónoma de Madrid  
Start Date: 01/09/2023  
End Date: 01/09/2024

#### Cooperative Research Structures

| Type (RICORS, CIBER, Platform, Others) | Name of Network                                                                                                                                                      | Role                | Role    |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|
| RICORS                                 | Red de Investigación Cooperativa Orientadas a Resultados en Salud (RICORS). Red de Investigación en cronicidad, atención primaria y promoción de la salud (RICAPPS). | Collaborating group | RICAPPS |



| Publications                                           | Total Impact Factor: 43,2 |             |
|--------------------------------------------------------|---------------------------|-------------|
|                                                        | Nº                        | IF          |
| Own publications                                       | 11                        | 22,8        |
| Joint publications                                     | 4                         | 20,4        |
| First decile publications                              | 2                         | 0,0         |
| First quartile publications                            | 5                         | 19,9        |
| Second quartile publications                           | 9                         | 21,7        |
| Third quartile publications                            | 1                         | 1,6         |
| Fourth quartile publications                           | 0                         | 0,0         |
| Nonindexed publications/No IF                          | 0                         | –           |
| <b>Total publications (including those without IF)</b> | <b>15</b>                 | <b>43,2</b> |

#### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Sánchez, JR; Lazaro, AMD; Barrientos, RR; Cortés, JB; Sanz, AS; Acuna, JB; del Cura-González, I. *Trends in hospitalization for urinary tract infection in the paediatric age group in the 2000-2015 period in Spain*. ANALES DE PEDIATRIA. 2023; 98(3) 175-184. FI: 1.5. Quartile: 2. (Article).
- Cabrera-Rodríguez, A; Rico-Blázquez, M; Sanz-Álvarez, EJ; Schmidt-RioValle, J. *Knowledge, use and opinion about written informed consent in primary healthcare nurses: CONOSER pilot project*. ATENCION PRIMARIA. 2023; 55(2). FI: 1.8. Quartile: 2. (Article).
- García-Martín, V; de Hoyos-Alonso, MC; Delgado-Puebla, R; Ariza-Cardiel, G; del Cura-González, I. *Burden in caregivers of primary care patients with dementia: influence of neuropsychiatric symptoms according to disease stage (NeDEM project)*. BMC GERIATRICS. 2023; 23(1). FI: 3.4. Quartile: 2. (Article).
- Herraiz-Ahijado, B; Folguera-Álvarez, C; Verd-Soriano, J; Mori-Vara, P; Rico-Blázquez, M. *Active legs: Impact of physical activity as an adjuvant*

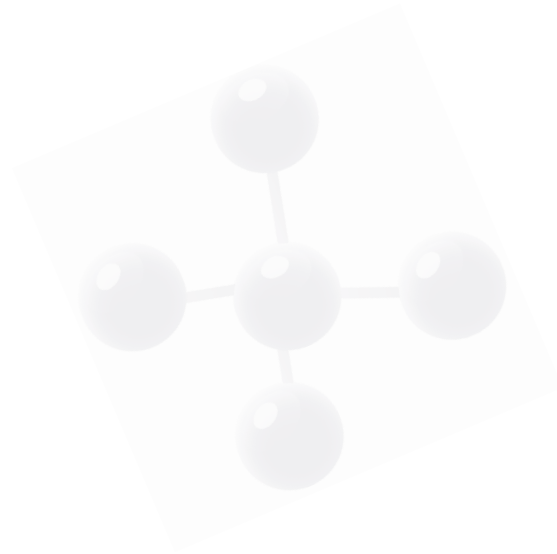
*treatment in the healing of venous ulcers in primary care: a RCT protocol study*. BMC NURSING. 2023; 22(1). FI: 3.1. Quartile: 1. (Article).

- Oliveira, MBD; Aparicio-González, T; del Cura-González, I; Suárez-Fernández, C; Rodríguez-Barrientos, R; Barrio-Cortés, J. *Adjusted morbidity groups and survival: a retrospective cohort study of primary care patients with chronic conditions*. BMC PRIMARY CARE. 2023; 24(1). FI: 2. Quartile: 2. (Article).
- Martín-Fernández, J; Alonso-Safont, T; Polentinos-Castro, E; Esteban-Vasallo, MD; Ariza-Cardiel, G; González-Anglada, MI; Sánchez-Perruca, L; Rodríguez-Martínez, G; Rotaache-del-Campo, R; Bilbao-González, A. *Impact of hypertension diagnosis on morbidity and mortality: a retrospective cohort study in primary care*. BMC PRIMARY CARE. 2023; 24(1). FI: 2. Quartile: 2. (Article).
- Barrio-Cortés, J; Gómez-Gascón, T; Benito-Sánchez, B; Domínguez-Berjón, MF; Esteban-Vasallo, MD; Chalco-Orrego, JP; Vicente-Rabaneda, EF; Baldini, C; Seghieri, C; Goules, AV; Fotiadis, DI; Tzioufas, AG. *Utilisation of primary healthcare services by Sjögren's syndrome patients in the Community of Madrid and associated factors: a population-based cross-sectional study*. CLINICAL AND EXPERIMENTAL RHEUMATOLOGY. 2023; 41(12) 2397-2408. FI: 3.4. Quartile: 2. (Article).
- Diest, APV; Vilagut, G; Alayo, I; Ferrer, M; Amigo, F; Amann, BL; Aragon-Pena, A; Aragones, E; Del Barco, AA; Campos, M; del Cura-González, I; Espuga, M; González-Pinto, A; Haro, JM; Larrauri, A; López-Fresnena, N; de Salazar, AM; Molina, JD; Orti-Lucas, J. *Traumatic stress symptoms among Spanish healthcare workers during the COVID-19 pandemic: a prospective study*. EPIDEMIOLOGY AND PSYCHIATRIC SCIENCES. 2023; 32. FI: 5.9. Quartile: 1. (Article).
- Ares-Blanco, S; Guisado-Clavero, M; Del Rio, LR; Larrondo, IG; Fitzgerald, L; Adler, L; Assenova, R; Bakola, M; Bayen, S; Brutskaia-Stempkovskaya, E; Busneag, IC; Domeyer, PR; Gjorgjievski, D; Hoffmann, K; Ilkov, O; Karathanos, VT; Kirkovski, A; Knezevic, J. *Clinical pathway of COVID-19 patients in primary health care in 30 European countries: Eurodata study*. EUROPEAN JOURNAL OF GENERAL PRACTICE. 2023; 29(2). FI: 2.3. Quartile: 2. (Article).
- Ares-Blanco, S; López-Rodríguez, JA; Vela, MF; Polentinos-Castro, E; del Cura-González, I. *Sex and income inequalities in preventive services in*



