

Annual Scientific Report 2014



Instituto de Investigación Sanitaria Gregorio Marañón

Annual Scientific Report 2014



Hospital General Universitario

Gregorio Marañón

Comunidad de Madrid

UNIVERSIDAD COMPLUTENSE
MADRID



FUNDACIÓN INVESTIGACIÓN BIOMÉDICA
HOSPITAL GREGORIO MARAÑÓN



Report prepared by the Biomedical Research Foundation of Hospital Gregorio Marañón and the Health Research Institute of Hospital Gregorio Marañón.

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Area coordinator: <i>Celso Arango López</i>	101
• Group type: Consolidated	
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	- Clinical and etiologic-pathogenic aspects of neuromuscular disease <i>Group director:</i> José Luis Muñoz Blanco 117
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• **Group type: In process of consolidation**

- Neonatal and developmental pathophysiology
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- Pathophysiology and clinical aspects of COPD
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• **Group type: Emerging**

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- Artificial circulation laboratory

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- Evaluation of health services and clinical epidemiology

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- Clinical nutrition

Group director: Pilar García Peris 253• **Group type: Associated Clinical**

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- Pediatric endocrinology
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Presentation



PRESENTATION

PRESENTATION

Once again, we are pleased to present the Scientific Report of Instituto de Investigación Sanitaria Gregorio Marañón (IISGM [*Health Research Institute of Hospital General Universitario Gregorio Marañón*]). The presentation of this report is perhaps all the more relevant if we take into account the clear consolidation of the Institute's scientific activity set out in the Report. In fact, the 2014 Report provides not only an accurate and detailed analysis of research activity in the various areas and groups, but also a unique opportunity for a strategic and in-depth analysis of how IISGM has progressed.

Visibility and dissemination of our research activity is of paramount importance for two reasons. First, publication of the work of the IISGM is a clear recognition of the huge effort made by our research groups. Second, it is important to present our current research and innovative capacity externally, to other institutions and social agents.

In terms of describing our scientific output, the Report provides us with an opportunity to recognize the individual effort made by each Research Group under particularly difficult circumstances that are well known to all. In this sense, a structure based on priority research areas and their corresponding groups has generated a dramatic increase in the scientific output of the IISGM, enabling us to reach and surpass the milestone impact factor of 2000. Once again, we would like to stress the rigor with which publications allocated to IISGM are analyzed and thus highlight the robustness of the indicator. However, this indicator is not the only area where a considerable increase has been observed in the past year. We draw the reader's attention to the number of publications in which IISGM investigators played a leading role, the degree of international involvement in these publications, and the number of original articles in first-quartile and first-decile journals. The increased quality of research produced by the IISGM speaks for itself.

Similarly, we must highlight the commitment of IISGM groups to the training of researchers. The fruits of this commitment are manifest in the considerable number of doctoral theses prepared and defended during 2014.

Also highly relevant is the consolidation of the Innovation Committee and of the Innovation Unit, which gives our organization a modern, open, flexible,

and dynamic structure. In the coming years, innovation will play a key role in the development of research activities in various organizations. Therefore, the presence of the Innovation Unit in the IISGM is essential if we are to become a reference in the field. The rewards of our initial activity can be seen in our innovation portfolio, which is well adapted to the world of today, yet has enormous potential for future growth and remains highly attractive for the industrial and productive sectors.

None of the above changes would have been possible without the effective participation of our researchers in competitive calls for funding. In 2014, this channel enabled researchers from the IISGM to increase the funding available for human resources in their programs, thus ensuring the transfer of knowledge to the next generation of researchers at the center.

One of the key projects of 2014 was the refurbishment of the Experimental Medicine and Surgery Unit, which improved and extended the IISGM's research infrastructure and facilitated access to the various Research Support Services and interaction between researchers from different areas and groups. The refurbishment, which was the fruit of the PROMIIIS competitive call in 2012 and of the generous commitment of the research groups themselves, represents a huge advance and one that was set out in the IISGM strategic plan.

Through the Biomedical Research Foundation of Hospital Gregorio Marañón, IISGM is making every effort to improve its internal management and quality assurance procedures. This process is taking place in a particularly complex economic and administrative environment. Consequently, a key action has been our ambitious Researcher Training Plan, made possible thanks to the invaluable assistance of the recently created IISGM Training Committee.

Once again, this Report provides us with a wonderful opportunity to express our heartfelt thanks to all the researchers of the IISGM for their efforts during such difficult times for hospital-based research. The favorable results we present here can only be achieved through a common effort coupled with a suitable strategy aimed at improving the health of our patients.

We are therefore particularly grateful to the Area Coordinators, Group Directors, and to all the Research Groups and Clinical Services who made such a generous contribution to the development of the liSGM and to its standing in the field of biomedical research. Without their intense, committed, and steadfast participation over the last few years, we would not have reached the level of prestige we now enjoy. Special mention should be made of the many young researchers who, under very difficult conditions, place their talent and determination at the service of research in the liSGM.

We would like to finish on an optimistic note. We believe that the liSGM is clearly on the road to generating important expectations for future growth. Few institutions can boast of a structure that brings together so harmoniously

the pillars of biomedical research, namely, the questions arising from clinical practice and the common vocation to answer them.

Thank you.

Rafael Bañares Cañizares
Scientific Director liSGM

Ismael Buño Borde
Scientific Subdirector, liSGM

Ricardo Herranz Quintana
Manager, Hospital General Universitario Gregorio Marañón

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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 the research report, we analyzed journals indexed in *Web of Science* and in the *Web of Science Core Collection*.

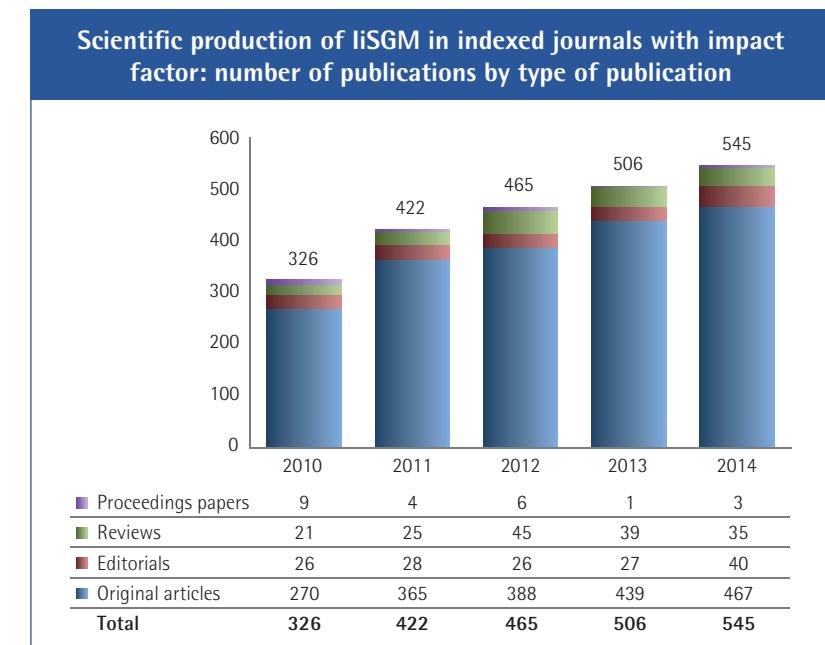
Publications were assigned to the various areas and groups by considering only those in which the IISGM and/or Hospital General Universitario Gregorio Marañón was included in the institutional affiliations in the *ISI Web of Knowledge*. Nevertheless, we also performed an exhaustive search of possible inaccurate denominations. Therefore, we have not included publications by researchers in which their affiliation to the Institute/Hospital does not appear clearly.

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). 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.

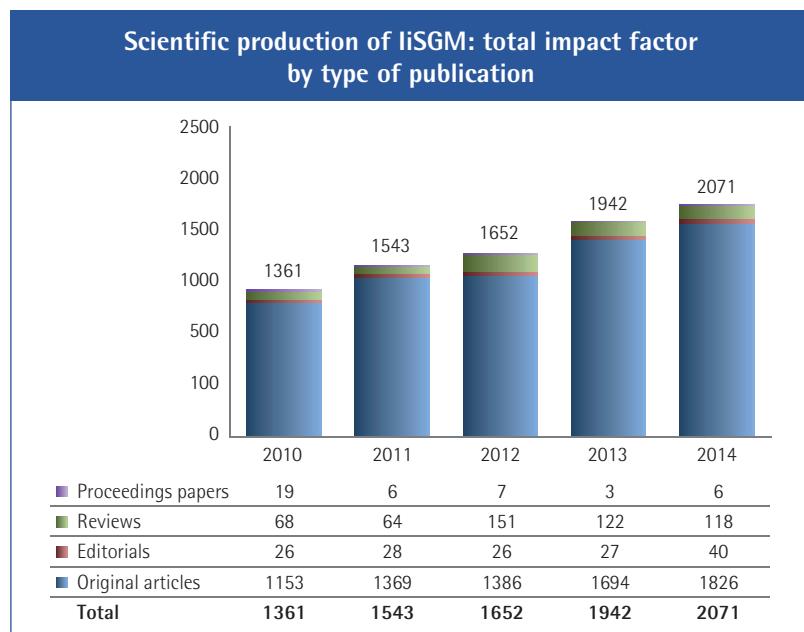
The objective of the methodology used is none other than to apply internationally validated bibliometric tools for the analysis of scientific production, thus ensuring the robustness of the data contained in the research report.

In quantitative terms, the scientific production of IISGM in 2014 consolidated the growing trend observed in recent years, with a total of **545 indexed publications, representing a total impact factor of 2071 points**, ie, 6.5% higher than in 2013 and a 52% increase in the last 5 years.

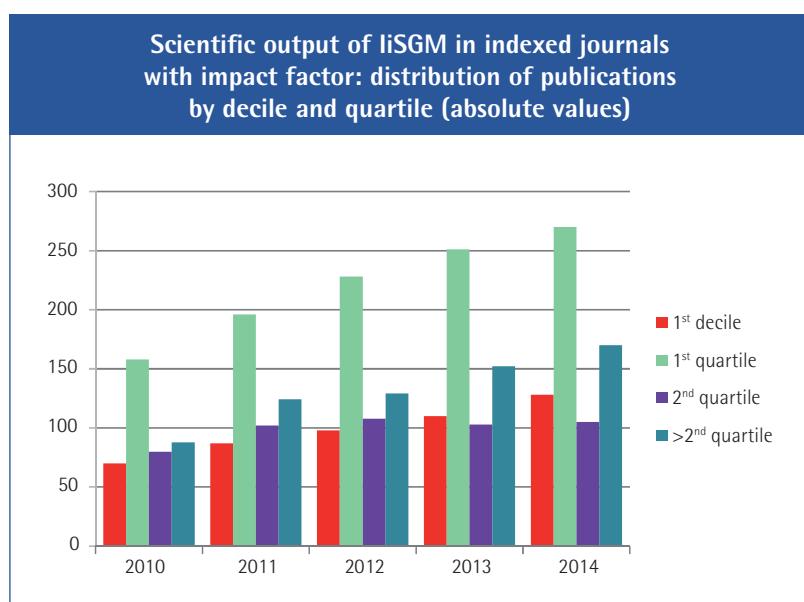
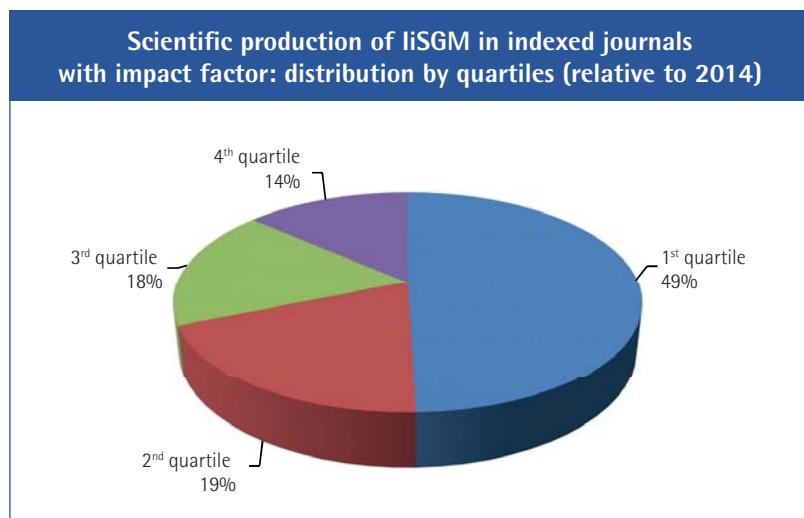


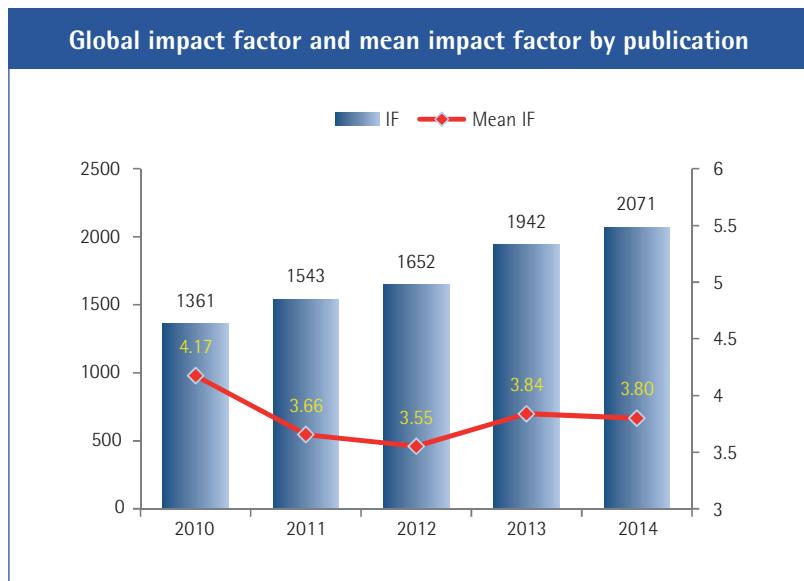
The following figure summarizes the global impact factor corresponding to the scientific production of the IISGM for each of the last 5 years and its distribution according to the different types of publication. As can be observed, the highest impact factor percentage corresponds to original articles and review articles, both of which account for more than 90% of the total impact factor. It is important to note that, once again this year, the global impact factor has increased to the detriment of original articles. The figure for the number of editorials and reviews in recent years must be emphasized, since these probably represent the growing importance of the scientific opinion of researchers from the IISGM.

GLOBAL ANALYSIS



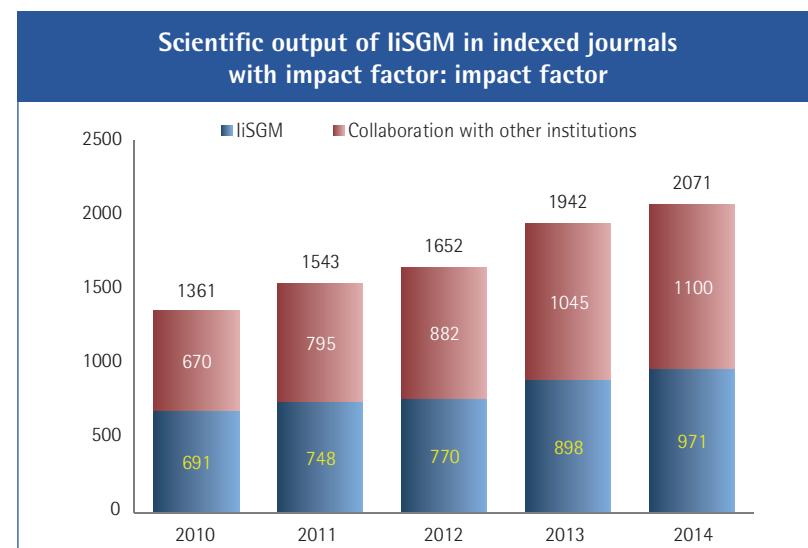
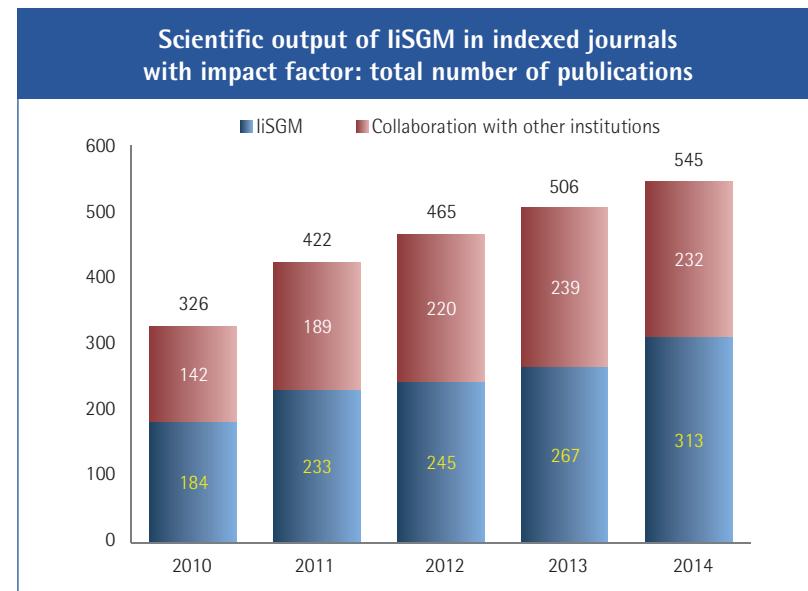
The distribution of liSGM publications according to quartile and decile is shown below. The number of first-decile and first-quartile publications continues to be greater than last year, with similar percentages in terms of the total number of publications for the year, whereas the impact factor is practically the same as in 2013.





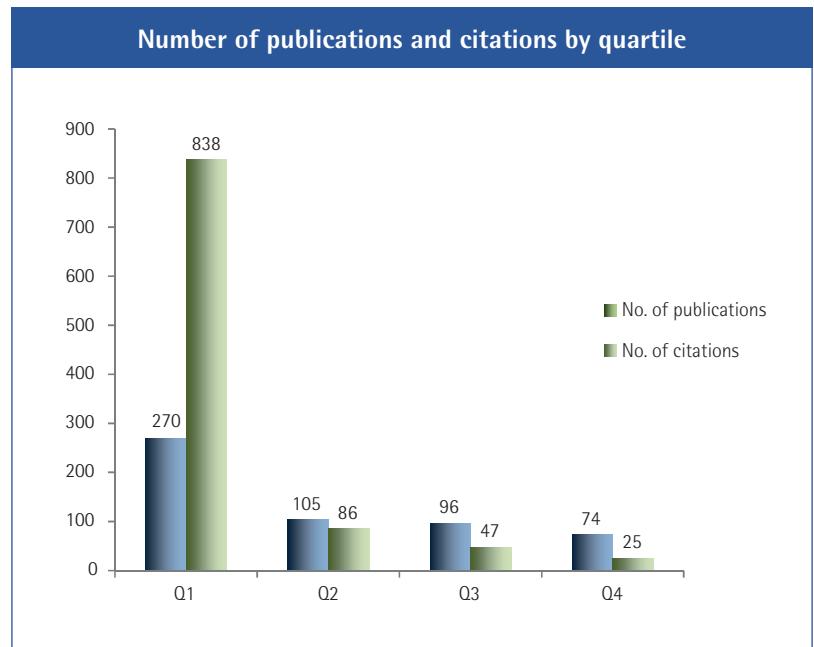
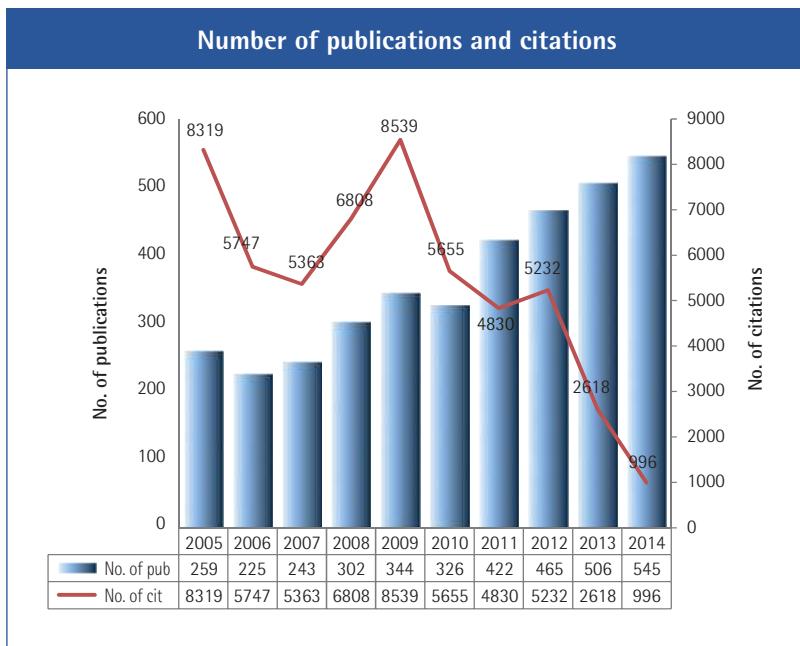
In the analysis of activity for this year, we specifically included those publications whose principal authors (first, last, or corresponding author) are liSGM researchers.