*diabetes*. EUROPEAN JOURNAL OF GENERAL PRACTICE. 2023; 29(1). FI: 2.3. Quartile: 2. (Article).

- Duarte-Díaz, A; Betancourt, MA; Seils, L; Orrego, C; Perestelo-Pérez, L; Barrio-Cortés, J; Beca-Martínez, MT; Bermejo-Caja, CJ; González-González, AI. *COVID-19 healthcare and social-related needs from the perspective of Spanish patients and healthcare providers: a qualitative analysis of responses to open-ended questions*. FRONTIERS IN PUBLIC HEALTH. 2023; 11. FI: 3. Quartile: 2. (Article).
- Cereijo, L; Gullon, P; del Cura, I; Valades, D; Bilal, U; Franco, M; Badland, H. *Exercise facility availability and incidence of type 2 diabetes and complications in Spain: A population-based retrospective cohort 2015-2018*. HEALTH & PLACE. 2023; 81. FI: 3.8. Quartile: 1. (Article).
- Barrio-Cortés, J; López-Rodríguez, JA; Gómez-Gascon, T; Rayo-Gómez, A; del Cura-González, I; Domínguez-Berjon, F; Esteban-Vasallo, D; Chalco-Orrego, JP; Vicente-Rabaneda, E; Baldini, C; Seghieri, C; Goules, A; Fotiadis, DI; Tzioufas, AG. *Prevalence and comorbidities of Sjogren's syndrome patients in the Community of Madrid: A population-based cross-sectional study*. JOINT BONE SPINE. 2023; 90(4). FI: 3.8. Quartile: 1. (Article).
- Barrio-Cortés, J; Benito-Sánchez, B; Villimar-Rodríguez, AI; Rujas, M; Arroyo-Gallego, P; Carlson, J; Merino-Barbancho, B; Roca-Umbert, A; Castillo-Sanz, A; Lupiáñez-Villanueva, F; Fico, G; Gómez-Gascón, T. *Differences in healthcare service utilization in patients with polypharmacy according to their risk level by adjusted morbidity groups: a population-based cross-sectional study*. JOURNAL OF PHARMACEUTICAL POLICY AND PRACTICE. 2023; 16(1). FI: 3.3. Quartile: 1. (Article).
- Guisado-Clavero, M; Ares-Blanco, S; Serafini, A; Del Rio, LR; Larrondo, IG; Fitzgerald, L; Vinker, S; van Pottebergh, G; Valtonen, K; Vaes, B; Yilmaz, CT; Torzsa, P; Tilli, P; Sentker, T; Seifert, B; Saurek-Aleksandrovskaya, N; Sattler, M; Petricek, G; Petr. *The role of primary health care in long-term care facilities during the COVID-19 pandemic in 30 European countries: a retrospective descriptive study (Eurodata study)*. PRIMARY HEALTH CARE RESEARCH AND DEVELOPMENT. 2023; 24. FI: 1.6. Quartile: 3. (Article).





Group Director: **ANA PULIDO PÉREZ AND MARTA BERGÓN SENDÍN**

Organisms involved: **HGUGM**

Type: **Emerging Group**

## Research lines

### Axis 1. Oncodermatology

- ▶ L1: Non-melanoma skin cancer
- ▶ L2: Melanoma and pigmentary tumors
- ▶ L3: Cutaneous lymphoproliferative syndromes
- ▶ L4: Cutaneous toxicity associated with oncologic therapies
- ▶ L5: Surgical oncology

### Axis 2. Infectious Dermatology

- ▶ L1: Dermatological manifestations of systemic infections
- ▶ L2: Emerging skin infections
- ▶ L3: Sexually transmitted infections

### Axis 3. Inflammatory dermatologic pathology

- ▶ L1: Cutaneous ulcers of the lower extremities
- ▶ L2: Inflammatory pathology of the vulva
- ▶ L3: Psoriasis
- ▶ L4: Hidradenitis suppurativa
- ▶ L5: Atopic dermatitis

### Axis 4. Autoimmune diseases

- ▶ L1: Blistering diseases
- ▶ L2: Chronic urticaria

## Group members

- **Almodóvar Real, Ana María Gema:** R1. First Stage Researcher.
- **Avilés Izquierdo, José Antonio:** R2. Recognised Researcher.
- **Baniandrés Rodríguez, Ofelia:** R2. Recognised Researcher.
- **Barchino Ortíz, Lucía:** R1. First Stage Researcher.
- **Bergón Sendín, Marta:** R3. Established Researcher.
- **Campos Domínguez, Minia:** R3. Established Researcher.
- **Ciudad Blanco, Cristina:** R2. Recognised Researcher.
- **Espada Regalado, Jesús:** R3. Established Researcher.
- **Molina López, Irene:** R1. First Stage Researcher.
- **Nieto Benito, Lula María:** R2. Recognised Researcher.
- **Pulido Pérez, Ana:** R3. Established Researcher.
- **Rodríguez Lomba, Enrique:** R2. Recognised Researcher.
- **Suárez Fernández, Ricardo:** R3. Established Researcher.

## Research Projects – Competitive Calls

|               | Nº Competitive projects |            | Nº Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International | –                       | –          | –                  | –          |
| European      | –                       | –          | –                  | –          |
| National      | –                       | –          | –                  | –          |
| Regional      | –                       | –          | –                  | –          |



| Publications                                           | Total Impact Factor: 92,5 |             |
|--------------------------------------------------------|---------------------------|-------------|
|                                                        | Nº                        | IF          |
| Own publications                                       | 9                         | 23,3        |
| Joint publications                                     | 12                        | 69,2        |
| First decile publications                              | 6                         | 0,0         |
| First quartile publications                            | 14                        | 77,5        |
| Second quartile publications                           | 2                         | 5,6         |
| Third quartile publications                            | 5                         | 9,4         |
| Fourth quartile publications                           | 0                         | 0,0         |
| Nonindexed publications/No IF                          | 2                         | –           |
| <b>Total publications (including those without IF)</b> | <b>23</b>                 | <b>92,5</b> |

#### Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor

- Pulido-Pérez, A; Descalzo-Gallego, MA; Arias-Santiago, S; Molina-Leyva, A; Gilaberte, Y; Fernández-Crehuet, P; Husein-ElAhmed, H; Viera-Ramírez, A; Fernández-Penas, P; Taberner, R; Buendia-Eisman, A; García-Doval, I. *Nonvenereal Infections in Spanish Dermatology Clinics: Results of the DIADERM Study*. ACTAS Dermo-Sifiliograficas. 2023; 114(6) 472-478. FI: 3.8. Quartile: 1. (Article).
- Rivera-Díaz, R; Pozo, T; Alfageme, F; Ley, BD; Osorio, GF; Chico, R; Vilarrasa, E; Silvente, C; Blanco, CC; Román, J; Martorell, A; Fernández, P; Ferreira, CR; Leyva, AM. *The Effectiveness of Guselkumab in Patients With Hidradenitis Suppurativa Under Clinical Practice Conditions: A Spanish Multicentre Retrospective Study*. ACTAS Dermo-Sifiliograficas. 2023; 114(9) 755-762. FI: 3.8. Quartile: 1. (Article).
- Nieto-Benito, LM; Huerta-Aragones, J; Parra-Blanco, V; Campos-Domínguez, M. *Kaposiform hemangioendothelioma and tufted angioma: two entities of the same clinicopathological spectrum*. ANAIS BRASILEIROS DE DERMATOLOGIA. 2023; 98(3) 391-394. FI: 2.6. Quartile: 2. (Letter).

- Lluch-Galcerá, JJ; Carrascosa, JM; González-Quesada, A; Rivera-Díaz, R; Sahuquillo-Torrallba, A; Llamas-Velasco, M; Gómez-García, F; Herrera-Acosta, E; de la Cueva, P; Baniandrés-Rodríguez, O; López-Esteban, JL; Belinchón, I; Ferrán, M; Mateu, A; Rodríg. *Safety of biologic therapy in combination with methotrexate in moderate to severe psoriasis: a cohort study from the BIOBADADERM registry*. BRITISH JOURNAL OF DERMATOLOGY. 2023; 190(3) 355-363. FI: 11. Quartile: 1. (Article).
- Avilés-Izquierdo, JA; VIRSEDA-González, D; del Monte, MGI; Rodríguez-Lomba, E. *Who Will Have a Second Melanoma? A Prospective Longitudinal Study in Patients without Any Genetic Predisposition*. DERMATOLOGY. 2023; 239(3) 403-408. FI: 3. Quartile: 2. (Article).
- Mohme, S; Alband, N; Díaz, AR; Lefevre, MA; Lomba, ER; Nogueira, M; Goebeler, M; Hamm, H. *Journal Club: Longitudinal melanonychia in children: keep calm, wait and see*. EUROPEAN JOURNAL OF DERMATOLOGY. 2023; 33(1) 60-62. FI: 2. Quartile: 3. (Editorial Material).
- García-Piqueras, P; Avilés-Izquierdo, JA. *Clues in Dermoscopy. Epidermotropic cutaneous malignant melanoma metastases: a description of 25 cases*. EUROPEAN JOURNAL OF DERMATOLOGY. 2023; 33(2) 190-192. FI: 2. Quartile: 3. (Editorial Material).
- García-Martín, E; Romero-Jiménez, RM; Baniandres-Rodríguez, O; Escudero-Vilaplana, V; Benedi-González, J; Luna, PMD; Herranz-Alonso, A; Sanjurjo-Saez, M. *Anti-interleukin-17 therapies for moderate/severe psoriasis in clinical practice: effectiveness, safety and association with clinical patient factors*. EUROPEAN JOURNAL OF HOSPITAL PHARMACY. 2023. FI: 1.6. Quartile: 3. (Article).
- García-Piqueras, P; Bergon-Sendin, M; Cordoba-García-Rayó, M; VIRSEDA-González, D; Medrano-Martínez, N; Jiménez-Briones, L; Lacasta-Plasin, C; de la Torre-Ruiz, EH; Balaguer-Franch, I; Pulido-Pérez, A; Molina-López, I; Rodríguez-Lomba, E; Barchino-Ortiz, J. *Human monkeypox virus in a tertiary hospital in Madrid, Spain: An observational study of the clinical and epidemiological characteristics of 53 cases*. EXPERIMENTAL DERMATOLOGY. 2023; 32(2) 198-202. FI: 3.5. Quartile: 1. (Article).
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*characteristics and sporadic multiple primary melanomas in a cohort of 402 Spanish subjects.* EXPERIMENTAL DERMATOLOGY. 2023; 32(5) 678-683. FI: 3.5. Quartile: 1. (Article).