As for collaborative scientific output, 43% of publications and 53% of the impact factor are accounted for by articles generated in cooperation with other institutions. Furthermore, approximately 50% of the scientific output of liSGM is accounted for by articles whose main authors belong to the Institute.



GLOBAL ANALYSIS

The number of citations for Institute publications over time is logically greater in older publications, although the number of citations in relatively recent publications (2008-2012) is noteworthy, as is the number of first-quartile citations.

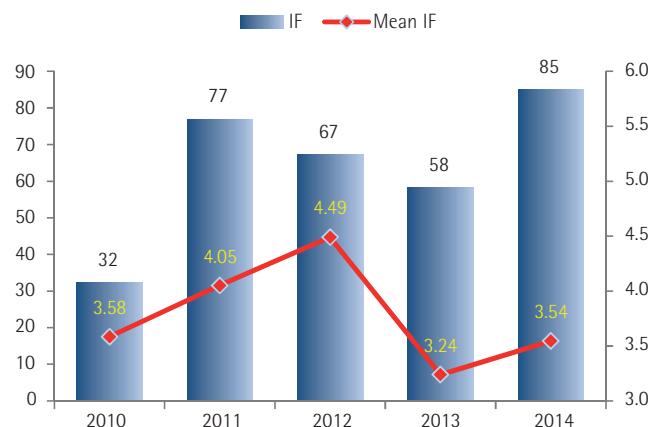


Finally, one of the most relevant elements within the scientific structure of research institutes is the grouping of research activity in priority areas, which are characterized by their scientific and social relevance and by their capacity for transferring knowledge to society.

iSGM has 7 priority research areas whose scientific activity is set out in detail below in 2 graphs: the first summarizes the total impact factor together with the mean impact factor by publication; the second 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.

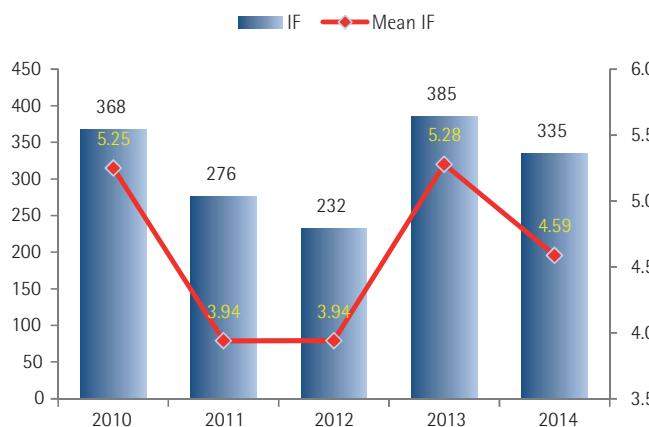
AREA 1: BIOMEDICAL ENGINEERING

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

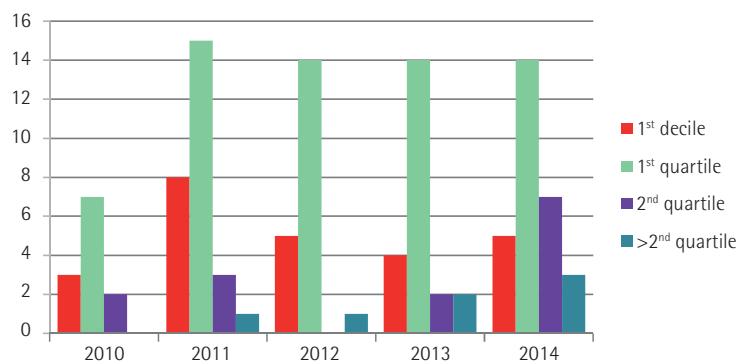


AREA 2: CARDIOVASCULAR DISEASE

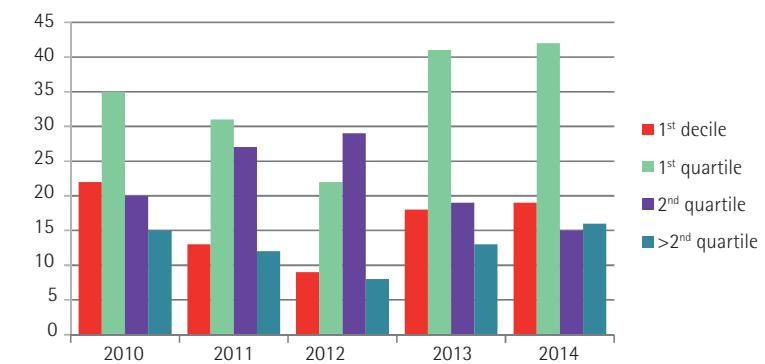
Scientific production of Area 2 in indexed journals with impact factor: total and mean impact factor



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

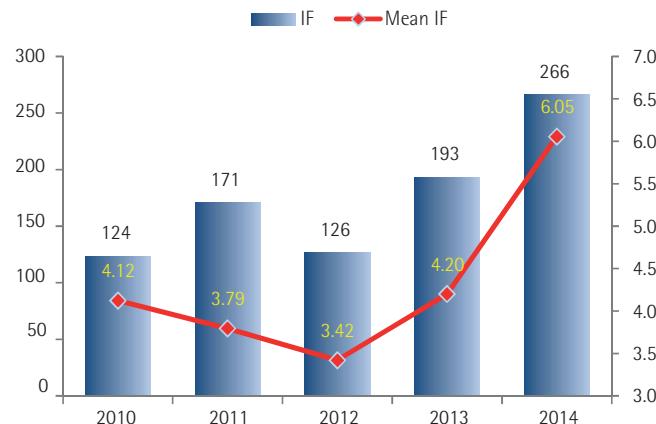


Scientific output of Area 2 in indexed journals with impact factor: distribution of publications by decile and quartile (absolute values)

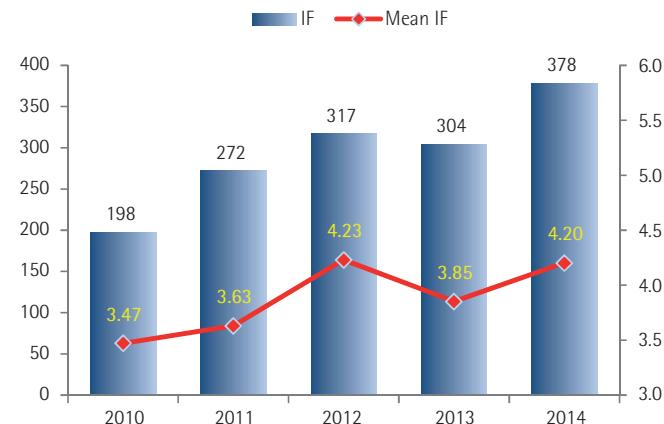


AREA 3: NEUROSCIENCE AND MENTAL HEALTH

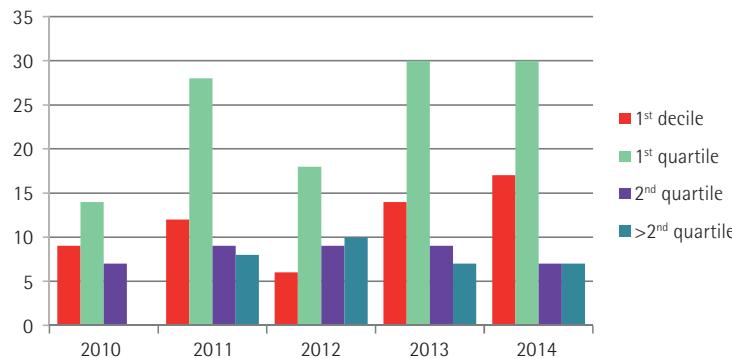
Scientific production of Area 3 in indexed journals with impact factor: total and mean impact factor

**AREA 4: INFECTIOUS DISEASES AND AIDS**

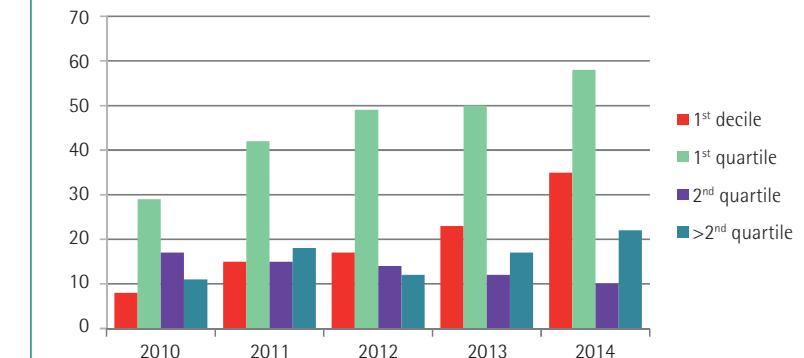
Scientific production of Area 4 in indexed journals with impact factor: total and mean impact factor



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

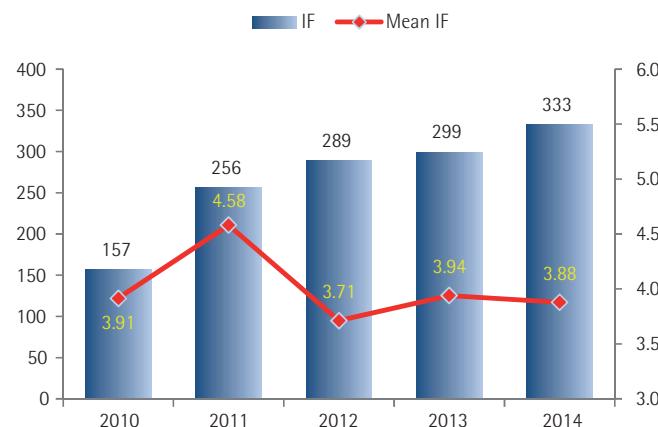


Scientific output of Area 4 in indexed journals with impact factor: distribution of publications by decile and quartile (absolute values)



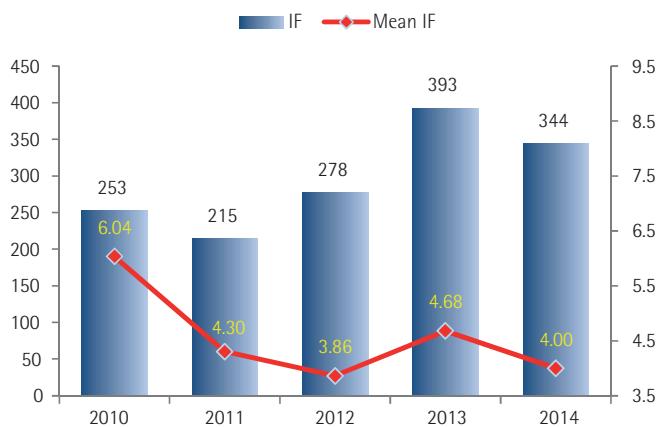
AREA 5: DISEASES OF THE IMMUNE SYSTEM

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

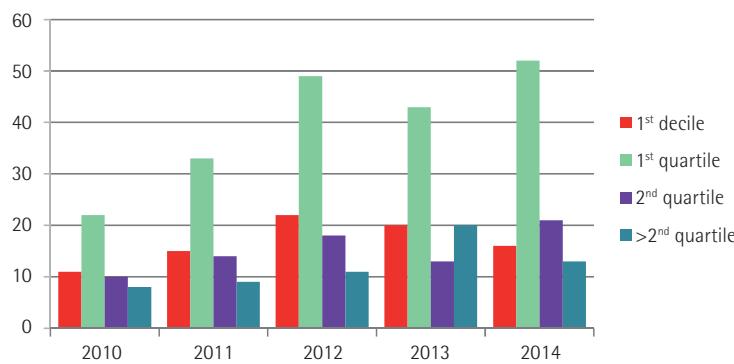


AREA 6: TRANSLATIONAL ONCOLOGY

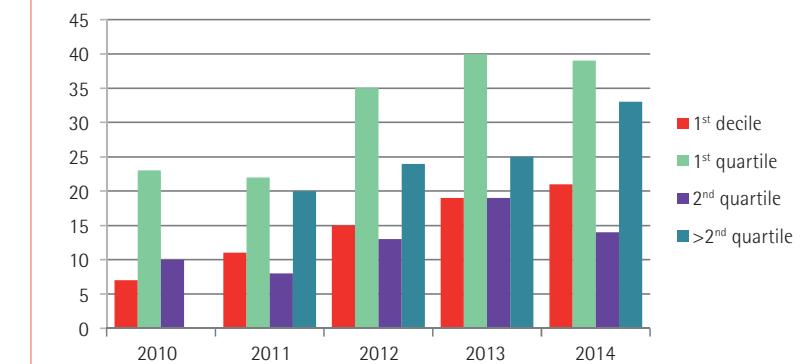
Scientific production of Area 6 in indexed journals with impact factor: total and mean impact factor



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

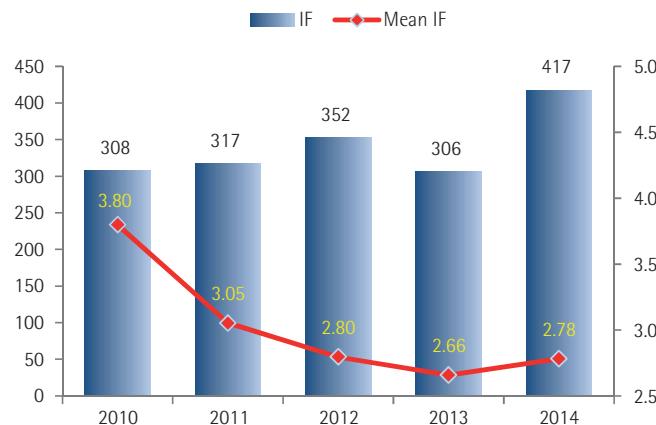


Scientific output of Area 6 in indexed journals with impact factor: distribution of publications by decile and quartile (absolute values)

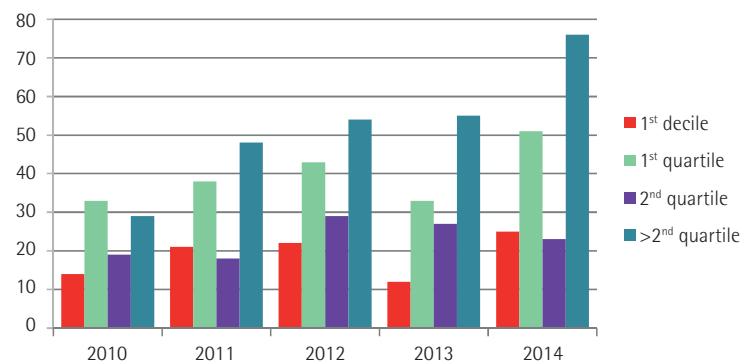


AREA 7: SYSTEMIC DISEASES AND ORGAN TRANSPLANTATION

Scientific production 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)



Organizational Structure of LiSGM

GOVERNING COUNCIL

- **Chair:** Patricia Flores Cerdán (until 22/07/2014) and Javier Maldonado González, *Vice-Councillor of Health Care, Comunidad de Madrid* (since 22/07/2014).
- **First Deputy Chair:**
Joaquín Plumet Ortega, *Vice-Chancellor of Research UCM Madrid*.
- **Second Deputy Chair:**
Juan Romo Urroz, *Vice-Chancellor of Teaching Staff and Departments, Universidad Carlos III de Madrid*.
- **Members-at-large:**
 - Ricardo Herranz Quintana, *Manager of Hospital General Universitario Gregorio Marañón*.
 - Manuel Sánchez Luna, *Chairman of the Clinical Research Ethics Committee*.
 - Rafael Bañares Cañizares, *Scientific Director liSGM*.
 - Ismael Buño Borde, *Scientific Subdirector liSGM*.
- **Members:**
 - Miguel López-Bravo Bascán, *General Management of Research, Training, and Infrastructure* (until 23/04/2014) and Paloma Martín Martín (since 23/04/2014).
 - Emilio Bouza Santiago, *FIBHGM trustee*.
 - Manuel Desco Menéndez, *FIBHGM trustee*.
 - Celso Arango López, *FIBHGM trustee*.
 - Javier Rodríguez Rodríguez, *FIBHGM trustee, Vice-Deacon of Universidad Complutense de Madrid* (until 27/01/2014) and Carlos Pérez de Oteyza (since 23/04/2014).
 - María Sanjurjo Sáez, *FIBHGM trustee*.
 - Francisco Fernández-Avilés Díaz, *FIBHGM trustee*.
 - Miguel Ángel Pozo García, *FIBHGM trustee, Universidad Complutense de Madrid*.
 - Carlos Balaguer Bernaldo de Quirós, *FIBHGM trustee, Universidad Carlos III de Madrid*.
- **Secretary:** Thierry Bardinet, *Director of FIBHGM*.

EXECUTIVE COMMITTEE

- Ricardo Herranz Quintana, *Manager of Hospital General Universitario Gregorio Marañón*.
- Arango López, *FIBHGM trustee*.
- Emilio Bouza Santiago, *FIBHGM trustee*.
- Javier Rodríguez Rodríguez, *FIBHGM trustee, Vice-Dean of Universidad Complutense de Madrid* (until 27/01/2014) and Carlos Pérez de Oteyza (since 23/04/2014).
- Miguel Ángel Pozo García, *FIBHGM trustee, Universidad Complutense de Madrid*.
- Rafael Bañares Cañizares, *Scientific Director liSGM*.
- Ismael Buño Borde, *Scientific Subdirector liSGM*.
- Francisco Fernández-Avilés Díaz, *FIBHGM trustee*.
- Carlos Balaguer Bernaldo de Quirós, *FIBHGM trustee, Universidad Carlos III de Madrid*.

EXTERNAL SCIENTIFIC COMMITTEE

- Joan Rodés Teixidor, *Institut D'investigacions Biomèdiques August Pi i Sunyer, Barcelona*.
- Óscar Marín Parra, *Universidad Miguel Hernández-Consejo Superior de Investigaciones Científicas, Alicante*.
- Rafael Enríquez de Salamanca, *Universidad Complutense de Madrid*.
- David García Dorado, *Instituto de Investigación Vall d'Hebrón, Barcelona*.
- Diego Gracia Guillén, *Universidad Complutense de Madrid*.
- Ángel Carracedo Álvarez, *Universidad de Santiago de Compostela*.
- Luis Valenciano Clavel, *Fundación Salud 2000 Madrid*.

RESEARCH COMMITTEE

- **Chair:** Rafael Bañares Cañizares.
- **Vice-Chair:** Javier de Miguel Díez.
- **Secretary:** Luis Alberto Menchén Viso.

ORGANIZATIONAL STRUCTURE OF IIISGM

- **Members:** Manuel Desco Menéndez, Francisco Fernández-Avilés Díaz, Celso Arango López, Emilio Bouza Santiago, Eduardo Fernández-Cruz, Miguel Martín Jiménez, Manuel Sánchez Luna, Jesús Ruiz Cabello, Antonio Artés Rodríguez, Darío García de Viedma del Álamo, Pascual Balsalobre López, Fernando Asensio Rubio, Ismael Buño Borde, Ana Mª García Pozo, Juana Gil Herrera, Constancio Medrano, Laura Moreno Márquez, Enrique Lledó García, José Luis Muñoz Blanco, Juan Antonio León Luis, María Luisa Baeza Ochoa de Ocariz, Luis Álvarez-Sala Walther, María del Carmen de la Cruz Arguedas, and Carlos Pérez de Oteyza.

CLINICAL RESEARCH ETHICS COMMITTEE

- **Chair:** Manuel Sánchez Luna.
- **Vice-Chair:** Felipe Atienza Fernández.
- **Secretary:** Fernando Díaz Otero.
- **Members:** Carlos Manuel González Fernández, Mª Luisa Baeza Ochoa de Ocariz, Mª Antonia Beltrán López, Rafael Carrión Galindo, Vicente de las Peñas Gil, Eduardo Fernández-Cruz Pérez, José Miguel Rivas Bueno, Leonor María Laredo Velasco, Carmen Mateo Ruiz, Ignacio Marín Jiménez, María de los Ángeles Muñoz Fernández, Ana Mur Mur, María del Carmen de la Cruz Arguedas, Luis Puente Maestu, Mª Begoña Quintana Villamandos, and Andrés Jesús Muñoz Martín.
- **Technical Secretary:** Santos Puerta Cruz.

ANIMAL EXPERIMENTATION ETHICS COMMITTEE

- **Chair:** Fernando Asensio Rubio.
- **Secretary:** Jesús López Herce Cid.
- **Members:** Carlos Simón Adiego, Laura Moreno Márquez, Miguel Rellosa Cereceda, Alberto Tejedor Jorge, Begoña Quintana Villamandos, Javier Vaquero Martín, Mª Luisa Baeza Ocariz, and Antonio Martínez Escandell.

INNOVATION COMMITTEE

- **Chair:** Rafael Bañares Cañizares.

- **Vice-Chair:** Manuel Desco Menéndez.
- **Members:** Thierry Bardinet, Francisco Fernández-Avilés Díaz, Emilio Bouza Santiago, Pascual Balsalobre López, and Paloma Domingo García.
- **Secretary:** Anna Riera Guerra.

TRAINING

- **Training Manager:** Alberto Tejedor Jorge, *Lecturer, Universidad Complutense de Madrid.*
- **Training Committee:** Rafael Bañares Cañizares, Ismael Buño Borde, José María Bellón Cano, Milagros González Rivera, Carmen Olmedo Lucerón, Constancio Medrano López, Thierry Bardinet, Rafael Correa Rocha, and Fernando Asensio Rubio.

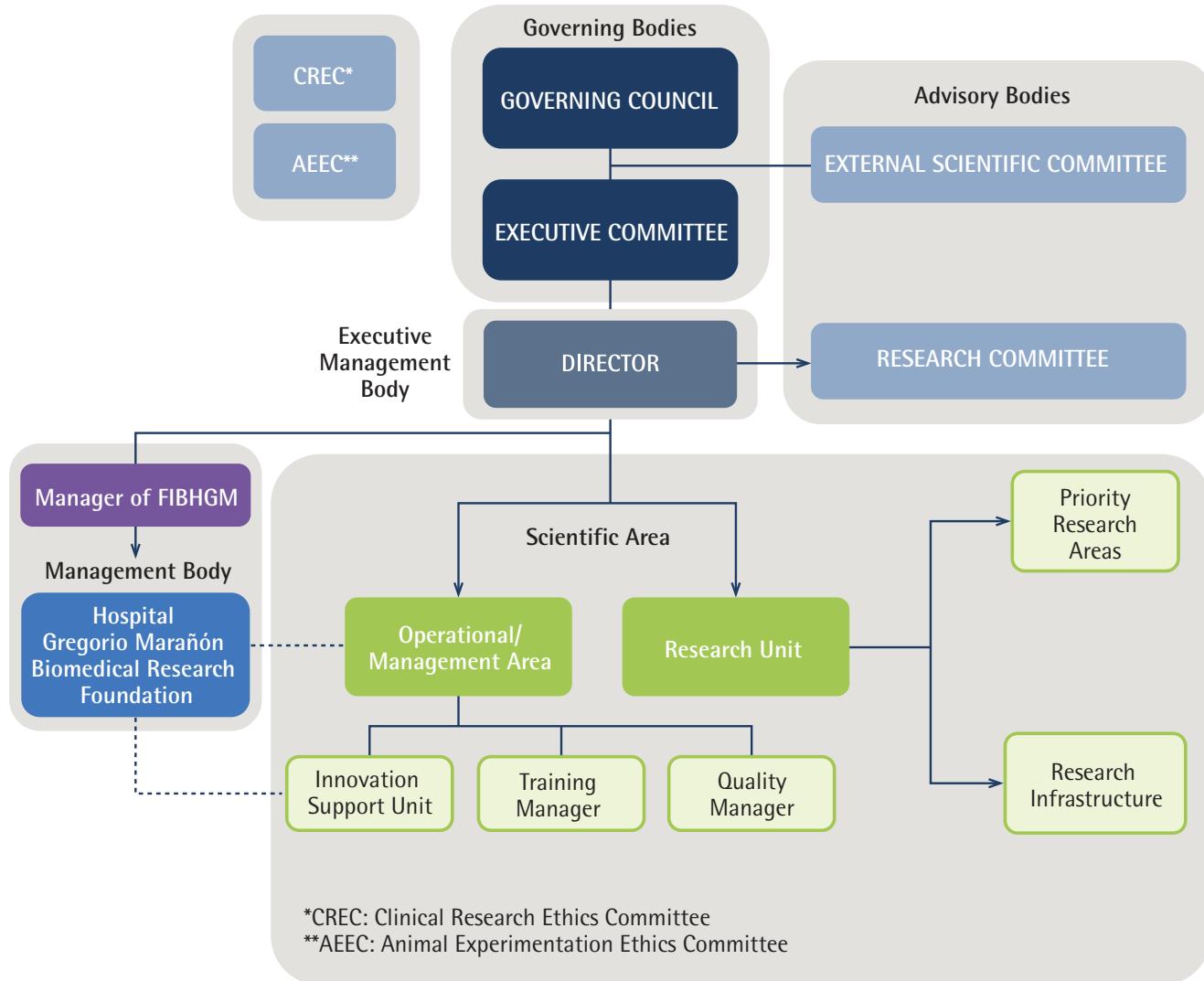
RESEARCH SUPPORT SERVICES

- **Research Support Services Manager:** Milagros González Rivera, *Sequencing Unit, HGUGM.*

HOSPITAL GREGORIO MARAÑÓN BIOMEDICAL RESEARCH FOUNDATION

- **Director:** Thierry Bardinet.
- **Scientific Management and Quality Assurance:** María del Carmen Olmedo Lucerón.
- **Project Management:** Laura Moreno Márquez, Carlos Arias López, Luis Fernández Vera, and Isabel Ballesteros López.
- **Clinical Trials:** María del Carmen de la Cruz Arguedas.
- **Human Resources:** Alberto Gómez Moreno.
- **Accounting:** Estefanía Lavilla Guevara and Mª Isabel Olmedo Andueza.
- **Invoicing:** Marta Martín-Arriscado Arroba.
- **Legal Affairs/Purchasing:** Miguel Ángel Conejo Martín.
- **Secretary:** Charo Calle Benito.

ORGANIZATION CHART



ORGANIZATIONAL STRUCTURE OF IiSGM

STRUCTURE: AREAS AND RESEARCH GROUPS

AREA 1: Biomedical Engineering

Coordinator: Manuel Desco Menéndez

Group	Group Director	Type of Group	Organization
Advanced technological applications and human health	Manuel Desco Menéndez	Consolidated	HGUGM-UCIII

AREA 2: Cardiovascular Diseases

Coordinator: Francisco Fernández-Avilés Diaz

Group	Group Director	Type of Group	Organization
Natural history of heart disease	Francisco Fernández-Avilés Diaz	Consolidated	HGUGM-UCM
Cardiovascular pathophysiology	Victoria Cachofeiro Ramos	Consolidated	UCM
Cardiac cellular electrophysiology	Eva Delpón Mosquera	Consolidated	UCM
Cardiology and heart transplantation in infants	Constancio Medrano López	Emerging	HGUGM
Blood lipids and cardiovascular risk	Luis Antonio Álvarez-Sala Walther	Emerging	HGUGM-UCM
Acute cerebral ischemia. Stroke	Antonio Gil Núñez	Emerging	HGUGM

AREA 3: Neuroscience and Mental Health

Coordinator: Celso Arango López

Group	Group Director	Type of Group	Organization
Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment	Celso Arango López	Consolidated	HGUGM-UCM
Parkinson disease and movement disorders	Francisco Javier Grandas Pérez	Emerging	HGUGM
Clinical neurology	Vacant	Associated clinical	HGUGM
Clinical and etiological-pathogenetic aspects of neuromuscular diseases	José Luis Muñoz Blanco	Emerging	HGUGM
Neuroimmunology	Clara de Andrés Frutos	Emerging	HGUGM
Biology of inflammation	Maria Concepción Guisasola Zulueta	Associated	HGUGM

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

AREA 4: Infectious Diseases and AIDS

Coordinator: Emilio Bouza Santiago

Group	Group Director	Type of Group	Organization
Infectious diseases	Emilio Bouza Santiago	Consolidated	HGUGM-UCM
Clinical and epidemiological aspects of HIV infection and associated conditions	Juan Berenguer Berenguer	Consolidated	HGUGM
Biological aggression after heart surgery	Francisco Javier Hortal Iglesias	Associated clinical	HGUGM

AREA 5: Diseases of the Immune System

Coordinator: Eduardo Fernández-Cruz Pérez

Group	Group Director	Type of Group	Organization
Pathophysiology and clinical research into chronic inflammatory and immunological diseases	Eduardo Fernández-Cruz Pérez	Consolidated	HGUGM
Molecular biology of HIV	Mª Ángeles Muñoz Fernández	Consolidated	HGUGM
Autoimmune systemic diseases	Luis Carreño Pérez	Consolidated	HGUGM
Immuno-oncology	Paloma Sánchez-Rubio Mateos	Consolidated	HGUGM
Pathogenesis of the immunoallergic response	José Manuel Zubeldia Ortuño	In process of consolidation	HGUGM
Immune regulation and homeostasis in diseases of the immune system (original group: Immunology of HIV infection in pediatric patients [Group Director: Dolores Gurbindo Gutiérrez])	Rafael Correa Rocha	Emerging	HGUGM
Infections in pediatric patients	María Luisa Navarro Gómez	Consolidated	HGUGM
Allergic diseases in pediatric patients	Elena Alonso Lebrero	Associated clinical	HGUGM

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

AREA 6: Translational Oncology

Coordinator: Miguel Martín Jiménez

Group	Group Director	Type of Group	Organization
Interdisciplinary oncology and biotechnology	Felipe Ángel Calvo Manuel	Consolidated	HGUGM-UCM
Translational medical oncology and personalized cancer therapy	Miguel Martín Jiménez	Consolidated	HGUGM-UCM
Genetics and clinical aspects of hematologic malignancies and hematopoietic stem cell transplantation	José Luis Díez Martín/Ismael Buño Borde	Consolidated	HGUGM
Surgical oncology	Luis González Bayón	Emerging	HGUGM
Hematology-oncology in pediatric patients	Elena Cela de Julián	Associated clinical	HGUGM
Angiogenesis of brain tumors	Juan Carlos Martínez Montero	Associated clinical	HGUGM

AREA 7: Systemic Diseases and Organ Transplantation

Coordinator: Rafael Bañares Cañizares

Group	Group Director	Type of Group	Organization
Vascular damage and inflammation in chronic kidney disease, dialysis, and kidney transplantation. Pathophysiology of the kidney	José Luño Fernández	Consolidated	HGUGM
Pathophysiology and natural history of liver and digestive diseases	Rafael Bañares Cañizares	Consolidated	HGUGM-UCM
Disease in the critically ill child	Jesús López-Herce Cid	Consolidated	HGUGM
Pathophysiology and clinical aspects of COPD	Luis Puente Maestu	In process of consolidation	HGUGM
Regenerative medicine in plastic surgery	Rosa Pérez Cano	Emerging	HGUGM
Experimental kidney transplantation	Enrique Lledó García	Emerging	HGUGM
Regeneration and biomaterials in skeletal muscle damage	Francisco Javier Vaquero Martín	Associated clinical	HGUGM-UCM

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

Group	Group Director	Type of Group	Organization
Iron metabolism disorders	Alejandro del Castillo Rueda	Associated clinical	HGUGM
Emergency medicine	Javier Muñoz González	Associated clinical	HGUGM
Pathophysiology, outcome, and therapeutic strategies in chronic respiratory insufficiency and respiratory disorders of sleep	Pilar de Lucas Ramos	Associated clinical	HGUGM
Anesthesia in chest surgery	Ignacio Garutti Martínez	Emerging	HGUGM
Regenerative medicine and system development: cardiovascular and osteochondral	Mª Begoña Quintana Villamandos	Emerging	HGUGM
Peritransplant evaluation (liver)	José María Pérez Peña	Associated clinical	HGUGM
Perianesthetic evaluation	Carmen Fernández Riveira	Associated clinical	HGUGM
Anesthesia, toxins, and arrhythmias	Matilde Zaballos García	Associated clinical	HGUGM
Biopathology of aging	José Antonio Serra Rexach	Consolidated	HGUGM
Pathophysiology of the neonate and developing child	Manuel Sánchez Luna	In process of consolidation	HGUGM
Hereditary diseases and pediatric endocrinology	Begoña Ezquieta Zubicaray	Emerging	HGUGM
Artificial circulation laboratory	Juan Francisco del Cañizo López	Emerging	HGUGM-UCM
Evaluation of health services and clinical epidemiology	Rosa Plá Mestre	Emerging	HGUGM
Hospital pharmacy and pharmacogenomics	María Sanjurjo Sáez	In process of consolidation	HGUGM
Clinical nutrition	Pilar García Peris	Emerging	HGUGM
Vascular pathophysiology and pharmacology	Francisco Pérez Vizcaíno	Consolidated	UCM

NURSING RESEARCH GROUP

Coordinator: Ana García Pozo

Group	Group Director	Organization
Research in nursing	Ana García Pozo	HGUGM

HGUGM: Hospital General Universitario Gregorio Marañón.

Publicly funded research staff contracts

RESEARCHERS AND TECHNICAL STAFF WITH STABLE CONTRACTS

	Area	Group
José Luis Jiménez Fuentes	Infectious diseases and AIDS	Molecular biology of HIV
Mª Jesús Serramía Lobera	Infectious diseases and AIDS	Molecular biology of HIV
José María Bellón Cano	Research support (methodological support)	lISGM
Rafael Samaniego García	Research support (confocal microscopy)	lISGM
Amaya Rocío Puig Kröger	Diseases of the immune system	Immuno-oncology
Marjorie Pion	Diseases of the immune system	Molecular biology of HIV

INSTITUTO DE SALUD CARLOS III Miguel Servet Contracts

	Area	Group
Rafael Correa Rocha	Diseases of the immune system	Immune regulation and homeostasis in diseases of the immune system
Jesús Vicente Guinea Ortega	Infectious diseases and AIDS	Infectious diseases
Luis Andrés López Fernández	Systemic diseases and organ transplantation	Hospital pharmacy and pharmacogenomics
Miguel Reloso Cerceda	Diseases of the immune system	Molecular biology of HIV
María Luisa Soto Montenegro	Biomedical engineering	Advanced technological applications and human health
María Guembe Ramírez	Infectious diseases and AIDS	Infectious diseases

Sara Borrell Contracts

	Area	Group
Marta Rapado Castro	Neuroscience and mental health	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders
Verónica Briz Sebastián	Diseases of the immune system	Molecular biology of HIV
Sara Ferrando Martínez	Diseases of the immune system	Molecular biology of HIV

Río Hortega Contracts

	Area	Group
Begoña Santiago García	Diseases of the immune system	Molecular biology of HIV
Jorge López González	Diseases of the immune system	Diseases of the critically ill child
Elena Serrano Drozdowskyj	Neuroscience and mental health	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders
Teresa Mombiela Ramírez de Ganuza	Cardiovascular diseases	Natural history of heart disease
Elena Reigadas Ramírez	Infectious diseases and AIDS	Infectious diseases
Mª de las Candelas Pérez del Villar Moro	Cardiovascular diseases	Cardiovascular diseases
Maria Goretti Morón Nozaleda	Neuroscience and mental health	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders

Support Contracts

	Area	Group
Mª Isabel Clemente Mayoral	Diseases of the immune system	Molecular biology of HIV
Laura Díaz Muñoz	Diseases of the immune system	Molecular biology of HIV

Predoctoral Contracts

	Area	Group
Teresa Sánchez Gutiérrez	Neuroscience and mental health	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders
Marta Martínez Bonet	Diseases of the immune system	Molecular biology of HIV
Rafael González Cortés	Systemic diseases and organ transplantation	Diseases of the critically ill child
Mª Ángeles Espinosa Castro	Cardiovascular diseases	Natural history of heart diseases
Laura Judith Marcos Zambrano	Infectious diseases and AIDS	Infectious diseases
Elisa Rodríguez Toscano	Neuroscience and mental health	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders

MINISTRY OF ECONOMY AND COMPETITIVENESS**Ramón y Cajal Contracts**

	Area	Group
Joost Janssen	Neuroscience and mental health	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders
Javier Vaquero Martín	Systemic diseases and organ transplantation	Pathophysiology and natural history of digestive and liver diseases

Research support services

LiSGM has organized research support services into technology platforms according to the object of research. This approach differs from that of science parks, which are organized around the technology itself. Thus, LiSGM aims to promote the human and technological interrelationships that are 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 model platform
4. Cell platform
5. Molecular platform

RESEARCH SUPPORT UNITS				
Patient platform		Methodology and Biostatistics	UCAICEC/SCREN	
Organ platform		Cell production unit	Artificial organ laboratory	Biological sample storage-Biobank
Animal model platform		Experimental operating room	Animal facility	Small animal imaging
Cell platform		Flow cytometry and cell sorting	Cell culture	Confocal microscopy
Molecular platform		Proteomics	Sequencing and genotyping	



PATIENT PLATFORM

1. UCAICEC (UNIDAD CENTRAL DE APOYO A LA INVESTIGACIÓN CLÍNICA [Clinical Research Central Support Unit])

The UCAICEC is a research support service for all those Institute researchers who require support in the logistic, operational, and regulatory design of clinical trials and observational studies.

The UCAICEC also represents liSGM as a participant in the Plataforma de Unidades de Investigación Clínica y Ensayos Clínicos (SCREN [*Platform for Clinical Research and Clinical Trial Units*]) convened by the ISCIII in 2013 as part of the Acción Estratégica de Salud (Strategic Action in Health Care) 2013–2016. This platform was set up as a stable structure for network-based collaborative research in specific knowledge areas. It is a cross-sectional platform that aims to carry out collaborative clinical research studies in areas of general interest.

Services provided

Advice on the preparation and performance of research projects:

- Support in the management of documentation for evaluation by the CREC 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.

Contact

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2. METHODOLOGY AND STATISTICS

Methodology and Statistics is a research support service that provides statistical and methodological advice to researchers so that they can reach the objectives set out in their research projects.

Services provided

Methodological consultancy:

- 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 to scientific meetings, talks.
- Doctoral theses and research proficiency studies.

Application and statistical analysis of databases:

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

Contact

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

RESEARCH SUPPORT SERVICES



ORGAN PLATFORM

1. CELL PRODUCTION UNIT

The Cell Therapy Unit provides support for basic and clinical research in the field of cell therapy and regenerative medicine.

Services provided

- Infrastructure for preclinical studies in cell therapy and regenerative medicine.
- Infrastructure certified under Good Manufacturing Practice (GMP) and investigational products (IP) approved by the Spanish Medications Agency (AEMPS) for the production of different cell types:
 - Bone marrow mononuclear cells (IP No. 05-042).
 - Stromal vascular fraction (fresh fat cells) (IP No. 11-020).
 - Bone marrow mesenchymal cells (IP No. 09-109).
 - Fatty tissue mesenchymal cells (IP No. 09-065).
- All work is carried out within the framework of GLP, GCP, and AEMPS certification, ie, a rigid quality assurance system ensures robust results that can be easily transferred to clinical practice.

Technology

Therapy laboratory:

- BIO II-A laminar flow hood (TELSTAR).
- Thermo Scientific 371 CO₂ incubator.
- Axiovert 40 fluorescence microscope.
- Sepax (Biosafe) for cell separation and refrigerated centrifuge (5810R, Eppendorf).

Cell Production Unit:

- BIO II-A and II-A-P laminar flow hoods (TELSTAR).
- Thermo 371 CO₂ and Steri-Cult incubators with Model 3308 S/N thermal sterilization routine.
- Axiovert 40 CFL microscope.
- HandiLaz Mini particle counter.

- ULTRA-TURRAX mechanical tissue homogenizer.
- Automatic lyophilization vial crimper and bag sealer.