- Avilés-Izquierdo, JA; García-Piqueras, P; Ciudad-Blanco, C; Lozano-Masdemont, B; Lazaro-Ochaita, P; Bellon-Cano, JM; Rodríguez-Lomba, E. *Do not PASS any melanoma without diagnosis: a new simplified dermoscopic algorithm.* INTERNATIONAL JOURNAL OF DERMATOLOGY. 2023; 62(4) 518-523. FI: 3.5. Quartile: 1. (Article).
- Martos-Cabrera, L; Llamas-Velasco, M; Armesto, S; Herrera-Acosta, E; Vidal, D; Vilarrasa, E; Rivera-Díaz, R; de la Cueva, P; Martorell-Calatayud, A; Balleca, F; Belinchon, I; Carretero, G; Rodríguez, L; Romero-Mate, A; Pujol-Montcusi, J; Salgado-Boquete, J. *High adherence to secukinumab in patients with moderate to severe psoriasis: a long-term multicenter study in a daily practice setting.* INTERNATIONAL JOURNAL OF DERMATOLOGY. 2023; 62(3) 146-149. FI: 3.5. Quartile: 1. (Letter).
- Castellanos-González, M; Bris, BB; Marsol, IB; Campos, MM; Ruiz-Villaverde, R; Llorente, CP; Nuno-González, A; Sánchez, JT; Mur, EC; García, RG; Alonso, AB; Espanol, GA; García, YH; Schmidt, JMS; Sánchez, MA; Crespo, ER; Alonso, ED; Gallo-Pineda, G; Izqui. *Prädiktive Faktoren für Anti-MDA5-Antikörper bei Patienten mit Dermatomyositis: eine retrospektive multizentrische Studie.* JOURNAL DER DEUTSCHEN DERMATOLOGISCHEN GESELLSCHAFT. 2023; 21(7) 748-750. FI: 5.5. Quartile: 1. (Article).
- Castellanos-González, M; Bris, BB; Marsol, IB; Campos, MM; Ruiz-Villaverde, R; Llorente, CP; Nuno-González, A; Sánchez, JT; Mur, EC; García, RG; Alonso, AB; Espanol, GA; García, YH; Schmidt, JMS; Sánchez, MA; Crespo, ER; Alonso, ED; Gallo-Pineda, G; Izqui. *Predictive factors for anti-MDA5 antibody in patients with dermatomyositis: a retrospective multicenter study.* JOURNAL DER DEUTSCHEN DERMATOLOGISCHEN GESELLSCHAFT. 2023; 21(7) 741-748. FI: 5.5. Quartile: 1. (Article).
- Pereyra-Rodríguez JJ; Herranz P; Figueras-Nart I; Pérez B; Elosua M; Munera-Campos M; Melgosa-Ramos J; Zaragoza V; Silvestre JF; Campos-Domínguez M; Guilabert A; Miquel J; Alcantara-Luna S; de la Cueva P; Serra-Baldrich E; Armario-Hita JC. *Treatment of severe atopic dermatitis with upadacitinib in real clinical practice. Short-term efficacy*

*and safety results.* JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2023; 33(3) 211-213. FI: 6.1. Quartile: 1. (Article).

- Montero-Vilchez, T; Garces, JR; Rodríguez-Prieto, MA; Ruiz-Salas, V; de Eusebio-Murillo, E; Minano-Medrano, R; Escutia-Muñoz, B; González-Sixto, B; Artola-Igarza, JL; Alfaro-Rubio, A; Redondo, P; Delgado-Jiménez, Y; Sánchez-Schmidt, JM; Allende-Markixana, J. *Development and validation of a model to predict complex Mohs micrographic surgery in clinical practice: REGESMOSH scale.* JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY. 2023; 37(8) 1587-1594. FI: 8.4. Quartile: 1. (Article).
- Reymundo, A; Armesto, S; Rodríguez, L; Baniandrs, O; Sahuquillo-Torralba, A; Torres, T; de la Cueva, P; Llamas-Velasco, M; Dauden, E. *Effectiveness of secukinumab for the treatment of erythrodermic psoriasis: Multicentre study in daily practice.* JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY. 2023; 37(12) 1480-1482. FI: 8.4. Quartile: 1. (Letter).
- Muñoz-Aceituno, E; Butrón-Bris, B; Ovejero-Benito, MC; Sahuquillo-Torralba, A; Rodríguez, OB; Herrera-Acosta, E; Rivera-Díaz, R; Ferran, M; Sánchez-Carazo, JL; Riera-Monroig, J; Pujol-Montcusi, J; Vidal, D; de la Cueva, P; García-Bustinduy, M; Ruiz-Villav. *Pharmacogenetic biomarkers for secukinumab response in psoriasis patients in real-life clinical practice.* JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY. 2023. FI: 8.4. Quartile: 1. (Article).
- Hernández de la Torre-Ruiz E; Balaguer-Franch, I; Nieto-Benito, LM. *Prurigo pigmentosa associated with diabetic ketosis.* MEDICINA CLINICA. 2023; 160(1) 44-45. FI: 2.6. Quartile: 1. (Editorial Material).
- Nieto-Benito, LM; Suárez-Fernández, R; Campos-Domínguez, M. *A novel pathogenic variation of DOCK6 gene: the genotype-phenotype correlation in Adams-Oliver syndrome.* MOLECULAR BIOLOGY REPORTS. 2023. FI: 2.6. Quartile: 3. (Article).
- Taibo, A; Colmenero, I; Campos, M; Torrelo, A. *Vulvar erosions in a young girl.* PEDIATRIC DERMATOLOGY. 2023. FI: 1.2. Quartile: 3. (Editorial Material).