In quality assurance:

- MacsQuant flow cytometer.
- BioRad thermal cycler.
- Luminometer.
- SafeFAST Elite safety cabinet.
- Microbiological culture incubator (37°C and 22°C).

Contact

M^a Eugenia Fernández Santos, Scientific Manager
E-mail: mariuge@fibhgm.org

2. BIOARTIFICIAL MATRIX AND ORGAN LABORATORY

This section comprises 3 laboratories (cell processing laboratory, cell production-GMP laboratory, and bioartificial organ laboratory). It has all the necessary equipment for the production of bioartificial organs by means of decellularization and recellularization of solid organs and tissue. The section also has quality assurance systems in place (GLP).

Services provided

- Decellularization of organs.
- Study of ventricular mechanics in the intact heart and decellularized matrices.
- Histology of the samples obtained from the different matrices.
- Tissue and cell electrophysiology program.
- Recellularization of decellularized matrices by co-culture.
- Recellularization program using bioreactors (Harvard Apparatus).
- Human cell culture.
 - a) Vascular fat fraction or "fresh cells" from liposuction.
 - b) Bone marrow mononuclear cells.
 - c) Bone marrow mesenchymal cells.
 - d) Fatty tissue mesenchymal cells.

- Culture of cells from animal tissue: mesenchymal cells and cardiomyocytes.
- Maintenance of cell cultures.
 - a) Human keratinocytes.
 - b) Keratinocyte-derived iPS cells.
 - c) Mesenchymal cells derived from keratinocyte-derived iPS cells.
- Academic and training platform.

Contact

M^a Eugenia Fernández Santos, Technical Manager
 E-mail: mariuge@fibhgm.org

3. BIOLOGICAL SAMPLE STORAGE

3.1. Biobank

The IISGM Biobank forms part of the biobank network funded by the ISCIII. In addition, the IISGM owns the HIV Biobank of the RIS (AIDS Research Network).

The Biobank was established as a biological sample bank (blood, plasma, DNA, tissue, and biopsy specimens) that benefits from the participation from many Spanish hospitals, which deposit samples from HIV-infected patients of different origins (previous informed consent provided). The Biobank of Hospital Gregorio Marañón has provided samples for research projects both in Spain and abroad.

Services provided

- Management, preparation, publication, and follow-up of all the documentation necessary for handling of samples in the Biobank (reception, processing, cryopreservation, and loan).
- Reception, processing, and cryopreservation of biological material from different cohorts (requires signature of the corresponding deposit agreement).
- Assurance of quality, traceability, and maximum viability of biological material stored in the Biobank of Hospital Gregorio Marañón.
- Recording of basic information associated with the samples.
- Adaptation of the Biobank database to enable the coordinators of the different cohorts to register the clinical and analytical information of persons participating in the donation of samples.

- Advice to the coordinators of the different cohorts on the use of the Biobank database.
- Consolidation of data associated with the samples available in the Biobank with the coordinators of the cohorts and with the services that deposit biological material.
- Loan of samples for research projects previously approved by an ethics committee and a scientific committee.
- Periodic publication of the activities carried out by the Biobank of Hospital Gregorio Marañón.

Technology

The HIV Biobank of Hospital Gregorio Marañón has 2 cryopreservation rooms and a laboratory for processing samples. The equipment includes the following:

- Three laminar flow hoods and 3 microscopes.
- A 4°C refrigerator and a -20°C freezer.
- Two centrifuges with swing rotor and 2 microcentrifuges.
- An incubator.
- Thermostatic bath.
- Thermal cycler.
- Nine -80°C freezers.
- Six nitrogen tanks.
- Telephonic alarms and computers.

Contact

M^a Angeles Muñoz, Scientific Manager
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3.2. Tumor bank

The tumor bank forms part of the National Tumor Bank Network, a virtual and cooperative network promoted and coordinated by the Cell Pathology Program of the CNIO. The tumor bank is a key element in translational research owing to the growing demand for appropriately treated tumor samples for the performance of molecular analyses, thus minimizing the bias typical of multicenter studies.

RESEARCH SUPPORT SERVICES



ANIMAL MODEL PLATFORM

1. ANIMAL FACILITY

The animal facility is a research support unit whose priority objective is to provide investigators with the animals that are best suited to their research and to maintain the appropriate environmental conditions for research to be carried out while ensuring animal health and well-being.

This service is aimed at investigators from the LiSGM and from other centers. All users must have appropriate accreditation for the handling of experimental animals; therefore, the necessary certification must be available (Royal Decree 53/2013 and Order ECC/566/2015).

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) participation of in-house personnel. Fees include ancillary services such as administration of treatment, performance of procedures, and animal transport.

Facilities

The animal facility research support unit is on the ground floor of the Experimental Medicine and Surgery Unit. It covers 170 m² of space distributed between communal areas and animal housing areas.

The facility has two separate areas: an area for work with animals under standard conditions, and a barrier area for work with animals under specific pathogen-free conditions.

The first area contains a section for animals in quarantine, where animals in transit or animals which, owing to the characteristics of the studies they are involved in, have to leave the barrier area. It also includes a containment room for Biosafety Level 2 (BSL-2) animals and rooms for pigs and post-operative care.

The barrier area is used for breeding and housing rodents, as well as for experimental procedures with these animals.

Hospital General Universitario Gregorio Marañón (HGUGM) is on the Registro de Establecimientos de Cría, Suministradores y Usuarios de Animales para la

Experimentación u otros fines científicos de la Comunidad de Madrid (*Register of Breeding Facilities, Suppliers, and Users of Animals for Experimentation or Other Scientific Purposes of the Autonomous Region of Madrid*) as a user center with code number ES280790000087.

Structure and distribution

- Conventional housing area:
 - Store.
 - Cleaning area.
 - Mouse quarantine room.
 - Rat quarantine room.
 - Pig quarantine room.
 - Pig post-operative room.
 - Room for housing biological risk 2 rodents (infected animals).
- Barrier area:
 - Rat room.
 - Mouse room.
 - Sterile material store.
 - Clean store.
 - Procedure room 1.
 - Procedure room 2.

Technology

The animal facility has the following equipment:

- Ventilated racks with HEPA-ULPA filters for housing rodents.
- Laminar flow hoods for transfer of animals (animal transfer station).
- Housing rack for rodents used in metabolic studies.
- Double-door sterilizer with liquid program (MATACHAN, mod. 1006 E-2).
- Miniclave 21E sterilizer with liquid program (Matachana).
- Washer for cages (MATACHAN, mod. ACA200).
- Stretcher for animal transport.
- Scale for large animals.
- Scales for rodents.
- Vaporized hydrogen peroxide sterilizing unit.

- Hydrocleaner (Nilfisk).
- Safety Access System (SAS) with window format (MATACHANA).
- Standard type 1000 and type 500 standard cages with grill and separator (Panlab).
- 1000-ml and 300-ml feeding bottles.
- Cages with grill and filter for rats and mice.

Contact

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2. EXPERIMENTAL OPERATING ROOM

The operating room has the necessary instruments and material for standard procedures. The tables are custom-designed for animals, and one is radiotransparent to enable x-ray techniques to be performed.

The operating room also has the necessary equipment for more specific procedures such as laparoscopic surgery and extracorporeal circulation.

Equipment/Facilities

The surgical area of the Experimental Medicine and Surgery Unit has a micro-surgery operating room and a conventional operating room, with the following equipment:

- C-arm (Philips).
- Extracorporeal circulation equipment (Stockert Shiley, Jostra, Polystan).
- Camera (CCD: Braun, Fiegert, Olympus).
- TV monitor (Sony, Philips, Panasonic).
- Camera sensor (Fiegert).
- Video (Panasonic, Sony).
- Surgical insufflator (BCM).
- Pressure monitor (Jostra, Siemens).
- Closed general monitor for various signals (Datex; RGB).
- Portable x-ray machine (Philips).

- Modular registration system (ADML 880 P Power Lab). This equipment comprises the following:
 - ML138 Octal Bio Amp.
 - ECG channel selector - MLA 114/S.
 - 4 pressure amplifiers ML 142 GP Amp.
 - ML136 Animal Bio Amp.
 - Temperature module ML 309.
 - T-type Ultra Fast Thermocouple Probe (IT-23).
- Respirator with pressure or volume control (SAR 830/P).
- Hydraulic operating table (Bruxelles).
- Stereoscopic microscopes (Nikon SMZ-1).
- Microscopes (Zeiss OPMI 99).

Contact

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3. EXPERIMENTAL SMALL-ANIMAL IMAGING TECHNOLOGY

The imaging platform is located in the Experimental Medicine and Surgery building: it comprises a magnetic resonance device, a tomograph, and a radio-tracer synthesis unit.

Equipment/Facilities

- a) The 7-tesla small-animal magnetic resonance imaging equipment has the following characteristics:
 - Bruker 7/210 USR magnet (Ultra Shielded) with a principal 7-tesla magnetic field.
 - Open bore diameter of 210 mm, useful imaging diameter of 72 mm.
 - Four reception channels for parallel or multinuclear imaging.
 - Gradient unit fed to 500V and 300A, with an intensity of 750 mT/m and a slew rate of 4570 T/m/s.
 - Various antennas: surface, linear, and quadrature mode resonators; phased array for brain and heart studies; 13-C and 31-P spectroscopy.

RESEARCH SUPPORT SERVICES

The unit has the capacity for the complete range of magnetic resonance imaging procedures: conventional high-resolution anatomic imaging, spectroscopy (1-H, 31-P, 13-C), angiography (MRA), tissue perfusion and diffusion (DWI, DTI), magnetic transfer imaging, functional MRI (fMRI), dynamic heart studies, and cell tracking.

The magnetic resonance area has the necessary equipment for animal handling and control (inhaled anesthesia, temperature control, monitoring instruments [heart, respiratory, and temperature]).

The area also has the necessary software for combining magnetic resonance imaging with the other imaging modalities available in the laboratory.

b) High-resolution SPECT with the following characteristics:

- U-SPECT-II (MILabs, The Netherlands).
- Three human detectors (gamma-cameras) in triangle formation, motorized sample bed allowing linear displacement on 3 axes (XYZ).
- Set of interchangeable cylindrical collimators (each with 75 pinhole apertures) suitable for different study types (full-body rat/mouse, specific organs).
- User interface that enables selection of the field of vision to be examined by acquisition of optical images.
- Statistical iterative reconstruction algorithm. The collimators that are currently available in the laboratory make it possible to obtain mouse images with a spatial resolution of <0.5 mm and a sensitivity of >1500 cps/MBq and rat images with a spatial resolution of <0.9 mm and a sensitivity of >700 cps/MBq (using 99mTc tracers). Therefore, this system can identify molecular concentrations of 0.04 µL in mice and 0.5 µL in rats.

c) Gallea (General Electric) is a Ge-68 radiotracer synthesis system, which can generate highly specific tracers in a PET imaging center that does not have a cyclotron. Its components are as follows:

- FASTlab.
- FASTlab control computer with Gallea application.
- Gallea cassette parts – set of 10.
- Gallea Microwave 100 System.

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CELL PLATFORM

1. CELL CULTURE

Cell cultures are a basic tool in biomedical research, since they enable cells from human tissue (healthy and diseased), experimental animals (eg, mice, rats, and pigs), and cell lines (immortalized cells and tumor cell lines) to be maintained in vivo. The objective is to conserve as much as possible the genetic, physiological, and biochemical properties of the cells.

The Cell Culture Unit is a research support service that provides researchers with the appropriate facilities and services necessary to ensure Biosafety Level 2 (BSL-2) conditions and to guarantee the quality of the results obtained. Similarly, the Cell Culture Unit offers the possibility of cryopreserving biological samples (level 2 or lower), since it has a cryogenics facility consisting of a liquid nitrogen tank with the capacity for 4800 × 2-ml vials and a 50-liter bottle of liquid nitrogen.

Services provided

- Management of the use of the platform's facilities. Updating and maintenance to ensure the best possible use of infrastructure.
- Regular monitoring of facilities and equipment both for maintenance and to ensure the supply of generic fungible materials and the most commonly used reagents.
- Preparation and adaptation of working protocols and cleaning/disinfection programs in the cell culture rooms.
- Basic cell culture procedures, maintenance of cell cultures, *Mycoplasma* test.
- Thawing of cells.
- Technical advice and supervision of users who need cell cultures for the development of their research projects .

Equipment

- 2 class II biosafety cabinets (Bio II Advance, Telstar).
- 1 water jacket incubator (Forma Series II 3110 Water-Jacketed CO₂ Incubator, Thermo Scientific).
- 1 inverted microscope (Labovert, Leitz).
- 1 vacuum pump (Vacusafe Confort Eco, Integra Bioscience).

- 1 thermostatic bath (analog IsoTemp FisherBrand [10 liters], Fisherbrand).
- 1 Taylor Wharton LS 4800 liquid nitrogen container (130 liters).
- 1 liquid nitrogen extractor system (50 liters).

Contact

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2. FLOW CYTOMETRY AND CELL SORTER

Flow cytometry is a research support service that provides assistance to who need to analyze cells or cell populations using molecular markers, with applications for the discovery, identification, and monitoring of cell markers, thus facilitating separation of cell populations.

Services provided

Flow cytometry:

- Assessment on and optimization of study protocols or experiment design.
- Analysis of cell viability using markers: propidium iodide, annexin V, and 7-AAD. Analysis of the cell cycle using propidium iodide.
- Analysis of the efficiency of transfection.
- Phenotyping: various intracellular or surface lymphocyte markers.
- Quantification of soluble cytokines in plasma, serum, or culture supernatant using a multiplex assay (up to 11 cytokines in 25 µl of sample).
- Analysis of intracellular cytokines.
- Analysis of intracellular calcium movement by marking with Fluo-4.
- Analysis of the activation of caspase-3 pathway apoptosis.

Cell separation by flow cytometry:

- Cloning.
- Separation of subpopulations.
- Separation of live cells.
- Separation of cells fixed for subsequent genetic analysis.

Researcher support:

- Training on demand and study of researchers' needs.
- Personalized assessment on experimental approaches, fluorochromes, available markers.
- Standardized procedures for optimal sample processing.
- Analysis using various software packages.

Technology

- 10-color flow cytometer (Gallios, Beckman Coulter):
 - Reading of up to 10 colors. Three computer-controlled lasers (blue 488 nm, red 638 nm, and violet 405 nm) with rapid start and stabilization systems.
 - Latest-generation photomultipliers with high sensitivity for the red range and excellent linearity throughout the range.
- Flow Cytometry Cell Separator (MoFlo Astrios, Beckman Coulter):
 - Integration in type II biosafety cabinet for samples (groups II and III).
 - Aerosol evacuation and sample shaking systems.
 - Controlled sample temperature (heating or cooling).
 - Six solid-state lasers (640 nm, 592 nm, 561 nm, 532 nm, 488 nm, and 405 nm) and 7 pinholes.
 - Depending on the application, acquisition rate up to 100,000 cells/s; automatic recognition by photomultipliers (PMT) and PODs that makes it possible to detect various configurations depending on the objective.
 - Various collection systems: multiwell plates, propylene tubes.
- Fluorescence microscope (Eclipse 50i, with Nikon CFI60 optical system).

Contact

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3. CONFOCAL MICROSCOPY

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

RESEARCH SUPPORT SERVICES

The service has two confocal microscopes at its disposal. These make it possible to acquire fluorescence images of fixed or live samples. The confocal microscope takes optical sections of a fluorescence-marked 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, and cell density); and phenotyping of cells *in vivo* from tissue sections.

The Confocal Microscopy Unit has its own lines of research focusing on the design and development of experimental approaches, image processing, and data analysis.

Services provided

- **Spectral confocal microscopy of fixed samples:** cells, tissues, and organs (depth <1 mm).
- **Video microscopy (time-lapse)** of live samples in a CO₂- and temperature-controlled environment using a digital camera or in confocal mode (including bleaching applications such as FRAP and FLIP).

Technology

Inverted confocal fluorescence microscope (LEICA-SP2)

- Confocal module:
 - High-sensitivity multiband with AOBS.
 - Three independent and adjustable internal fluorescence detectors (PMT) and an internal detector for differential interference contrast (DIC).
 - Digitalization of images: 4096 x 4096 pixels, 8 and 12 bits per channel.
 - Laser sweeping system with AOTF: maximum 2000 lines/s.
 - ROI scan under varying conditions for each region.
- Laser module:
 - Multiple laser configuration with 7 excitation lines:
 - Ar/ArKr laser: 458, 476, 488, 496, and 514 nm.
 - Laser: 561 nm.
 - Laser: 405 nm.

- Inverted motorized microscope (DM IRE2 Fluo TCS):
 - Objective lenses:
 - HC PL-APO 10x/numerical aperture of 0.4.
 - HC PL-APO 20x/0.70 multi-immersion Lambda Blue.
 - HCX PL-APO 40x/1.25-0.75 oil immersion.
 - HCX PL-APO 63x/1.4-0.6 oil immersion.
 - PL-APO 63x/1.3 glycerol immersion.
 - EL6000 illumination (halide lamp) and white LED
 - Three fluorescence filter blocks: DAPI, FITC, and Rhodamine
 - Environmental control (temperature and CO₂) for cell experiments and tissues *ex vivo*.
- Computer equipment:
 - Two HP computers running Windows XP (acquisition and processing).
 - Software: LCS version 15.37 and "Microlab" software license for FRAP and FRET.

Spectral confocal fluorescence inverted microscope (LEICA-SPE)

- Confocal module:
 - High-sensitivity multiband with AOBS.
 - 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 transmitted light with white LED.

- Galvanometric stage.
- Four fluorescence filter blocks: DAPI, FITC, Rhodamine, and Cy5.
- Environmental monitoring (temperature and CO₂) for experiments with cells and live tissue.
- Digital camera:
 - sCMOS Orca Flash 4.0 LT.
- Computer equipment:
 - Computer running Windows 7.
 - Software: LAS-X with quantification tools and an additional LAS-AF 3D model (reconstructions, projections, and 3D rendering).

Contact

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MOLECULAR PLATFORM

1. SEQUENCING AND GENOTYPING

The sequencing and genotyping service provides support to research studies aimed at the diagnosis, prevention, and treatment of human disease. Its molecular basis lies in the genome and/or the products of its expression.

Services provided

Analysis of DNA by capillary electrophoresis

- Sanger sequencing of DNA from purified PCR products and DNA cloned in vectors. Resolution of up to 600 bp. Chemistry: Big Dye Terminator v3.1.
- Analysis of DNA fragments:
 - In-house PCR (fluorescent labeling; single reaction or multiplex); PCR (fluorescent labeling) using commercially available reagents (SGM, MSI, MLPA, PPW). Sizes up to 500 bp, 600 bp, 1200 bp. Fluorochromes: 6-FAM™, HEX™, VIC®, NED™, PET®, ROX™, LIZ®, 5-FAM™, JOE®, NED™, ROX™, FL™, JOE®, TMR™, and CXR.

- Analysis of single-nucleotide polymorphisms (SNP): ddNTP primer extension. Fluorochromes: dR6G, dTAMRA, dR110, and dROX.
- Response time is 24-48 hours. Priorities can be set with the researcher.

Genome studies and high-throughput genotyping

- Researcher needs analysis not envisaged beforehand: other types of DNA, DNA of specific complexity, sequence sizes greater than 600 bp, and fragment sizes greater than 1200. Similarly, development of genomic applications: de novo sequencing, resequencing, transcriptomics, epigenomics, metagenomics, and study of copy number variations.
- Massive parallel sequencing:
 - Study design.
 - Sample preparation.
 - Agreements on externalization of next-generation sequencing using commercially available approaches: Illumina, Roche, Life Technologies (SOLID, Ion Torrent).
- Large-scale genotyping:
 - Study design.
 - Sample preparation.
 - Agreements on externalization for genotyping: SNP Arrays, Sequenom Mass Array.

Technology

- Gene analyzer 3130 xl (Life Technologies Inc).
- GeneAmp PCR system 9700 (Applied Biosystems).
- Touchgene Gradient (Techne).
- MasterCycler Vapo-Protect ProS (Eppendorf).
- Auxiliary equipment (various).
- Computer:
 - Software: Data Manager v 3.0, Sequencing Analysis v 5.1, Variant Reporter v1.0, and GeneMapper v4.0.

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RESEARCH SUPPORT SERVICES

2. PROTEOMICS UNIT OF THE UCM - MADRID SCIENCE PARK

The mission 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.