**Other publications**

Rivera-Díaz R; Pozo T; Alfageme F; Díaz Ley B; Osorio GF; Chico R; Vilarrasa E; Silvente C; Ciudad Blanco C; Romaní J; Martorell A; Fernández P; Romero Ferreiro C; Molina Leyva A. *The Effectiveness of Guselkumab in Patients With Hidradenitis Suppurativa Under Clinical Practice Conditions: A Spanish Multicentre Retrospective Study*. ACTAS DERMO-SIFILIOGRAFICAS. 2023; 114(9) 755-762. (Article).

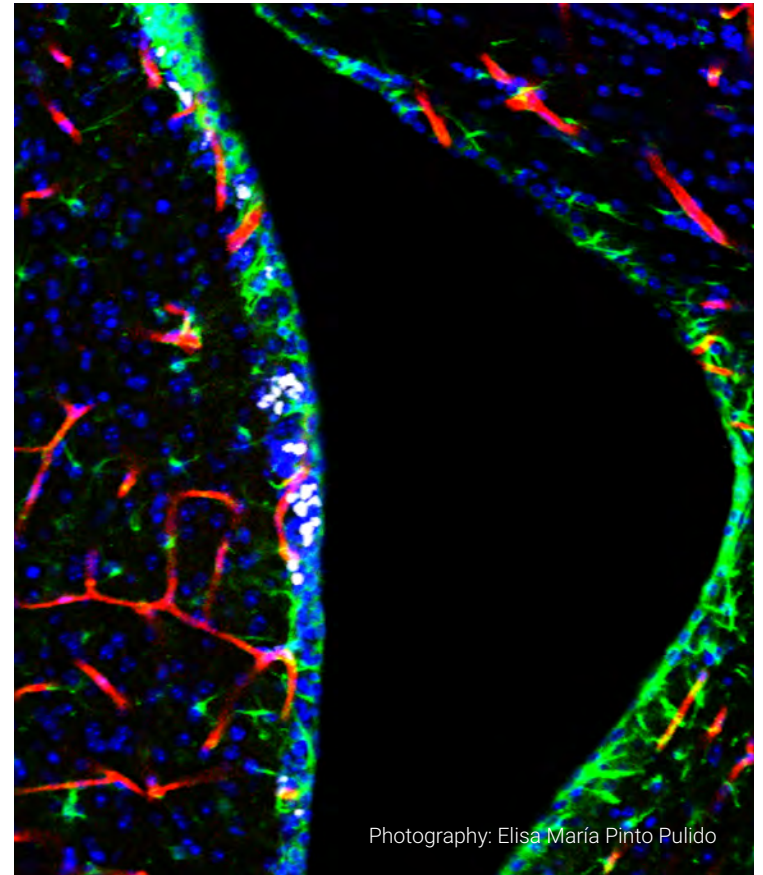
Pulido-Pérez A; Descalzo-Gallego MA; Arias-Santiago S; Molina-Leyva A; Gilaberte Y; Fernández-Crehuet P; Husein-ElAhmed H; Viera-Ramírez A; Fernández-Peñas P; Taberner R; Buendía-Eisman A; García-Doval I. *Nonvenereal Infections in Spanish Dermatology Clinics: Results of the DIADERM Study*. ACTAS DERMO-SIFILIOGRAFICAS. 2023; 114(6) 472-478. (Article).



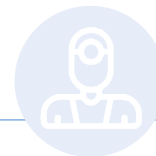
# NURSING RESEARCH GROUP

*Coordinator:*

Ana María García Pozo



Photography: Elisa María Pinto Pulido



Group Director: **ANA MARÍA GARCÍA POZO**

Organisms involved: **HGUGM**

Type: **Associated Group**

## Research lines

### Axis 1: Nursing care

- ▶ L1: Chronic patient care
- ▶ L2: Care for critical patients
- ▶ L3: Care for patients with mental health problems
- ▶ L4: Physiotherapy and rehabilitation
- ▶ L5: Gender violence

### Axis 2: Innovation in health care and services

- ▶ L1: Development of applications and patents
- ▶ L2: Simulation

### Axis 3: Human resources management

- ▶ L1: Professional competences and skills

### Axis 4: Qualitative approach to care research

- ▶ L1: Care and rehabilitation for vulnerable populations

It is an independent research group that aims to increase evidence in nursing care and encourage group research.