Services provided

- Mass spectrometry.
- Determination of protein molecular mass.
- Peptide sequencing.
- Identification of proteins using peptide fingerprinting (MS).
- Identification of proteins using peptide fragmentation (MS/MS).
- Liquid chromatography-mass spectrometry.
- Analysis of highly complex samples.
- Subproteome analysis.
- Analysis of cell surface proteins.
- Differential expression studies.

- DIGE fluorochrome labeling.
- iTRAQ isotope labeling.
- SILAC metabolic labeling.
- Protein separation.
- SDS-PAGE.
- 2D-PAGE.
- Liquid phase isoelectric focusing.
- Blue native PAGE.
- Peptide separation.
- Reverse phase chromatography.
- Ion interchange chromatography.
- Post-translational modification studies. Phosphoproteomics.
- Cell isolation by laser microdissection.

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Innovation, knowledge transfer, and translation to practice

1. INNOVATION SUPPORT UNIT

Innovation is a key element in the development of the research community, especially in the health care sector. The Institute's commitment to this activity is unwavering and has led to the creation of a structure aimed at providing researchers with a smooth path from the innovative idea to the development of the end product.

The objectives of the IISGM include the development of innovation within the organization by promoting the transfer of the scientific results obtained by its professionals to society, the health system, the scientific community, and the financial system.

The Innovation Support Unit came into being through a powerful research and technological design group in the area of biomedical instrumentation and engineering at Hospital General Universitario Gregorio Marañón, which has a solid record in transferring technology to the industrial sector.

The Unit is structured in such a way that it provides channels for the ideas and proposals of professionals working at the hospital. Thus, the Unit can support and advise researchers during the different stages of the innovation and transfer process, with the aim of converting these proposals into products and services that add value to the health system and to society.

The objectives of the Innovation Support Unit include the following:

- Providing the necessary support in innovation to professionals working at the hospital to help them develop their innovation activity.
- Bringing the culture of innovation and entrepreneurship closer to health/research professionals.
- Establishing channels to enable appropriate training and information for professionals working in innovation.
- Promoting and strengthening alliances between the Innovation Support Unit and the different agents that participate in the field of innovation, including other management structures, research organizations, and private companies.

In 2014, its structure was as follows:

- Coordinator: Manuel Desco Menéndez.
- Innovation managers:
 - Anna Riera Guerra.
 - Eva Carravilla.

- Marco A. Rivas Fernández.
- Isabel Ballesteros.
- Eva Talve.

- Information and communication technology: Javier Pascau González-Garzón.
- Electronics: Juan José Vaquero López.
- Biomedical experimentation: M^a Luisa Soto Montenegro.
- Surgery and prototyping: Juan Francisco del Cañizo López.

Development and promotion of innovation is a specific area of the Strategic Plan of the IISGM.

In June 2012, the Innovation Committee was set up to provide assistance in the management of innovation. It provides regular analyses, studies, and follow-up of IISGM innovation projects, as well as criteria and support to ensure appropriate implementation and development.

The members of the Innovation Committee cover the different professional profiles associated with the Institution: investigators, physicians, managers, and personnel from other areas such as nursing, management/administration, and technical staff. The members are as follows:

- Steering Committee:
 - Chair: Rafael Bañares (Director of the Institute).
 - Vice-Chair: Manuel Desco (Director of the Innovation Support Unit).
 - Thierry Bardinet (Manager of FIBHGM).
- Members at large:
 - Francisco Fernández Avilés (Head of Cardiology).
 - Emilio Bouza (Head of Microbiology and Infectious Diseases).
 - Pascual Balsalobre (Hematology Service).
 - Paloma Domingo (Director of the Science Park of Universidad Carlos III).
- Secretary: Anna Riera Guerra (Coordinator of the Innovation Support Unit).

The identification and registration of the results of research for purposes of industrial protection is a key element in promoting their transfer and application and for the development of technology-based commercial projects.

The most noteworthy aspects of the Innovation Support Unit during 2014 are best seen through the following statistics:

1. 42 new projects, 100 active projects from a total of 140 at the end of 2014.
2. 133 meetings with external collaborators and IISGM inventors.

INNOVATION, KNOWLEDGE TRANSFER, AND TRANSLATION TO PRACTICE

3. A new innovation website with:

- a) More than 100 news items, calls for projects, prizes, success stories.
 - b) A section on the technology provided by liSGM.
4. Eight training sessions on innovation in liSGM.
5. 26 contracts signed, 16 of which are with external organizations and 2 for licencing technology developed at the liSGM.
6. Five new national patents and 3 international patents applied for. A further 6 granted in 2014. Twelve registrations of intellectual property.

Lastly, the website of the liSGM includes a section on innovation to present innovative projects or ideas: <http://www.iisgm.com/innovacion/unidad-de-apoyo-a-la-innovacion/comunica-tu-idea-2/>

2. INNOVATION PORTFOLIO

The intellectual and industrial property of the liSGM included in the technology portfolio is set out below. This information can be seen and updated at: <http://www.iisgm.com/innovacion/propiedad-intelectual-e-industrial/propiedad-intelectual-e-industrial/>

Industrial property

Name	Reference no.	Owner	Inventor(s)	liSGM Group
Matriz artificial de gel de fibrina endotelizada superproductora de factores proangiogénicos	P200501182 (Family with 5 patents)	FIBHGM	José María Lasso, Paola Nava	Regenerative medicine in plastic surgery
Aparato de Tomografía Multimodalidad	P200502612 (Family with 4 patents)	FIBHGM - SUINSA MEDICAL SYSTEMS, S.A.	Juan José Vaquero, Manuel Desco	Advanced technology applications and human health
Método y Aparato de Hemodiafiltración	PCT/ES2007/070081 (Family with 3 patents)	FIBHGM	Juan Francisco del Cañizo	Artificial circulation laboratory

Name	Reference no.	Owner	Inventor(s)	liSGM Group
Incubadora para Imagen con Radiación No Ionizante	PCT/ES2007/070214 (Family with 3 patents)	FIBHGM	Juan José Vaquero, Manuel Desco, Manuel Sánchez	Advanced technology applications and human health. Neonatal and developmental pathophysiology
Uso de la Cilastatina para reducir la nefrotoxicidad en distintos compuestos	EP2143429 (Family with 21 patents)	FIBHGM	Alberto Tejedor, Alberto Lázaro, Sonia Camáño, Ana María Torres, José Antonio Lázaro, Manuela Castilla, María del Carmen de Lucas	Inflammation and vascular damage in chronic kidney disease, dialysis, and kidney transplant. Renal pathophysiology
Procedimiento mejorado para evaluar el riesgo cardiovascular	P200901923 (Family with 2 patents)	FIBHGM	Maria Concepción Guisasola, Elena Dulín	Biology of inflammation
Aparato de adquisición de datos para tomografía computerizada por emisión de radiación gamma y su funcionamiento	P200702836	FIBHGM - UPM	Juan José Vaquero, Manuel Desco, Pedro Guerra, Andrés Santos, Giancarlo Sportelli	Advanced technology applications and human health
Procedimiento y Dispositivo para la Detección y Discriminación de Eventos Válidos en Detectores de Radiación Gamma	P2012290029 (Family with 2 patents)	FIBHGM	Eduardo Lage, Gustavo Tapias, José Antonio Sánchez, Javier del Pino, Juan José Vaquero, Manuel Desco	Advanced technology applications and human health
Método para visualizar la información contenida en imágenes tridimensionales del corazón	P201000363 (Family with 4 patents)	FIBHGM - UPM	Esther Pérez, Ángel Arenal, Javier Bermejo, Francisco Fernández Avilés, Manuel Desco, Mª Jesús Ledesma, Andrés de Santos, José Luis Rubio	Natural history of heart disease. Advanced technology applications and human health. Neonatal and developmental pathophysiology

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Name	Reference no.	Owner	Inventor(s)	LiSGM Group	Name	Reference no.	Owner	Inventor(s)	LiSGM Group
Dendrímeros carboxilos catiónicos obtenidos mediante "click chemistry", su preparación y sus usos	P201130804	FIBHGM-UAH, Instituto Científico y Tecnológico de Navarra, S.A.	Francisco Javier de la Mata, Rafael Gómez, Eduardo Arnaiz, Sandra García, José Luis Copa, Juan Soliveri, José Manuel Hernández, Mª Ángeles Muñoz-Fernández, Verónica Bríz, Mª Jesús Serramía, Conchita Tros	Molecular biology of HIV	Compuestos dendríticos carbosilanos homo y hetero-funcionalizados	P201231187 (Family with 2 patents)	UAH - HGUGM	Francisco Javier de la Mata, Rafael Gómez, Mª Ángeles Muñoz-Fernández, Javier Fernández, José Luis Jiménez, Silvia Fernández, Marta Galán, Raquel Lorente, Elena Fuentes, Javier Sánchez, Cornelia Peña , Mª Jesús Serramía, Rosa Reguera	Molecular biology of HIV
Método de Diagnóstico de Insuficiencia Renal	P201131506	FIBHGM - UAH - Fundación PUIGVERT	Ricardo Bosch, Arancha Ortega, Jordi Bover, Alberto Lázaro, Alberto Tejedor	Inflammation and vascular damage in chronic kidney disease, dialysis, and kidney transplant. Renal pathophysiology	Dispositivo, sistema y procedimiento simulador para entrenamiento de profesionales sanitarios en el manejo de pacientes críticamente enfermos que precisen procedimientos de depuración extrarrenal venenosa continua	P201330340	FIBHGM - SERGAS	Jesús López-Herce, Santiago Mencia, Antonio Rodríguez	Diseases of the critically ill child
Sistema de planificación para radioterapia intraoperatoria y procedimiento para llevar a cabo dicha planificación	PCT/ES2008/000240 (Family with 2 patents)	GMV Aerospace and Defense S.A. -Desarrollada por la FIBHGM	Manuel Desco, Javier Pascau, Felipe Calvo, Juan José Vaquero, Manlio Fabio Valdivieso, Carlos Guillermo Illana	Advanced technology applications and human health. Radiotherapy-based oncology	Simulador de sutura uterina de compresión para hemorragia puerperal	U201230998	FIBHGM	Óscar Martínez, Ignacio Cueto, Blanca González	Obstetrics and gynecology
Dendrímeros carbosilanos con un núcleo polifenólico y su uso como antivirales	P201030450	UAH - HGUGM	Francisco Javier de la Mata, Rafael Gómez, Javier Sánchez-Nieves, Paula Ortega, Mª Ángeles Muñoz-Fernández, Louis Chonco, Mª Jesús Serramía	Molecular biology of HIV	Simulador de útero para emergencias obstétrica	P201330161	FIBHGM	Óscar Martínez, Ignacio Cueto, Blanca González, Mª del Mar García, Ana Isabel Casas	Obstetrics and gynecology
Dendrímeros carbosilanos y su uso como antivirales	P201030233 (Family with 7 patents)	UAH - HGUGM	Francisco Javier de la Mata, Rafael Gómez, Mª Ángeles Muñoz-Fernández, Javier Sánchez-Nieves, Beatriz Rasines, Louis Chonco, Eduardo Arnaiz, Mª Jesús Serramía	Molecular biology of HIV					

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INNOVATION, KNOWLEDGE TRANSFER, AND TRANSLATION TO PRACTICE

EXECUTIVE SUMMARY

Name	Reference no.	Owner	Inventor(s)	liSGM Group
Dispositivo de Sutura (Doble aguja)	U201330693	FIBHGM	Óscar Martínez, Luis Ortiz, Ignacio Cueto, Blanca González	Obstetrics and gynecology
Dispositivo de Asistencia Ventricular	P201331422	FIBHGM	Juan Francisco del Cañizo, Manuel Ruiz	Artificial circulation laboratory
Dispositivo para bombeo de sangre formado por una cámara rígida, una consola de comando que controla la aspiración de la y su impulsión conectando la cámara con la atmósfera	P9501070 (Family with 15 patents)	SERMAS - HGUGM	Juan Francisco del Cañizo	Artificial circulation laboratory
Mango ergonómico de cubierto	U201430605	FIBHGM	Irene de los Ríos, Mª Victoria Sevilla	General surgery 1
Dispositivo para prevenir la neumonía asociada a ventilación mecánica	U201430814	FIBHGM	Juan Francisco del Cañizo, Emilio Bouza, Mº Jesús Pérez	Artificial circulation laboratory. Infectious diseases
Dispositivo aplicador de antifúngico coloreado	P201430751	FIBHGM	Pablo Martín-Rabadán	Infectious diseases
Portaobjetos	U201430943	FIBHGM	Pablo Martín-Rabadán	Infectious diseases

Name	Reference no.	Owner	Inventor(s)	liSGM Group
Simulador de hemofiltración	P201330340	SERGAS -Universidad de Santiago de Compostela -FIBHGM	Jesús López Herce, Bartolomé Mencia, Antonio Rodríguez	Diseases of the critically ill child
Catéter y método para la detección de actividad eléctrica en un órgano	P201431315	FIBHGM - UP Valencia - Univ. Michigan	Andreu Martínez, Felipe Atienza, Miguel Rodrigo, Mª Salud Guillén, Omer Berenfeld	Natural history of heart disease
Apósito	U201431166	FIBHGM	José Mª Isla	Reanimation
Composición para liberación controlada de compuestos	P201431583	FIBHGM - Dr. Alia	Enrique Alia Fernández Elena Conde	Dermatology
Dispositivo de localización de arritmias cardíacas	P201431597	FIBHGM - UPV	Andreu Martínez, Felipe Atienza Fernández, Ángel Arenal, Francisco Fernández Avilés y María S. Guillen	Natural history of heart disease

Technology Companies

AMBIOX BIOTECH, S.L.

Ambiox Biotech is characterized by its entrepreneurial spirit, capacity for innovation, and social commitment. Its mission is to apply innovative developments in nanotechnology to the field of biomedicine, thus bringing added value to society that can be appreciated at international level. The creativity and innovation of Ambiox Biotech are developed for application in human health care, thus forging a link between science and the market.

The company was created as a spin-off at Universidad de Alcalá de Henares. Its team includes Mª Ángeles Muñoz, Director of the HIV Molecular Biology Group of the liSGM.

Projects obtained in 2014

PROJECTS IN 2014

During 2014, IISGM increased its research capacity. One year later, we can highlight the Institute's ability to apply for both public and private competitive calls (see below).

	Convening Body	Number		
		2012	2013	2014
National and international public competitive projects	Instituto Salud Carlos III	22	20	20
	Ministerio de Salud y Política Social and MINECO	2	2	4
	Programa Ibero-American de Ciencia, Tecnología y Desarrollo	0	1	0
	European Commission	2	3	1
	Comunidad de Madrid	-	-	1
National and international private competitive projects	Fundación Mutua Madrileña	4	4	6
	Other private organizations	3	2	5

ACTIVE PROJECTS		
	Active research projects funded through public competitive calls	Active research projects funded through private competitive calls
2011	200	78
2012	186	46
2013	212	40
2014	227	67

CLINICAL AND OBSERVATIONAL STUDIES IN 2014

During the year 2014, a total of 715 clinical studies (clinical trials and observational studies) were active in our hospital. Ninety percent of the clinical trials started during the year 2014 were phase I, II, and III studies. By research area, almost 45% of the clinical studies were led by the Translational Oncology area.

ACTIVE CLINICAL STUDIES	
2013	644
2014	715

NEW CLINICAL STUDIES	
2011	157
2012	190
2013	199
2014	189

NEW CLINICAL STUDIES		
	Clinical trials	Observational studies
2012	127	63
2013	132	67
2014	127	62

DISTRIBUTION OF CLINICAL TRIALS SIGNED BY PHASE				
	2011 (%)	2012 (%)	2013 (%)	2014 (%)
Phase I	2.1	3.2	3.8	3.9
Phase II	28.1	36.2	27.2	32.2
Phase III	53.1	45	60.6	54.3
Phase IV	16.6	11.8	5.3	8.6
Other (health care products, vaccines)	1.0	3.8	3	0.8

PROJECTS OBTAINED IN 2014

DISTRIBUTION OF CLINICAL STUDIES SIGNED IN 2014 National/International

	Number	%
National	78	37.5
International	118	62.4

DISTRIBUTION OF CLINICAL STUDIES SIGNED IN 2014 BY AREA OF liSGM

	Number	%
Area 1	0	0
Area 2	24	12.6
Area 3	11	5.8
Area 4	8	4.2
Area 5	19	10
Area 6	84	44.4
Area 7	36	19
Nursing area	0	0
Other	7	3.7

Funding of the IiSGM in 2014

The global analysis of Institute funding was performed by collecting all income obtained by research groups both from competitive/noncompetitive projects and from clinical trials, joint projects, and donations.

The objective of this methodology is to be able to provide information on the capacity of the groups included in the IiSGM to obtain resources.

The resources generated by researchers from the IiSGM in 2014 totalled €12,700,764, that is, 1.6% more than in 2013. Management of funds by the Biomedical Research Foundation of Hospital Gregorio Marañón made it possible to release €319,291 of financial income, 48% less than in 2013. This decrease was due to the situation of the financial sector in Spain. As in previous years, this income is earmarked for support and development of the groups' research activity.

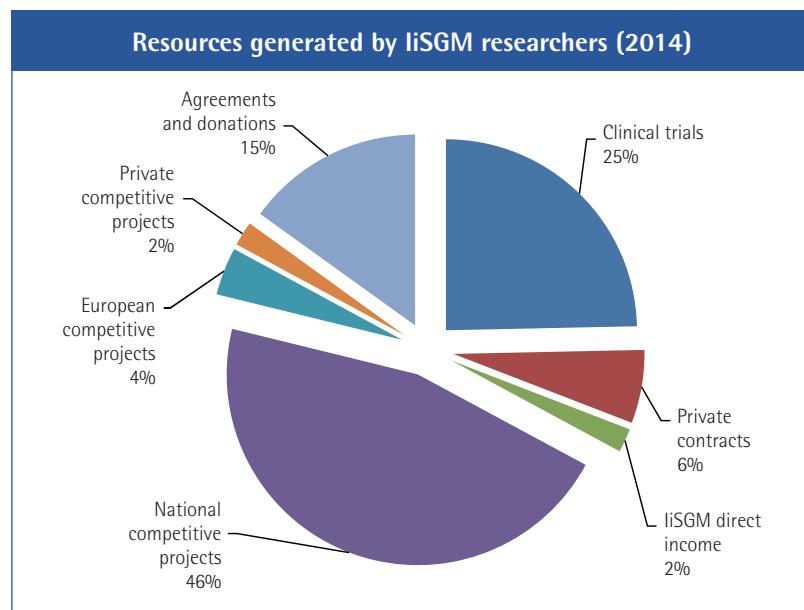
This year sees a new category of income generated by the IiSGM, accounting for 2%, which corresponds to the Research Support Services.

52% of resources were obtained through competitive calls

The ability of the IiSGM to generate resources in a highly competitive environment remains considerable. A total of 52% of resources were obtained through competitive calls, of which almost 50% were in the public sector.

48% of resources generated were from the private sector

In 2014, researchers from the IiSGM were able to generate private sector resources of €6,914,100. Clinical trials accounted for 45% of this figure. Resources generated from this activity grew by 46% between 2013 and 2014.



As in previous years, in the case of individual information provided by each group in this report, only projects obtained by groups in competitive calls (public and private) where the principal investigator was a group researcher are reported. Therefore, other sources of funding have not been taken into account. The objective of this premise is to provide information on the capacity of each of the groups to obtain funding in a competitive environment.

Scientific publications

The list presented below shows all the referenced publications in which investigators from the IISGM participated during 2014. Publications with an impact factor greater than 10 points are highlighted.

In order to obtain the total sum for the impact factor, only information from publications indexed as original articles has been taken into account, namely, original articles, reviews, editorials, and proceedings papers. Other types of publication (eg, letters to the editor and case studies) have not been included.

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 total calculation of the Institute's impact factor.

Journal	IF	No.	Sum of IF	Q
Academic Emergency Medicine	2.006	1	2.006	1
Acta Otorhinolaringologica Italica	1.640	1	1.640	2
Acta Paediatrica	1.674	1	1.674	2
Actas Urológicas Españolas	1.022	1	1.022	4
Adicciones	1.154	1	1.154	4
AIDS	5.554	2	11.108	1
Alimentary Pharmacology & Therapeutics	5.727	1	5.727	1
American Heart Journal	4.463	2	8.926	1
American Journal of Cardiology	3.276	1	3.276	2
American Journal of Emergency Medicine	1.274	1	1.274	2
American Journal of Hematology	3.798	2	7.596	1
American Journal of Infection Control	2.206	1	2.206	2
American Journal of Physiology-Heart And Circulatory Physiology	3.838	1	3.838	1
American Journal of Psychiatry	12.295	1	12.295	1
American Journal of Reproductive Immunology	2.438	1	2.438	2
American Journal of Respiratory and Critical Care Medicine	12.996	1	12.996	1
American Journal of Rhinology & Allergy	1.810	1	1.810	2
American Journal of Surgery	2.291	1	2.291	2

Journal	IF	No.	Sum of IF	Q
Anales de Pediatría	0.833	7	5.831	4
Anales del Sistema Sanitario de Navarra	0.436	1	0.436	4
Anesthesia and Analgesia	3.472	1	3.472	1
Anesthesiology	5.879	1	5.879	1
Angiogenesis	4.876	1	4.876	1
Annals of Hematology	2.634	1	2.634	2
Annals of Medicine	3.886	1	3.886	1
Annals of Neurology	9.977	1	9.977	1
Annals of Oncology	7.040	2	14.080	1
Annals of the Rheumatic Diseases	10.377	2	20.754	1
Annals of Thoracic Surgery	3.849	2	7.698	1
Antimicrobial Agents and Chemotherapy	4.476	8	35.808	1
Antioxidants & Redox Signaling	7.407	1	7.407	1
Archives of Gerontology and Geriatrics	1.853	1	1.853	3
Archivos de Bronconeumología	1.823	3	5.469	3
Archivos Españoles de Urología	0.309	7	2.163	4
Arteriosclerosis Thrombosis and Vascular Biology	6.000	1	6.000	1
Arthritis Care & Research	4.713	1	4.713	1
Arthritis Research & Therapy	3.753	3	11.259	2
Atherosclerosis	3.994	1	3.994	1
Australasian Journal of Dermatology	1.106	1	1.106	3
Biology of Blood and Marrow Transplantation	3.404	2	6.808	2
Biomacromolecules	5.750	1	5.750	1
Biomed Research International	1.579	4	6.316	3
Blood Coagulation & Fibrinolysis	1.403	1	1.403	4
BMC Endocrine Disorders	1.710	1	1.710	4
BMC Health Services Research	1.712	1	1.712	2
BMC Infectious Diseases	2.613	3	7.839	2
BMC Medicine	7.249	1	7.249	1

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Journal	IF	No.	Sum of IF	Q
BMC Pulmonary Medicine	2.404	1	2.404	3
Bone Marrow Transplantation	3.570	2	7.140	2
Breast Cancer Research	5.490	1	5.490	1
British Journal of Anaesthesia	4.853	1	4.853	1
British Journal of Cancer	4.836	2	9.672	1
British Journal of Haematology	4.711	1	4.711	1
British Journal of Pharmacology	4.842	1	4.842	1
Cancer Imaging	2.066	1	2.066	2
Cancer Immunology Research	3.857	1	3.857	2
Cardiovascular Diabetology	4.015	2	8.030	1
Cardiovascular Research	5.940	1	5.940	1
Chest	7.483	2	14.966	1
Circulation	14.430	2	28.860	1
Circulation-Arrhythmia and Electrophysiology	4.513	1	4.513	1
Circulation-Cardiovascular Imaging	5.316	1	5.316	1
Cirugía Española	0.743	3	2.229	4
Clinical & Translational Oncology	2.077	12	24.924	3
Clinical and Experimental Dermatology	1.092	1	1.092	3
Clinical and Experimental Immunology	3.037	1	3.037	2
Clinical and Experimental Rheumatology	2.724	3	8.172	2
Clinical and Vaccine Immunology	2.470	1	2.470	3
Clinical Cardiology	2.586	1	2.586	2
Clinical Endocrinology	3.457	1	3.457	2
Clinical Immunology	3.672	1	3.672	2
Clinical Infectious Diseases	8.886	3	26.658	1
Clinical Journal of Pain	2.527	1	2.527	2
Clinical Lymphoma Myeloma & Leukemia	2.020	1	2.020	3
Clinical Microbiology and Infection	5.768	11	63.448	1
Clinical Nephrology	1.129	1	1.129	4

Journal	IF	No.	Sum of IF	Q
Clinical Neurophysiology	3.097	1	3.097	2
Clinical Transplantation	1.522	2	3.044	2
Clinics in Liver Disease	3.660	1	3.660	2
COPD-Journal of Chronic Obstructive Pulmonary Disease	2.673	1	2.673	2
CRANIO-The Journal of Craniomandibular Practice	0.682	1	0.682	4
Critical Care	4.476	2	8.952	1
Critical Care Medicine	6.312	1	6.312	1
Current Medicinal Chemistry	3.853	1	3.853	1
Current Pharmaceutical Design	3.452	1	3.452	1
Current Vascular Pharmacology	2.966	1	2.966	2
Diagnostic Microbiology and Infectious Disease	2.457	3	7.371	3
Discovery Medicine	3.626	1	3.626	2
EJSO	3.009	1	3.009	1
Emergencias	2.895	1	2.895	1
Emerging Infectious Diseases	6.751	2	13.502	1
Endocrine	3.878	1	3.878	2
Endoscopy	5.053	1	5.053	1
Enfermedades Infecciosas y Microbiología Clínica	2.172	10	21.720	3
Epilepsy Research	2.015	1	2.015	3
Europace	3.670	1	3.670	2
European Child & Adolescent Psychiatry	3.336	1	3.336	1
European Geriatric Medicine	0.733	1	0.733	4
European Heart Journal	15.203	1	15.203	1
European Journal of Cardio-Thoracic Surgery	3.304	1	3.304	1
European Journal of Clinical Investigation	2.734	1	2.734	1
European Journal of Clinical Microbiology & Infectious Diseases	2.668	1	2.668	2
European Journal of Clinical Nutrition	2.709	1	2.709	2
European Journal of Dermatology	1.990	2	3.980	2

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SCIENTIFIC PUBLICATIONS

EXECUTIVE SUMMARY

Journal	IF	No.	Sum of IF	Q
European Journal of Gastroenterology & Hepatology	2.253	1	2.253	3
European Journal of Haematology	2.066	1	2.066	3
European Journal of Hospital Pharmacy-Science and Practice	0.433	1	0.433	4
European Journal of Internal Medicine	2.891	1	2.891	1
European Journal of Medicinal Chemistry	3.447	1	3.447	1
European Journal of Neurology	4.055	1	4.055	1
European Journal of Ophthalmology	1.068	1	1.068	4
European Journal of Pediatrics	1.890	1	1.890	2
European Journal of Pharmacology	2.532	1	2.532	2
European Journal of Preventive Cardiology	3.319	1	3.319	2
European Journal of Trauma and Emergency Surgery	0.346	5	1.730	4
European Psychiatry	3.439	1	3.439	2
European Respiratory Journal	7.636	1	7.636	1
European Review for Medical and Pharmacological Sciences	1.213	1	1.213	4
Experimental Brain Research	2.036	1	2.036	3
Experimental Gerontology	3.485	1	3.485	1
Expert Opinion on Investigational Drugs	5.528	1	5.528	1
Expert Review of Medical Devices	1.683	1	1.683	3
Food & Function	2.791	1	2.791	1
Gaceta Sanitaria	1.186	1	1.186	3
Gastroenterología y Hepatología	0.838	3	2.514	4
Gastroenterology	16.716	1	16.716	1
Heart Rhythm	5.076	2	10.152	1
Hippokratia	0.365	1	0.365	4
HIV Medicine	3.988	2	7.976	1
Human Brain Mapping	5.969	1	5.969	1
Human Genetics	4.824	1	4.824	1
Human Molecular Genetics	6.393	2	12.786	1
Hypertension	6.480	1	6.480	1

Journal	IF	No.	Sum of IF	Q
Immunology and Allergy Clinics of North America	1.818	1	1.818	3
Infection	2.618	2	5.236	2
Injury-International Journal of the Care of the Injured	2.137	1	2.137	1
Intensive Care Medicine	7.214	1	7.214	1
Internal and Emergency Medicine	2.624	1	2.624	1
International Journal of Cardiology	4.036	3	12.108	1
International Journal of Clinical Pharmacy	1.348	1	1.348	3
International Journal of Medical Informatics	2.004	1	2.004	1
International Journal of Medical Microbiology	3.614	1	3.614	2
International Journal of Mental Health Systems	0.769	1	0.769	4
International Journal of Methods in Psychiatric Research	3.759	1	3.759	1
International Journal of Nanomedicine	4.383	1	4.383	1
International Journal of Neuropsychopharmacology	4.009	1	4.009	1
International Journal of Obesity	5.004	1	5.004	1
International Journal of Obstetric Anesthesia	1.598	1	1.598	3
International Journal of Pharmaceutics	3.650	2	7.300	1
International Journal of Radiation Oncology Biology Physics	4.256	6	25.536	1
International Journal of Technology Assessment in Health Care	1.308	1	1.308	3
International Journal of Tuberculosis and Lung Disease	2.315	1	2.315	3
International Urology and Nephrology	1.519	1	1.519	3
JACC-Cardiovascular Interventions	7.345	1	7.345	1
JAIDS-Journal of Acquired Immune Deficiency Syndromes	4.556	7	31.892	1
JNCI-Journal of the National Cancer Institute	12.583	1	12.583	1
Jornal de Pediatria	1.194	1	1.194	3
Journal of Alzheimer's Disease	4.151	1	4.151	1
Journal of Antimicrobial Chemotherapy	5.313	9	47.817	1
Journal of Arthroplasty	2.666	1	2.666	1

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Journal	IF	No.	Sum of IF	Q
Journal of Artificial Organs	1.441	1	1.441	3
Journal of Autism and Developmental Disorders	3.665	1	3.665	1
Journal of Biomedical Optics	2.859	1	2.859	1
Journal of Cancer Research and Clinical Oncology	3.081	2	6.162	2
Journal of Cerebral Blood Flow and Metabolism	5.407	1	5.407	1
Journal of Child Psychology and Psychiatry	6.459	1	6.459	1
Journal of Clinical Investigation	13.215	1	13.215	1
Journal of Clinical Microbiology	3.993	1	3.993	1
Journal of Clinical Oncology	18.428	3	55.284	1
Journal of Clinical Pathology	2.915	1	2.915	2
Journal of Clinical Pharmacy and Therapeutics	1.668	1	1.668	3
Journal of Clinical Psychiatry	5.498	1	5.498	1
Journal of Clinical Psychopharmacology	3.243	1	3.243	2
Journal of Clinical Ultrasound	0.691	1	0.691	3
Journal of Clinical Virology	3.016	1	3.016	2
Journal of Controlled Release	7.705	1	7.705	1
Journal of Craniofacial Surgery	0.678	1	0.678	4
Journal of Crano-Maxillofacial Surgery	2.933	1	2.933	1
Journal of Critical Care	1.995	1	1.995	3
Journal of Crohns & Colitis	6.234	2	12.468	1
Journal of Dual Diagnosis	1.044	1	1.044	3
Journal of Endourology	1.708	1	1.708	3
Journal of Genetic Counseling	2.243	1	2.243	3
Journal of Heart and Lung Transplantation	6.650	2	13.300	1
Journal of Hematology & Oncology	4.812	1	4.812	1
Journal of Hepato-Biliary-Pancreatic Sciences	2.994	1	2.994	2
Journal of Hepatology	11.336	1	11.336	1
Journal of Hypertension	4.720	1	4.720	1
Journal of Immunology	4.922	3	14.766	1

Journal	IF	No.	Sum of IF	Q
Journal of Infection	4.441	3	13.323	1
Journal of Infectious Diseases	5.997	3	17.991	1
Journal of Internal Medicine	6.063	1	6.063	1
Journal of Investigational Allergology and Clinical Immunology	2.596	2	5.192	2
Journal of Leukocyte Biology	4.289	1	4.289	1
Journal of Luminescence	2.719	1	2.719	1
Journal of Microbiological Methods	2.026	1	2.026	3
Journal of Molecular and Cellular Cardiology	4.655	1	4.655	1
Journal of Neuroimmunology	2.467	1	2.467	3
Journal of Neurology	3.377	1	3.377	2
Journal of Neuroscience Methods	2.025	1	2.025	3
Journal of Nuclear Medicine	6.160	1	6.160	1
Journal of Oral and Maxillofacial Surgery	1.425	1	1.425	2
Journal of Paediatrics and Child Health	1.151	1	1.151	3
Journal of Pediatric Endocrinology & Metabolism	0.995	1	0.995	4
Journal of Pediatrics	3.790	1	3.790	1
Journal of Perinatology	2.072	1	2.072	2
Journal of Physiology and Biochemistry	1.969	1	1.969	3
Journal of Physiology and Pharmacology	2.386	1	2.386	2
Journal of Polymer Science Part A-Polymer Chemistry	3.113	1	3.113	1
Journal of Rheumatology	3.187	2	6.374	2
Journal of Sexual Medicine	3.151	1	3.151	1
Journal of Sleep Research	3.347	1	3.347	2
Journal of Systems and Software	1.352	1	1.352	2
Journal of the American Academy of Child and Adolescent Psychiatry	7.260	2	14.520	1
Journal of the American Academy of Dermatology	4.449	1	4.449	1
Journal of the American College of Cardiology	16.503	3	49.509	1
Journal of the American Society of Hypertension	2.606	1	2.606	3

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SCIENTIFIC PUBLICATIONS

Journal	IF	No.	Sum of IF	Q
Journal of Translational Medicine	3.930	1	3.930	1
Journal of Vascular Access	0.846	1	0.846	4
Journal of Viral Hepatitis	3.909	1	3.909	1
Knee Surgery Sports Traumatology Arthroscopy	3.053	1	3.053	1
Lancet Infectious Diseases	22.433	1	22.433	1
Lancet Oncology	24.690	1	24.690	1
Lancet Respiratory Medicine	9.629	1	9.629	1
Leukemia	10.431	2	20.862	1
Liver International	4.850	1	4.850	1
Lupus	2.197	1	2.197	3
Magnetic Resonance in Medicine	3.571	1	3.571	1
Mediators of Inflammation	3.236	1	3.236	2
Medical Image Analysis	3.654	1	3.654	1
Medical Mycology	2.335	4	9.340	1
Medical Physics	2.635	1	2.635	2
Medical Ultrasonography	1.108	1	1.108	4
Medicina Clinica	1.417	7	9.919	2
Medicina Intensiva	1.336	3	4.008	4
Medicine	5.723	1	5.723	1
Minerva Urologica e Nefrologica	0.965	1	0.965	4
Modern Pathology	6.187	1	6.187	1
Modern Rheumatology	2.397	1	2.397	3
Molecular Imaging	1.962	1	1.962	2
Molecular Imaging And Biology	2.774	1	2.774	2
Molecular Psychiatry	14.496	1	14.496	1
Mycopathologia	1.528	1	1.528	3
Nanomedicine	5.413	1	5.413	1
Nanomedicine-Nanotechnology Biology and Medicine	6.155	1	6.155	1
Nature	41.456	1	41.456	1

Journal	IF	No.	Sum of IF	Q
Nefrologia	1.223	7	8.561	3
Neurocirugía	0.293	1	0.293	4
Neuroimage	6.357	1	6.357	1
Neurologia	1.381	4	5.524	4
Neuromuscular Disorders	2.638	2	5.276	2
Neuron	15.054	1	15.054	1
Nutrición Hospitalaria	1.040	12	12.480	4
Optics Express	3.488	1	3.488	1
Organic & Biomolecular Chemistry	3.562	1	3.562	1
Organogenesis	2.800	1	2.800	1
Orthopaedics & Traumatology-Surgery & Research	1.256	1	1.256	3
Otology & Neurotology	1.787	1	1.787	2
Pace-Pacing and Clinical Electrophysiology	1.129	1	1.129	3
Pain	5.213	1	5.213	1
Pediatric Critical Care Medicine	2.338	2	4.676	1
Pediatric Dermatology	1.015	1	1.015	3
Pediatric Infectious Disease Journal	2.723	4	10.892	1
Pediatric Nephrology	2.856	1	2.856	1
Pediatric Neurology	1.695	2	3.390	2
Pediatric Pulmonology	2.704	1	2.704	1
Pediatrics	5.473	1	5.473	1
Pharmacogenetics and Genomics	3.481	1	3.481	1
Pharmacogenomics	3.218	1	3.218	2
Pharmacogenomics Journal	4.229	1	4.229	1
Pharmacological Research	4.408	1	4.408	1
Pharmacopsychiatry	1.851	1	1.851	3
Physics In Medicine And Biology	2.761	2	5.522	2
PLOS Genetics	7.528	1	7.528	1
PLOS ONE	3.234	18	58.212	1

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Journal	IF	No.	Sum of IF	Q
PLOS Pathogens	7.562	1	7.562	1
Proceedings of the National Academy of Sciences of the United States of America	9.674	2	19.348	1
Progress in Transplantation	0.835	1	0.835	4
Quality of Life Research	2.486	1	2.486	2
Radiotherapy and Oncology	4.363	2	8.726	1
Renal Failure	0.944	1	0.944	4
Research in Veterinary Science	1.409	2	2.818	2
Respiratory Medicine	3.086	2	6.172	2
Respiratory Research	3.093	1	3.093	2
Resuscitation	4.167	2	8.334	1
Revista Clínica Española	1.063	4	4.252	3
Revista de Neurología	0.830	4	3.320	4
Revista de Psiquiatría y Salud Mental	1.622	3	4.866	3
Revista Española de Cardiología	3.792	10	37.920	2
Revista Española de Enfermedades Digestivas	1.414	1	1.414	4
Revista Española de Medicina Nuclear e Imagen Molecular	1.054	3	3.162	4
Revista Iberoamericana de Micología	1.056	1	1.056	4
Rheumatology	4.475	4	17.900	1
Rheumatology International	1.516	1	1.516	3
Schizophrenia Bulletin	8.450	5	42.250	1
Schizophrenia Research	3.923	6	23.538	1
Scientific Reports	5.578	1	5.578	1
Seminars in Arthritis and Rheumatism	3.925	1	3.925	1
Seminars in Nephrology	3.483	1	3.483	1
Sleep	4.591	1	4.591	1
Sleep Medicine	3.154	1	3.154	2
Stem Cells	6.523	1	6.523	1
Strahlentherapie und Onkologie	2.914	4	11.656	1

Journal	IF	No.	Sum of IF	Q
Surgical Infections	1.448	1	1.448	3
Surgical Oncology-Oxford	3.270	1	3.270	1
Therapeutic Drug Monitoring	2.376	1	2.376	2
Transplant Infectious Disease	2.064	3	6.192	3
Transplantation	3.828	1	3.828	1
Transplantation Proceedings	0.982	4	3.928	3
Trials	1.731	1	1.731	3
Ultrasound In Obstetrics & Gynecology	3.853	1	3.853	1
Vaccine	3.624	1	3.624	2
Veterinary Microbiology	2.511	1	2.511	1
World Journal of Gastroenterology	2.369	1	2.369	3

Finally, publications in indexed journals with no impact factor and nonindexed journals are included in an appendix.

In-house training: courses, seminars, and one-day training courses

During 2014, the IISGM Training Committee continued working to detect specific training needs (by means of a needs analysis questionnaire). Needs were analyzed and priorities established, and the various trainings included in the Annual Training Plan were planned and given.

In 2014, as part of its Training Plan, the IISGM developed the Course on Animal Experimentation in three modalities (Category B, Category C, and the bridging course from Category B to C).

In addition, 2014 was the first year that the IISGM offered an 80-hour, 4-module program on the methodology of biomedical research. The program had an innovative and integral format in which the content ranged from the initial question prompting the research to the publication of results. The analysis phase was based on the R software package. R is a powerful, free, flexible, and widely used program that can be extended and configured. The program was aimed mainly at researchers in training and was offered to the different research areas, from which the most appropriate candidates were chosen.

The Course in Instrumental Techniques in Biomedical Research was also designed and developed in 2014. Its two aims were to provide attendees with basic notions on the methodology and technology usually applied in a research laboratory and to give visibility to the laboratory techniques and methods that are part of the scientific knowledge of the Institute's researchers.

A series of Research Seminars were planned and developed for 2014. These included the so-called lab meetings, held monthly by researchers with Miguel Servet, Ramón y Cajal, and Sara Borrell awardees.