## Group members

- **Arrogante Maroto, Óscar:** R2. Recognised Researcher.
- **Bretón Santos, Álvaro:** R1. First Stage Researcher.
- **Calderari Fernández, Elena:** R2. Recognised Researcher.
- **Cid Expósito, Gema:** R2. Recognised Researcher.
- **Corral Liria, Inmaculada:** R2. Recognised Researcher.
- **Durango Limárquez, María Isabel:** R1. First Stage Researcher.

- **Fernández Arranz, Julita:** R2. Recognised Researcher.
- **Fernández Alonso, Víctor:** R2. Recognised Researcher.
- **Flores García, Rubén:** R2. Recognised Researcher.
- **García Pozo, Ana María:** R4. Leading Researcher.
- **González Baz, María Dolores:** R1. First Stage Researcher.
- **González Lluva, Concepción:** R1. First Stage Researcher.
- **Guerra Sánchez, Luis:** R2. Recognised Researcher.
- **Guerrero Márquez, Gloria:** R1. First Stage Researcher.
- **Guijarro Jiménez, Esther:** R1. First Stage Researcher.
- **Leñero Cirujano, Miriam:** R2. Recognised Researcher.
- **Lobo Rodríguez, Carmen:** R2. Recognised Researcher.
- **López Sánchez, Raquel:** R2. Recognised Researcher.
- **López Calleja, Ana María:** R1. First Stage Researcher.
- **López Esteban, Amparo:** R1. First Stage Researcher.
- **Lorente del Río, Natalia:** R1. First Stage Researcher.
- **Luengo González, Raquel:** R2. Recognised Researcher.
- **Martín Fernández, Milagros:** R1. First Stage Researcher.
- **Martín Lozano, Silvia:** R1. First Stage Researcher.
- **Medina Torres, Margarita:** R1. First Stage Researcher.
- **Moro Tejedor, María Nieves:** R2. Recognised Researcher.
- **Palacios Ceña, Domingo:** R3. Established Researcher.
- **Pastor Cordero, Ana María:** R1. First Stage Researcher.
- **Ponce Figuerero, María Ángeles:** R1. First Stage Researcher.
- **Recio Vivas, Ana María:** R2. Recognised Researcher.
- **Robledo Martín, Juana:** R2. Recognised Researcher.
- **Soto Lucía, María Consuelo:** R1. First Stage Researcher.
- **Suárez Bustamante, Rosa:** R1. First Stage Researcher.
- **Toraño Olivera, María José:** R1. First Stage Researcher.
- **Trujillo Gallego, Fernando:** R1. First Stage Researcher.
- **Vaquero Lozano, María Paz:** R1. First Stage Researcher.
- **Velarde García, Juan Francisco:** R2. Recognised Researcher.
- **Visiers Jiménez, Laura:** R2. Recognised Researcher.



### Research Projects – Competitive Calls

|               | N° Competitive projects |            | N° Human Resources |            |
|---------------|-------------------------|------------|--------------------|------------|
|               | FIBHGM                  | Not FIBHGM | FIBHGM             | Not FIBHGM |
| International |                         |            |                    |            |
| European      | 1                       |            |                    |            |
| National      |                         |            |                    |            |
| Regional      |                         |            |                    |            |

- Title: **Earlydel - Design and usability of a wearable system for the early detection of delirium or agitation in patients over 65 years of age in the hospital setting (INNOBUYER)**. IB23-2019610-36

Director: Flores García, Rubén

Project type: European research project

Funding body: EU/PRG. MARCO

Start date: 21/06/2023

End date: 25/08/2025

### Industrial and intellectual property registrations

#### Copyright

| Title                                                       | Reference                          | Owner  | Inventors                                    |
|-------------------------------------------------------------|------------------------------------|--------|----------------------------------------------|
| Nos vamos de excursión a las Urgencias del Gregorio Marañón | Nº Asiento Registral: 16/2016/3799 | FIBHGM | Laura Cervantes, Paula Vázquez, David García |
| App para la gestión eficiente del gasto sanitario           | Nº Asiento Registral: 16/2021/1641 | FIBHGM | Mª del Pilar Álvaro, Mª de las Nieves Moro   |

■ Transferred Intellectual Property.

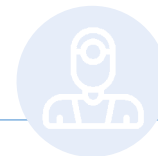
### Clinical Practice Guidelines

| Authors                                                                                                                       | Title                                              | Journal / Reference                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Míguez Navarro MC, Guerrero Márquez G, Fernández Landalucea, en representación del grupo de trabajo de triaje pediátrico seup | Requisitos imprescindibles de un triaje pediátrico | Sociedad Española de Urgencias de Pediatría. <a href="https://seup.org/wp-content/uploads/2024/01/REQUISITOS-MINIMO-TRIAJE-oct23.pdf">https://seup.org/wp-content/uploads/2024/01/REQUISITOS-MINIMO-TRIAJE-oct23.pdf</a> |

### Publications

Total Impact Factor: 41,9

|                                                 | N° | IF   |
|-------------------------------------------------|----|------|
| Own publications                                | 18 | 31,2 |
| Joint publications                              | 4  | 10,7 |
| First decile publications                       | 4  | 0,0  |
| First quartile publications                     | 5  | 16,4 |
| Second quartile publications                    | 7  | 14,8 |
| Third quartile publications                     | 4  | 5,6  |
| Fourth quartile publications                    | 6  | 5,1  |
| Nonindexed publications / No IF                 | 5  | —    |
| Total publications (including those without IF) | 27 | 41,9 |