<i>Investigación en Psiquiatría.</i> Joost Jansen
<i>Efecto cardioprotector de los labdano-diterpenos en infarto de miocardio.</i> Victoria Gómez Gaviro
<i>Metotrexato, estrés y polarización de macrófagos.</i> Amaya Puig Kroger
<i>Cilastatina protege del fracaso renal agudo inducido por gentamicina sin comprometer su eficacia bactericida.</i> Juan Carlos Jado
<i>Tráfico del VIH-1 hacia los P-bodies como mecanismo de restricción de las primeras etapas del ciclo viral en linfocitos.</i> Marjorie Pion
<i>Efecto de la infección por VIH-1 en el fenotipo y actividad supresora de células Treg en pacientes adultos infectados.</i> Rafael Correa
<i>De la genética a la genómica en las reacciones adversas a fluoropirimidinas.</i> Luis López

A fortnightly calendar was planned to mix seminars on basic research and seminars on clinical research.

<i>Gradiente de presión venosa hepática en la historia de la enfermedad hepática.</i> Rafael Bañares Cañizares
<i>Investigación en Pediatría: ¿Cómo coordinarse y colaborar con otras áreas de investigación?</i> Jesús López-Herce
<i>Marcadores genéticos de utilidad clínica en el trasplante de progenitores hematopoyéticos.</i> Ismael Buño Borde
<i>Efectos de la erradicación del VHC en pacientes coinfecados por VIH y VHC.</i> Juan Berenguer
<i>Terapias alternativas frente al VIH.</i> José Luis Jiménez
<i>Papel de las hormonas sexuales femeninas en la migración trans-epitelial de los neutrófilos.</i> Miguel Rellosa
<i>Tráfico del VIH-1 hacia los P-bodies como mecanismo de restricción de las primeras etapas del ciclo viral en linfocitos.</i> Marjorie Pion
<i>Imagen Molecular.</i> Marisa Soto
<i>¿Qué hemos aprendido sobre la aspergilosis invasora en los últimos años?</i> Jesús Guinea
<i>New insights into the controversial role of cytokine activation in liver regeneration.</i> Javier Vaquero
<i>Prevención y tratamiento del daño pulmonar en diferentes modelos experimentales en cerdo.</i> Carlos Simón.

The content of these seminars was complemented by the Practical Research Seminars, which are of a more informative nature, and with Guest Speaker Seminars.

Cómo formular un proyecto de investigación. Alberto Tejedor Jorge
Ética en la investigación en salud. María de la Cruz Arguedas.
Estrategias para afrontar el H2020: Reglas básicas de participación. Luis J. Fdez Vera
Genomics of Breast Cancer: from the individuals to the population. Charles M. Perou
Trajectories of brain change during development: Understanding the risk and resilience factors for emerging mental illness. Prof. Christos Pantelis. University of Melbourne
Tolerancia del Sistema Inmune Innato: mecanismos, moléculas y significado clínico. Eduardo López Collazo. IdiPAZ
Herramienta REDCap. Begoña Santiago. Grupo de Biología Molecular del VIH
Generación de un nuevo ratón transgénico para el estudio de la enfermedad de Alzheimer. Diego Muñoz Santos. Neuron BioPharma
El Segmento Inicial del Axón y su implicación en patologías del sistema nervioso. Juan José Garrido. Instituto Cajal
CortexSTIM stimulator for direct cortical stimulation. Dr. Vedran Deletis. Institute for Neurology and Neurosurgery St Luke's-Roosevelt Hospital, New York, USA

Finally, the Institute held its third series of one-day training courses on research and investigation, which aim to present the financial and scientific results of the Institute and pay tribute to the work of its researchers. These sessions were started at the same time as the official opening of the new communal research facilities in the Experimental Medicine and Surgery building.

Clinical practice guidelines

A key challenge of biomedical research is to ensure a smooth and efficient transfer of the knowledge generated from research activity to clinical practice. One of the ways this concept becomes a reality is through clinical practice guidelines.

The place of the IISGM in the field of clinical research is clear. The Institute aims to ensure the full commitment of its researchers in the development of clinical research.

The forty-five clinical practice guidelines in which researchers from the IISGM participated during 2014 are set out in detail below.

CLINICAL PRACTICE GUIDELINES 2012			
Authors	Title	Publication	Area
Datino T; Rexach L; Vidan MT; Alonso A; Gandara A; Ruiz-Garcia J; Fontecha B; Martinez-Selles M	Guidelines on the management of implantable cardioverter defibrillators at the end of life	REVISTA CLÍNICA ESPAÑOLA	2
Kohl P; Windecker S; Alfonso F; Collet JP; Cremer J; Falk V; Filippatos G; Hamm C; Head SJ; Juni P; Kappetein AP; Kastrati A; Knuuti J; Landmesser U; Laufer G; Neumann FJ; Richter DJ; Schauerte P; Uva MS; Stefanini GG; Taggart DP; Torracca L; Valgimigli M; Wijns W; Witkowski A; Zamorano JL; Achenbach S; Baumgartner H; Bax JJ; Bueno H; Dean V; Deaton C; Erol C; Fagard R; Ferrari R; Hasdai D; Hoes AW; Kirchhof P; Knuuti J; Kohl P; Lancellotti P; Linhart A; Nihoyannopoulos P; Piepoli MF; Ponikowski P; Sirnes PA; Tamargo JL; Tendera M; Torbicki A; Wijns W; Windecker S; Uva MS; Achenbach S; Pepper J; Anyanwu A; Badimon L; Bauersachs J; Baumbach A; Beygui F; Bonaros N; De Carlo M; Deaton C; Dobrev D; Dunning J; Eeckhout E; Gielen S; Hasdai D; Kirchhof P; Luckraz H; Mahrholdt H; Montalescot G; Paparella D; Rastan AJ; Sanmartin M; Sergeant P; Silber S; Tamargo J; ten Berg J; Thiele H; van Geuns RJ; Wagner HO; Wassmann S; Wendler O; Zamorano JL	2014 ESC/EACTS Guidelines on myocardial revascularization	EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY	2
Nunez-Cortes JM; Pedro-Botet J; Brea-Hernando A; Diaz-Rodriguez A; Gonzalez-Santos P; Hernandez-Mijares A; Mantilla-Morato T; Pinto-Sala X; Simo R	Use of Expert Consensus to Improve Atherogenic Dyslipidemia Management	REVISTA ESPAÑOLA DE CARDIOLOGÍA	2

(Continued on next page)

CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area
Gomez-Huelgas R; Perez-Jimenez F; Serrano-Rios M; Gonzalez-Santos P; Roman P; Camafont M; Conthe P; Garcia-Alegria J; Guijarro R; Lopez-Miranda J; Tirado-Miranda R; Valdvielso P	Clinical decisions in patients with diabetes and other cardiovascular risk factors. A statement of the Spanish Society of Internal Medicine	REVISTA CLÍNICA ESPAÑOLA	2
de Lecinana MA; Egido JA; Casado I; Ribo M; Dávalos A; Masjuan J; Caniego JL; Vila EM; Tejedor ED; Alvarez-Sabin J; Arenillas J; Calleja S; Castellanos M; Castillo J; Diaz-Otero F; Lopez-Fernandez JC; Freijo M; Gallego J; Garcia-Pastor A; Gil-Nunez A; Gilo F; Irimia P; Lago A; Maestre J; Marti-Fabregas J; Martinez-Sanchez P; Molina C; Morales A; Nombela F; Purroy F; Rodriguez-Yanez M; Roquer J; Rubio F; Segura T; Serena J; Simal P; Tejada J; Vivancos J	Guidelines for the treatment of acute ischaemic stroke	NEUROLOGÍA	2
Fuentes B; Gallego J; Gil-Nunez A; Morales A; Purroy F; Roquer J; Segura T; Tejada J; Lago A; Diez-Tejedor E; de Lecinana MA; Alvarez-Sabin J; Arenillas J; Calleja S; Casado I; Castellanos M; Castillo J; Dávalos A; Diaz-Otero F; Egido JA; Lopez-Fernandez JC; Freijo M; Pastor AG; Gilo F; Irimia P; Maestre J; Masjuan J; Marti-Fabregas J; Martinez-Sanchez P; Martinez-Vila E; Molina C; Nombela F; Ribo M; Rodriguez-Yanez M; Rubio F; Serena J; Simal P; Vivancos J	Guidelines for the preventive treatment of ischaemic stroke and TIA (II). Recommendations according to aetiological sub-type	NEUROLOGÍA	2

CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area
Konstantinides SV; Torbicki A; Agnelli G; Danchin N; Fitzmaurice D; Galiè N; Gibbs JS; Huisman MV; Humbert M; Kucher N; Lang I; Lankeit M; Lekakis J; Maack C; Mayer E; Meneveau N; Perrier A; Pruszczyk P; Rasmussen LH; Schindler TH; Svitil P; Vonk Noordegraaf A; Zamorano JL; Zompatori M; Task Force for the Diagnosis and Management of Acute Pulmonary Embolism of the European Society of Cardiology (ESC)	2014 ESC guidelines on the diagnosis and management of acute pulmonary embolism	EUROPEAN HEART JOURNAL	2
Erbel R; Aboyans V; Boileau C; Bossone E; Bartolomeo RD; Eggebrecht H; Evangelista A; Falk V; Frank H; Gaemperli O; Grabenwöger M; Haverich A; Iung B; Manolis AJ; Meijboom F; Nienaber CA; Roffi M; Rousseau H; Sechtem U; Sirnes PA; Allmen RS; Vrints CJ; ESC Committee for Practice Guidelines	2014 ESC Guidelines on the diagnosis and treatment of aortic diseases: Document covering acute and chronic aortic diseases of the thoracic and abdominal aorta of the adult. The Task Force for the Diagnosis and Treatment of Aortic Diseases of the European Society of Cardiology (ESC)	EUROPEAN HEART JOURNAL	2
Authors/Task Force members, Windecker S; Kolh P; Alfonso F; Collet JP; Cremer J; Falk V; Filippatos G; Hamm C; Head SJ; Jüni P; Kappetein AP; Kastrati A; Knuuti J; Landmesser U; Laufer G; Neumann FJ; Richter DJ; Schaeufele P; Sousa Uva M; Stefanini GG; Taggart DP; Torracca L; Valgimigli M; Wijns W; Witkowski A	2014 ESC/EACTS Guidelines on myocardial revascularization: The Task Force on Myocardial Revascularization of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS) Developed with the special contribution of the European Association of Percutaneous Cardiovascular Interventions (EAPCI)	EUROPEAN HEART JOURNAL	2

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CLINICAL PRACTICE GUIDELINES

CLINICAL PRACTICE GUIDELINES 2012 (Cont.)				CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area	Authors	Title	Publication	Area
Authors/Task Force members, Elliott PM, Anastasakis A, Borger MA, Borgrefe M, Cecchi F, Charron P, Hagege AA, Lafont A, Limongelli G, Mahrholt H, McKenna WJ, Mogensen J, Nihoyannopoulos P, Nistri S, Pieper PG, Pieske B, Rapezzi C, Rutten FH, Tillmanns C, Watkins H	2014 ESC Guidelines on diagnosis and management of hypertrophic cardiomyopathy: the Task Force for the Diagnosis and Management of Hypertrophic Cardiomyopathy of the European Society of Cardiology (ESC)	EUROPEAN HEART JOURNAL	2	Pérez-Lescure Picarzo J, Crespo Marcos D, Centeno Malfaz F; Grupo de Cardiología Clínica de la Sociedad Española de Cardiología Pediátrica y Cardiopatías Congénitas (Medrano Lopez C, colaborador)	Clinical guidelines for the prevention of infective endocarditis	ANALES DE PEDIATRÍA	2
Lip GY, Windecker S, Huber K, Kirchhof P, Marin F, Ten Berg JM, Haeusler KG, Boriani G, Capodanno D, Gilard M, Zeymer U, Lane D; Document Reviewers, Storey RF, Bueno H, Collet JP, Fauchier L, Halvorsen S, Lettino M, Morais J, Mueller C, Potpara TS, Rasmussen LH, Rubboli A, Tamargo J, Valgimigli M, Zamorano JL	Management of antithrombotic therapy in atrial fibrillation patients presenting with acute coronary syndrome and/or undergoing percutaneous coronary or valve interventions: a joint consensus document of the European Society of Cardiology Working Group on Thrombosis, European Heart Rhythm Association (EHRA), European Association of Percutaneous Cardiovascular Interventions (EAPCI) and European Association of Acute Cardiac Care (ACCA) endorsed by the Heart Rhythm Society (HRS) and Asia-Pacific Heart Rhythm Society (APHRS)	EUROPEAN HEART JOURNAL	2	Fleischhacker WW, Arango C, Arteel P, Barnes TR, Carpenter W, Duckworth K, Galderisi S, Halpern L, Knapp M, Marder SR, Moller M, Sartorius N, Woodruff P	Schizophrenia-time to commit to policy change	SCHIZOPHRENIA BULLETIN	3
Kristensen SD, Knuuti J, Saraste A, Anker S, Bøtker HE, Hert SD, Ford I, Gonzalez-Juanatey JR, Gorenk B, Heyndrickx GR, Hoeft A, Huber K, Lung B, Kjeldsen KP, Longrois D, Lüscher TF, Pierard L, Pocock S, Price S, Roffi M, Sirnes PA, Sousa-Uva M, Voudris V, Funck-Brentano C; Authors/Task Force Members	2014 ESC/ESA Guidelines on non-cardiac surgery: cardiovascular assessment and management: The Joint Task Force on non-cardiac surgery: cardiovascular assessment and management of the European Society of Cardiology (ESC) and the European Society of Anaesthesiology (ESA)	EUROPEAN HEART JOURNAL	2	Arango C	Libro Blanco de la Psiquiatría del Niño y el Adolescente	FUNDACIÓN ALICIA KOPLOWITZ	3
				SB Debast, MP Bauer, EJ Kuijper, on behalf of the Committee	European Society of Clinical Microbiology and Infectious Diseases: update of the treatment guidance document for Clostridium difficile infection	CLINICAL MICROBIOLOGY AND INFECTION	4
				Rodriguez RP; Galligo EM; Iribarren JA; Pedrol PD; Garcia ML; de Mallorca P; Montesinos VM; Martin PM; Julian AN; Hernandez AO; Bares MLP; Franch AS; Beneitez MCV; Tome MIG	Executive Summary of the Consensus Statement on monitoring HIV: Pregnancy, birth, and prevention of mother-to-child transmission	ENFERMEDADES INFECTIOSAS Y MICROBIOLOGÍA CLÍNICA	4
				Berenguer J; Polo R; Lozano F; Aldeguer JL; Antela A; Arribas JR; Asensi V; Blanco JR; Clotet B; Domingo P; Galindo MJ; Gatell JM; Gonzalez-Garcia J; Iribarren JA; Locutura J; Lopez JC; Mallolas J; Martinez E; Miralles C; Miro JM; Moreno S; Palacios R; Elias MJP; Pineda JA; Podzamcer D; Portilla J; Pulido F; Ribera E; Riera M; Rubio R; Santos J; Sanz J; Tuset M; Vida F; Rivero A	Executive summary of the GeSIDA/National AIDS Plan consensus document on antiretroviral therapy in adults infected by the human immunodeficiency virus (updated January 2014)	ENFERMEDADES INFECTIOSAS Y MICROBIOLOGÍA CLÍNICA	4

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CLINICAL PRACTICE GUIDELINES 2012 (Cont.)				CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area	Authors	Title	Publication	Area
Cornely OA; Arikan-Akdagli S; Dannaoui E; Groll AH; Lagrou K; Chakrabarti A; Lanternier F; Pagano L; Skiada A; Akova M; Arendrup MC; Boekhout T; Chowdhary A; Cuenca-Estrella M; Freiberger T; Guinea J; Guarro J; de Hoog S; Hope W; Johnson E; Kathuria S; Lackner M; Lass-Florl C; Lortholary O; Meis JF; Meletiadis J; Munoz P; Richardson M; Roilides E; Tortorano AM; Ullmann AJ; van Diepeningen A; Verweij P; Petrikos G	ESCMID dagger and ECMM double dagger joint clinical guidelines for the diagnosis and management of mucormycosis 2013	CLINICAL MICROBIOLOGY AND INFECTION	4	Iagnocco A; Porta F; Cuomo G; Delle Sedie A; Filippucci E; Grassi W; Sakellarou G; Epis O; Adinolfi A; Ceccarelli F; De Lucia O; Di Geso L; Di Sabatino V; Gabba A; Gattamelata A; Gutierrez M; Massaro L; Massarotti M; Perricone C; Picerno V; Ravagnani V; Riente L; Scioscia C; Naredo E; Filippou G	The Italian MSUS Study Group recommendations for the format and content of the report and documentation in musculoskeletal ultrasonography in rheumatology	RHEUMATOLOGY	5
Tortorano AM; Richardson M; Roilides E; van Diepeningen A; Caira M; Munoz P; Johnson E; Meletiadis J; Pana ZD; Lackner M; Verweij P; Freiberger T; Cornely OA; Arikan-Akdagli S; Dannaoui E; Groll AH; Lagrou K; Chakrabarti A; Lanternier F; Pagano L; Skiada A; Akova M; Arendrup MC; Boekhout T; Chowdhary A; Cuenca-Estrella M; Guinea J; Guarro J; de Hoog S; Hope W; Kathuria S; Lortholary O; Meis JF; Ullmann AJ; Petrikos G; Lass-Florl C	ESCMID and ECMM joint guidelines on diagnosis and management of hyalohyphomycosis: Fusarium spp., Scedosporium spp. and others	CLINICAL MICROBIOLOGY AND INFECTION	4	Iagnocco A; Naredo E; Wakefield R; Bruyn GAW; Collado P; Jousse-Joulin S; Finzel S; Ohrndorf S; Delle Sedie A; Backhaus M; Berner-Hammer H; Gandjbakhch F; Kaeley G; Loeuille D; Moller I; Terslev L; Aegeuter P; Aydin S; Balint PV; Filippucci E; Mandl P; Pineda C; Roth J; Magni-Manzoni S; Tzaribachev N; Schmidt WA; Conaghan PG; D'Agostino MA	Responsiveness in Rheumatoid Arthritis. A Report from the OMERACT 11 Ultrasound Workshop	JOURNAL OF RHEUMATOLOGY	5
Chowdhary A; Meis JF; Guarro J; de Hoog GS; Kathuria S; Arendrup MC; Arikan-Akdagli S; Akova M; Boekhout T; Caira M; Guinea J; Chakrabarti A; Dannaoui E; van Diepeningen A; Freiberger T; Groll AH; Hope WW; Johnson E; Lackner M; Lagrou K; Lanternier F; Lass-Florl C; Lortholary O; Meletiadis J; Munoz P; Pagano L; Petrikos G; Richardson MD; Roilides E; Skiada A; Tortorano AM; Ullmann AJ; Verweij PE; Cornely OA; Cuenca-Estrella M	ESCMID and ECMM joint clinical guidelines for the diagnosis and management of systemic phaeohyphomycosis: diseases caused by black fungi	CLINICAL MICROBIOLOGY AND INFECTION	4	Bruyn GAW; Hanova P; Iagnocco A; d'Agostino MA; Moller I; Terslev L; Backhaus M; Balint PV; Filippucci E; Baudoin P; van Vugt R; Pineda C; Wakefield R; Garrido J; Pechá O; Naredo E	Ultrasound definition of tendon damage in patients with rheumatoid arthritis. Results of a OMERACT consensus-based ultrasound score focussing on the diagnostic reliability	ANNALS OF THE RHEUMATIC DISEASES	5
				Moreno-Pérez D, Andrés Martín A, Tagarro García A, Escribano Montaner A, Figuerola Mulet J, García García JJ, Moreno-Galdó A, Rodrigo Gonzalo de Lliria C, Saavedra Lozano J.	Community acquired pneumonia in children: Treatment of complicated cases and risk patients. Consensus statement by the Spanish Society of Paediatric Infectious Diseases (SEIP) and the Spanish Society of Paediatric Chest Diseases (SENP)	ANALES DE PEDIATRÍA	5

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CLINICAL PRACTICE GUIDELINES