**Publications of the main WOS collection in journals indexed in the Journal Citation Reports with impact factor:**

- González-Baz MD; Pacheco Del Cerro E; Ferrer-Ferrándiz E; Araque-Criado I; Merchán-Arjona R; de la Rubia González T; Moro Tejedor MN. *Psychometric validation of the Kolcaba General Comfort Questionnaire in critically ill patients*. AUSTRALIAN CRITICAL CARE. 2023; 36(6) 1025-1034. FI: 2.6. Quartile: 1. (Article).
- Fernández-Alonso, V; Rodríguez-Fernández, S; Secadas-Rincon, L; Pérez-Gómez, M; Moro-Tejedor, MN; Salcedo, M. *Resilience After COVID-19: A Descriptive, Cross-Sectional Study*. CLINICAL NURSING RESEARCH. 2023; 32(3) 618-628. FI: 1.7. Quartile: 2. (Article).
- Lenero-Cirujano, M; Torres-González, JI; González-Ordi, H; Moro-Tejedor, MN; Gómez-Higuera, J. *Design of an instrument to measure humor in health professionals*. ENFERMERIA CLINICA. 2023; 33(2) 115-122. FI: 0.7. Quartile: 4. (Article).
- Loezar-Hernández, M; Briones-Vozmediano, E; Gea-Sánchez, M; Robledo-Martín, J; Otero-García, L. *Primary health care midwives' perceptions on the use of telemedicine during the COVID-19 pandemic in Spain*. ENFERMERIA CLINICA. 2023; 33(6) 380-390. FI: 0.7. Quartile: 4. (Article).
- Fernández-Alonso, V; Hernández-Matias, AM; Pérez-Gómez, M; Moro-Tejedor, MN. *Health status of patients with liver transplantation by alcohol-related disease vs another etiology: a cohort study*. ENFERMERIA CLINICA. 2023; 33(6) 391-400. FI: 0.7. Quartile: 4. (Article).
- García-Rodríguez, LC; Luengo-González, R; Moro-Tejedor, MN; Asenjo-Esteve, AL; García-Sastre, MM; Cuesta-Lozano, D. *Adaptation and validation of the MoVac-flu scale on motivation towards the flu vaccine*. GACETA SANITARIA. 2023; 37. FI: 1.5. Quartile: 3. (Article).
- Velarde-García, JF; Álvarez-Embarba, B; Moro-Tejedor, MN; Rodríguez-Leal, L; Arrogante, O; Alvarado-Zambrano, MG; Pérez-Corrales, J; Palacios-Cena, D. *Barriers and Facilitators to the Learning and Acquisition of Research Competencies among Nursing Students through Active Methodologies: A Qualitative Study Using Reflective Writing*. HEALTHCARE. 2023; 11(8). FI: 2.4. Quartile: 2. (Article).
- Luengo-González, R; Noriega-Matanza, MC; Espin-Lorite, EJ; García-Sastre, MM; Rodríguez-Rojo, IC; Cuesta-Lozano, D; Penacoba-Puente, C. *The role of life satisfaction in the association between problematic technology use and anxiety in children and adolescents during the COVID-19 pandemic*. INTERNATIONAL JOURNAL OF MENTAL HEALTH NURSING. 2023; 32(1) 212-222. FI: 3.6. Quartile: 1. (Article).
- Nombela-Franco, A; Oter-Quintana, C; Robledo-Martín, J. *Case study: School-based care for a girl and her primary caregiver experiencing difficulties in managing diabetes treatment*. INTERNATIONAL JOURNAL OF NURSING KNOWLEDGE. 2023; 34(2) 89-96. FI: 1.4. Quartile: 3. (Article).
- Robledo-Martín, J; Acea-López, L; Pérez-Urdiales, I; Alcolea-Cosin, MT; Bellon, F; Oter-Quintana, C; Blanco-Blanco, J; Pastor-Bravo, MD; Rubinat-Arnaldo, E; Briones-Vozmediano, E. *From students to nurses under pressure: Nursing students' entry into employment during the first COVID-19 wave*. JOURNAL OF CLINICAL NURSING. 2023; 32(19-20) 7209-7226. FI: 3.2. Quartile: 1. (Article).
- Arrogante, O; Velarde García JF; Blázquez-González, P; Moro-Tejedor, MN. *Great geriatric syndromes: Acquisition of nursing competencies and undergraduate nursing students' perceptions through high-fidelity simulation training*. NURSE EDUCATION TODAY. 2023; 121 105685-105685. FI: 3.6. Quartile: 1. (Article).
- Lizcano-Álvarez, A; Carretero-Julian, L; Talavera-Saez, A; Cristobal-Zarate, B; Cid-Exposito, MG; Alameda-Cuesta, A. *Intensive nurse-led follow-up in primary care to improve self-management and compliance behaviour after myocardial infarction*. NURSING OPEN. 2023; 10(8) 5211-5224. FI: 2. Quartile: 2. (Article).
- Palmar-Santos, AM; Oter-Quintana, C; Olmos, R; Pedraz-Marcos, A; Robledo-Martín, J. *A mixed methods study using case studies prepared by nursing students as a clinical practice evaluation tool*. NURSING OPEN. 2023; 10(9) 6592-6601. FI: 2. Quartile: 2. (Article).
- Lenero-Cirujano, M; Torres-González, JI; González-Ordi, H; Gómez-Higuera, J; Moro-Tejedor, MN. *Validation of the humour styles questionnaire in healthcare professionals*. NURSING OPEN. 2023; 10(5) 2869-2876. FI: 2. Quartile: 2. (Article).



- Arias-Rivera, S; Moro-Tejedor, MN; Raurell-Torredà, M; Cortés-Puch, I; Frutos-Vivar, F; Andreu-Vázquez, C; Sánchez-Sánchez, MM; Sánchez-Izquierdo, R; Oteiza-López, L; López-Cuenca, S; Checa-López, M; Jareño-Collado, R; López-López, V; Sánchez-Muñoz, EI; R. *Cross-cultural adaptation of the FRAIL scale for critically ill patients in Spain*. NURSING OPEN. 2023; 10(12) 7703-7712. FI: 2. Quartile: 2. (Article).
- Escobar-Castellanos, M; Miguez-Navarro, MC; García-Mancebo, J; Fernández-Monteagudo, B; Pascual-García, P; Guerrero-Marquez, G; Rivas-García, A. *How Much Do Parents Know About Pain in Their Children?*. PEDIATRIC EMERGENCY CARE. 2023; 39(1) 40-44. FI: 1.2. Quartile: 3. (Article).
- Fernández-Blanco, R; Rincon-García, D; Valero-Alcaide, R; Atin-Arratibel, MA; De Miguel-Díez, J; Corrochano-Cardona, R; Torres-Castro, R; Moro-Tejedor, MN. *Preoperative respiratory therapy in patients undergoing surgery for lung cancer: A randomized controlled trial*. PHYSIOTHERAPY RESEARCH INTERNATIONAL. 2023; 28(1). FI: 1.5. Quartile: 3. (Article).
- LOBO, C.; López-Calleja Ana M.; Morales de los Ríos-Luna P; Sánchez-Vázquez S; Molinero-Sampedro A; López-Esteban A. *Comparación entre la primera y la sexta ola de la pandemia por el coronavirus SARS-COV-2 en pacientes con enfermedad inmunomediada*. REUMATOLOGIA CLINICA. 2023; 19(9) 507-511. FI: 1.2. Quartile: 4. (Article).
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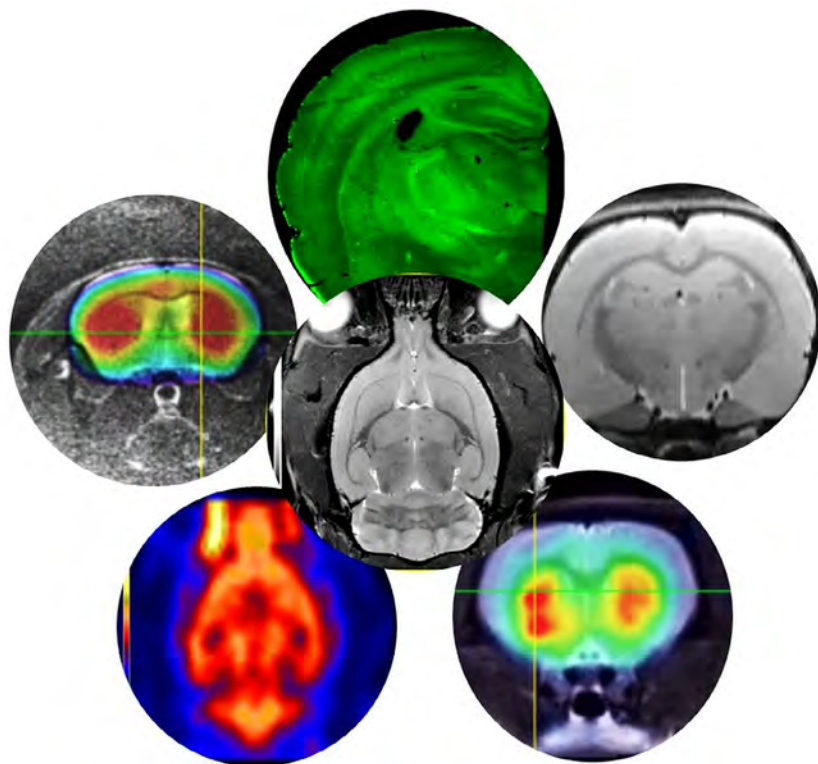
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## 6

## OTHER RESEARCH ACTIVITIES



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Publications generated by clinical researchers  
associated with the liSGM

Publications generated with the participation  
of the Research Support Services (RSSs)



### Clinical researchers associated

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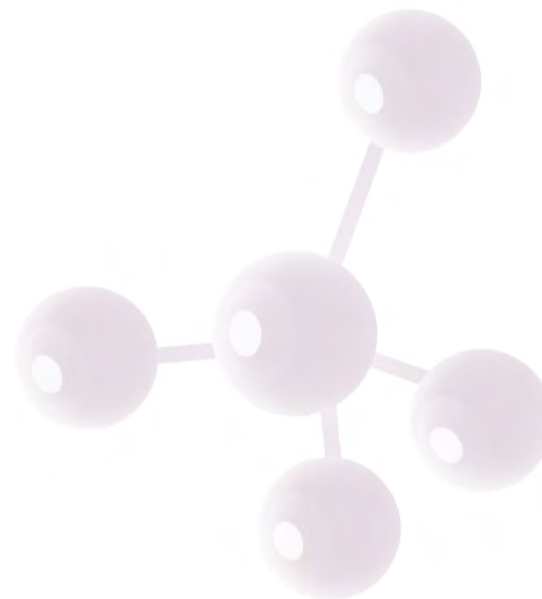
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