EXECUTIVE SUMMARY

CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area
Aparicio J; Maroto P; del Muro XG; Sanchez-Munoz A; Guma J; Margeli M; Saenz A; Sagastibela N; Castellano D; Arranz JA; Hervas D; Bastos R; Fernandez-Aramburo A; Sastre J; Terrasa J; Lopez-Brea M; Dorca J; Almenar D; Carles J; Hernandez A; Germa JR	Prognostic factors for relapse in stage I seminoma: a new nomogram derived from three consecutive, risk-adapted studies from the Spanish Germ Cell Cancer Group (SGCCG)	ANNALS OF ONCOLOGY	6
De las Penas R; Escobar Y; Henao F; Blasco A; Rodriguez CA	SEOM guidelines on hydroelectrolytic disorders	CLINICAL & TRANSLATIONAL ONCOLOGY	6
Martin AJM; Puig CF; Martin LMN; Garcia PB; Jimenez MM	Clinical guide SEOM on venous thromboembolism in cancer patients	CLINICAL & TRANSLATIONAL ONCOLOGY	6
Jorge Alonso Zafra, Ramón Aurel Ballesteros, Justo Callejo Olmos, Rafael Fábregas Xaudaró, Ana Lluch Hernández, Laura Marqués Soler, Miguel Martín Jiménez, Montserrat Muñoz Maateu y Antonio Requena Miranda	Documento de recomendaciones para la preservación de la fertilidad en pacientes con cáncer de mama.	SOCIEDAD ESPAÑOLA DE FERTILIDAD. EDITORIAL GLOSA, S.L.	6
Juan Jesús Cruz Hernández, Miguel Martín Jiménez, Andrés J. Muñoz Martín	II Consenso SEOM sobre la Enfermedad Tromboembólica en pacientes con Cáncer	SOCIEDAD ESPAÑOLA DE ONCOLOGÍA MÉDICA (SEOM) EDITA: ESMON PUBLICIDAD, S.A.	6
Javier Sastre Valera, Guillem Argilés Martínez, Manuel Benavides Orgaz, Jaime Feliu Batlle, Pilar García Alfonso, Rocío García Carbonero, Cristina Grávalos Castro, Carmen Guillén Ponce, Carles Pericay Pijauame	Clinical management of regorafenib in the treatment of patients with advanced colorectal cancer	CLINICAL AND TRANSLATIONAL ONCOLOGY	6
Sara López-Tarruella	Compromiso por la Calidad de las Sociedades Científicas en España	MINISTERIO DE SANIDAD, SERVICIOS SOCIALES E IGUALDAD	6

CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area
Gómez-Casares M, Jiménez-Velasco A, Buño I, Colomer D, Martínez-López J	Estudios genéticos en la leucemia mieloide crónica: metodología e interpretación. In: Manual para el control y el tratamiento de los pacientes con leucemia mieloide crónica	GRUPO ESPAÑOL DE LEUCEMIA MIELOIDE CRÓNICA (GELMC) DE LA SOCIEDAD ESPAÑOLA DE HEMATOLOGÍA Y HEMOTERAPIA	6
Osorio S, García-Gutiérrez V	El seguimiento y la evaluación de la respuesta en el tratamiento de primera línea. In: Manual para el control y el tratamiento de los pacientes con leucemia mieloide crónica	GRUPO ESPAÑOL DE LEUCEMIA MIELOIDE CRÓNICA (GELMC) DE LA SOCIEDAD ESPAÑOLA DE HEMATOLOGÍA Y HEMOTERAPIA	6
Datino T; Rexach L; Vidan MT; Alonso A; Gandara A; Ruiz-García J; Fontecha B; Martinez-Selles M	Guidelines on the management of implantable cardioverter defibrillators at the end of life	REVISTA CLÍNICA ESPAÑOLA	7
Arnao MDR; Sanchez AR; Garcia-Rey C; Diez FJA; Estrada RC; Cuartero BG; Merillas MA; Lopez-Siguero JP	The DATAc study: a new growth database. Description of the epidemiology, diagnosis and therapeutic attitude in a group of Spanish children with short stature	JOURNAL OF PEDIATRIC ENDOCRINOLOGY & METABOLISM	7
Fernandez-Esparrach G; Calderon A; de la Pena J; Tasende JBD; Esteban JM; Gimeno-Garcia AZ; de Tejada AH; Martinez-Ares D; Nicolas-Perez D; Nogales O; Ono A; Orive-Calzada A; Parra-Blanco A; Munoz SR; Hernandez ES; Sanchez-Yague A; Vazquez-Sequeiros E; Vila J; Roses LL	Endoscopic Submucosal Dissection Sociedad Espanola de Endoscopia Digestiva (SEED) clinical guideline	ENDOSCOPY	7

(Continued on next page)

CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area
Gorostidi M; Santamaría R; Alcazar R; Fernandez-Fresnedo G; Galceran JM; Goicoechea M; Oliveras A; Portoles J; Rubio E; Segura J; Aranda P; de Francisco ALM; del Pino MD; Fernandez-Vega F; Gorriiz JL; Luno J; Marin R; Martinez I; Martinez-Castelao A; Orte LM; Quereda C; Rodriguez-Perez JC; Rodriguez M; Ruilope LM	Spanish Society of Nephrology document on KDIGO guidelines for the assessment and treatment of chronic kidney disease	NEFROLOGIA	7
Arribas L; Frias L; Creus G; Parejo J; Urzola C; Ashbaugh R; Perez-Portabella C; Cuerda C	Document of standardization of enteral nutrition access in adults	NUTRICION HOSPITALARIA	7
Lledo-Garcia E; Riera L; Passas J; Paredes D; Morales JM; Sanchez-Escuredo A; Burgos-Revilla FJ; Belmonte AD; Oppenheimer F; Rodriguez-Ferrero ML; Sole M; Matesanz R; Valentín M; Pascual J	Spanish consensus document for acceptance and rejection of kidneys from expanded criteria donors	CLINICAL TRANSPLANTATION	7
López-Herce (coordinador)	Manual de experimentación animal en Pediatría y obstetricia	MINISTERIO DE SANIDAD. RED SAMID	7
Begoña Ezquieta	Tríptico Guía para pacientes forma clásica HSC	SOCIEDAD ESPAÑOLA DE ENDOCRINOLOGÍA PEDIÁTRICA. ASOCIACIÓN DE FAMILIAS CON HSC	7
Silvia Manrique-Rodríguez, Amelia C Sánchez-Galindo, Cecilia M Fernández-Llamazares, Jesús López-Herce, M Rodríguez-Gómez, L Echarri-Martínez, Ángel Carrillo-Álvarez, María Sanjurjo Sáez.	Preparation of intravenous drug administration guidelines for a pediatric intensive care unit	JOURNAL OF INFUSION NURSING	7
Ortega Ruiz F, Díaz Lobato S, Galdiz Iturri JB, García Rio F, Güell Rous R, Morante Velez F, Puente Maestu L, Tárrega Camarasa	Oxigenoterapia continua domiciliaria	ARCHIVOS DE BRONCONEUMOLOGÍA	7

Doctoral theses

Providing its members with the opportunity to improve training is a key aspect of the activity of a research institute. This is best reflected in the large number of doctoral theses.

A record of 30 doctoral theses were defended during 2014 (see below).

Student	Title	Director	University	Area
Lorena Cussó Mula	Advantages and applications of quantitative molecular imaging	Manuel Desco Menéndez, José Carlos Antoraz Gallego	Universidad Carlos III de Madrid	Area 1
Maria La Calle Auriolles	Estudio de las alteraciones hemodinámicas en fases tempranas de la enfermedad de Alzheimer mediante imagen por resonancia magnética multimodal: estructural, perfusión y difusión	Manuel Desco Menéndez, María Luisa Vega González	Universidad Complutense de Madrid	Area 1
José María Mateos Pérez	Contributions to the quantitative analysis of dynamic PET studies using clustering approaches	Juan José Vaquero López	Universidad Carlos III de Madrid	Area 1
Pablo Dolz Gaitón	Determinantes moleculares de la modulación farmacológica de los canales cardiacos humanos que generan la corriente IK1	Eva Delpón Mosquera, Ricardo Caballero Collado, Juan Tamargo Menéndez	Universidad Complutense de Madrid	Area 2
Adriana Barana Muñoz	Papel de los endocannabinoides y ácidos grasos en la regulación de los canales auriculares humanos Kv1.5	Juan Tamargo Menéndez, Eva Delpón Mosquera, Ricardo Caballero Collado	Universidad Complutense de Madrid	Area 2
Teresa Sánchez Gutiérrez	Efecto modulador del consumo de cannabis en la trayectoria del funcionamiento cognitivo en adolescentes con un primer episodio psicótico a dos años de seguimiento	Marta Rapado Castro, Celso Arango López	Universidad Complutense de Madrid	Area 3
Montserrat Graell Berna	Psicosis de inicio en la adolescencia: estudio caso-control y longitudinal con Resonancia Magnética Espectroscópica	Celso Arango López, Gonzalo Morandé	Universidad Autónoma de Madrid	Area 3

Student	Title	Director	University	Area
Maria del Prado Ayala Munoz	Detección de beta-7-casomorfina en orina de niños con autismo	María José Parellada Redondo	Universidad Complutense de Madrid	Area 3
Pablo Ryan Murua	Resistencia a la insulina en pacientes coinfectados por el Virus de la Hepatitis C y el Virus de la Inmunodeficiencia Humana: prevalencia, factores asociados e influencia en la respuesta al tratamiento con interferón y ribavirina	Juan Berenguer Berenguer	Universidad Complutense de Madrid	Area 4
Eleonora Bunsow	Un modelo de intervención desde el servicio de microbiología en la alerta precoz de la sepsis	Emilio Bouza Santiago	Universidad Complutense de Madrid	Area 4
Marta Martínez Bonet	Nuevas estrategias frente a la infección por el VIH-1	M Ángeles Muñoz Fernández, Ricardo Madrid González	Universidad Autónoma de Madrid	Area 5
Leidi Didiana Jaramillo Ruiz	Efecto de la infección por el VIH-1 sobre el fenotipo y la funcionalidad de las células Treg (Treg): Uso de los dendrimeros carbosilano como protectores de las Treg frente a la infección por el VIH	M Ángeles Muñoz Fernández, Rafael Correa Rocha	Universidad Autónoma de Madrid	Area 5
Rafael Correa Rocha	Células Treg y homeostasis inmune en la infancia: implicaciones en distintas alteraciones inmunes pediátricas	M Ángeles Muñoz Fernández, M José Mellado Peña	Universidad Autónoma de Madrid	Area 5
Talia Sainz Costa	Arteriosclerosis carotidea en niños y adolescentes infectados por el VIH: factores fisiopatológicos implicados	M Ángeles Muñoz Fernández, M José Mellado Peña	Universidad Complutense de Madrid	Area 5
Sara Custodio Cabello	Utilidad de las células tumorales circulantes en la predicción de la respuesta al tratamiento en cáncer de mama metastásico	Miguel Martín Jiménez	Universidad Complutense de Madrid	Area 6

(Continued on next page)

Student	Title	Director	University	Area
Virginia Morillo Macías	Valoración e impacto del tiempo quirúrgico tras el tratamiento neoadyuvante en cáncer rectal avanzado	Felipe A. Calvo Manuel	Universidad Complutense de Madrid	Area 6
Fernando Rivas Navarro	Recidiva anastomótica post-neoadyuvancia en cáncer de recto: correlación clínico-patológica	Felipe A. Calvo Manuel	Universidad Complutense de Madrid	Area 6
Luis Cabezón Gutiérrez	Monitorización del tratamiento neoadyuvante en el cancer de recto localmente avanzado mediante 18F-Fdg PET: correlación predictiva y pronóstica de la respuesta	Felipe A. Calvo Manuel	Universidad Complutense de Madrid	Area 6
Maria Dolores de la Mata Moya	Respuesta postneoadyuvancia en cancer recto: correlaciones entre patología molecular (VEGFR, EGFR) e imagen molecular (PET-TAC)	Felipe A. Calvo Manuel	Universidad Complutense de Madrid	Area 6
Juan Carlos Jado Rodríguez	Cilastatina protege del fracaso renal agudo inducido por gentamicina sin comprometer su eficacia bactericida	Alberto Tejedor Jorge, Alberto Lázaro Fernández	Universidad Autónoma de Madrid	Area 7
Javier Urbano Villaescusa	Comparación de la eficacia de las soluciones coloides hipertónicas y la solución salina en el tratamiento del shock hipovolémico en un modelo animal infantil e influencia sobre la oxigenación tisular	Jesús López-Herce Cid	Universidad Autónoma de Madrid	Area 7
Maria José Solana García	Eficacia y farmacocinética del omeprazol intravenoso para la profilaxis de la hemorragia digestiva y el reflujo gastroesofágico en niños crítico	Jesús López-Herce Cid	Universidad Autónoma de Madrid	Area 7
Evelyn Cano Giménez	Estrés y ansiedad parental en la unidad de cuidados intensivos neonatal. El papel modulador de una intervención temprana	Manuel Sánchez Luna, Alfredo Gustavo Brito de la Nuez	Universidad de Murcia	Area 7

Student	Title	Director	University	Area
Joaquin Moya Angeler	Valoración por resonancia magnética de un modelo experimental para el estudio de la degeneración articular	Francisco Forriol Campos, Javier Vaquero Martín	Universidad Complutense de Madrid	Area 7
Guillermo Juan Rodríguez Bernal	Flujo sanguíneo cerebral en dispositivos de asistencia mecánica circulatoria. Estudio experimental en cerdos	Begoña Quintana Villamandos	Universidad Autónoma de Madrid	Area 7
Mª Esther Durán García	Impacto del desarrollo e implantación de una herramienta informática para la conciliación de la medicación al ingreso hospitalario dentro de la atención farmacéutica en una unidad de medicina interna	Cecilia Martínez Fernández-Llamazares, Miguel Ángel Calleja-Hernández, Fernando Martínez Martínez	Universidad de Granada	Area 7
Vicente Escudero Vilaplana	Utilización de agentes estimulantes de la eritropoyesis en el tratamiento de la anemia secundaria a enfermedad renal crónica	Ana Herranz Alonso, Juan Manuel López Gómez, Irene Iglesias Peinado	Universidad Complutense de Madrid	Area 7
Javier Muñoz González	ECMO en adultos con insuficiencia respiratoria aguda grave	Carlos Pérez de Oteya	Universidad Complutense de Madrid	Area 7
Alejandra Ochoa Palominos	Mejoría de la capacidad predictiva de la elastografía transitoria para el diagnóstico de la hipertensión portal clínicamente significativa en pacientes con cirrosis compensada mediante áboles de decisión clínica.	Rafael Bañares Cañizares, Diego Rincón Rodríguez	Universidad Complutense de Madrid	Area 7
Ana Mª García Pozo	Investigación en Enfermería en la Comunidad de Madrid: perfil investigador de las enfermeras y situación actual en los Hospitales del Servicio Madrileño de Salud	Ruth Gil Prieto/ Gregorio Garrido Canatarero	Universidad Rey Juan Carlos	Enfermería

Cooperative Research

One of the most important instruments Instituto de Salud Carlos III has at its disposal for promoting research in health science can be found in the cooperative structures that enable interaction between researchers. In addition, these structures facilitate the progress of research and rapid transfer of scientific advances to the public health sector.

In recent years, Instituto de Salud Carlos III has developed and maintained cooperative research groups of excellence, such as the Centros de Investigación Biomédica en Red (CIBER [*Networked Centers for Biomedical Research*]) and the Redes Temáticas de Investigación Cooperativa (RETIC [*Thematic Networks for Cooperative Research*]).

LiSGM participates in many of these networks, and 3 of its researchers manage some of the more relevant networks.

CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED DE SALUD MENTAL (CIBERSAM [*Networked Biomedical Research Center in Mental Health*])

Scientific Director: Celso Arango López

Mental disorders are the world's main cause of disability. More than 5 million people in Spain have a mental disorder during their lifetime. The impact of mental illness on society today is enormous. In fact, EU spending on mental health is between 3% and 4% of gross domestic product, and mental disorders are the main reason for early retirement and disability pensions. Furthermore, mental illness generates a huge burden, affecting both society and patients and their families.

CIBERSAM was created on January 1, 2008 to improve clinical care and mental health in our society through knowledge generated by translational research in psychiatry and neuroscience.

CIBERSAM brings together 6 research programs:

- Depression.
- Schizophrenia.
- Bipolar disorder.
- Therapeutic innovation.
- Child and adolescent psychiatry.
- Psychosomatic disorders, anxiety disorders, and impulse control disorders.

CIBERSAM is home to 25 groups selected competitively from among the most notable research groups in Spain.

RED DE INVESTIGACIÓN CARDIOVASCULAR (RIC [*Cooperative Network for Research on Cardiovascular Diseases*])

General coordinator: Francisco Fernández-Avilés Díaz

RIC was created in response to the call from the RETICs of the Instituto de Salud Carlos III. Its mission is to help to reduce the impact of cardiovascular diseases on the survival and quality of life of Spanish citizens by promoting research in this field and transferring the results to daily clinical practice.

The objectives of the network are to reduce the burden of cardiovascular diseases and develop the highest quality research and training to further our understanding of the mechanisms underlying cardiovascular disease so that transferrable benefits can be generated (diagnosis, prevention, cure, palliation).

RIC is organized around 4 priority areas:

- Myocardial dysfunction and heart failure.
- Coronary disease and myocardial infarction.
- Endocardial and arterial disease.
- Arrhythmias and familial diseases.

RIC brings together more than 800 researchers from throughout Spain who are organized into 64 research groups and carry out their scientific and training activities through 7 research programs.

RED DE INNOVACIÓN EN TECNOLOGÍAS MÉDICAS Y SANITARIAS (RED ITEMAS [*Medical Technology Innovation Network*])

General coordinator: Manuel Desco Menéndez

Red ITEMAS is one of the Redes Temáticas de Investigación Cooperativa en Salud (RETICS [*Thematic Cooperative Research Networks in Health Care*]) pro-

moted by Instituto de Salud Carlos III (ISCIII). ITEMAS aims to promote innovation in healthcare technology as a basic tool for ensuring the sustainability of the National Health System. It supports the development of the necessary culture of innovation in hospitals and medical centers to facilitate the integration of science and industry in the field of medical technology.

In 2014, ITEMAS had 31 Innovation Support Units in the main hospitals of the National Health System. These units provide advice to health professionals on innovation and knowledge transfer. The services offered by the Innovation Support Units include evaluation of ideas, support in the protection of industrial property rights, establishing contact with technology and commercial partners, support in the preparation and drafting of contracts, and organization of training to promote a culture of innovation in hospitals.

Other participants in the ITEMAS network include agents involved in innovation in health care, such as technology centers, scientific societies, companies, and research groups. Appropriate communication and collaboration between the research support units and these agents is essential if ideas and projects arising in hospitals are to become products and services that can provide value to the health system and society.

Both hospitals and the remaining members of ITEMAS also participate in multidisciplinary work groups that aim to identify areas for improvement in the implementation of a solid culture of innovation in the sector. The issues covered in these groups include analysis of the regulatory framework governing technology transfer at national and regional level (in order to ensure that it is in line with the health care innovation promotion policies undertaken), development of evaluation criteria that make it possible to measure innovation activities under way in hospitals, and the development of a web map to facilitate real-time knowledge of the range of innovation in hospitals, thus helping to establish contacts and agreements.

Similarly, other hospital innovation units and other relevant institutions promoting innovation in medical technology (public and private) can join the network as collaborators.

Finally, IISGM research groups are joined by groups participating in various collaborative research structures (see below).

Structure	Group	Group Director	Area	Role
RIC	Natural history of heart disease	Francisco Fernández-Avilés	Cardiovascular Diseases	Network coordination
RIC	Blood lipids and cardiovascular risk	Luis Álvarez-Sala	Cardiovascular Diseases	Associated clinical group
RIC	Advanced technology applications and human health	Manuel Desco	Biomedical engineering	Associated clinical group
RIC	Cardiovascular pathophysiology	Victoria Cachofeiro	Cardiovascular Diseases	Associated clinical group
RIC	Cardiac cellular electrophysiology	Eva Delpón	Cardiovascular Diseases	Associated clinical group
RIC	Cardiology and heart transplant in children	Constancio Medrano	Cardiovascular Diseases	Network coordination
ITEMAS	Advanced technology applications and human health	Manuel Desco	Biomedical engineering	Network coordination
ITEMAS Platform	Advanced technology applications and human health	Manuel Desco	Biomedical engineering	Research group
RIS-Red Española de Investigación en Sida	Molecular immunobiology. Molecular biology of HIV	M. Ángeles Muñoz Fernández	Diseases of the immune system	Research group
RIS-Red Española de Investigación en Sida	Clinical and epidemiological aspects of HIV and associated conditions	Juan Berenguer	Infectious diseases and AIDS	Associated clinical group
CIBERSAM	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders	Celso Arango	Neuroscience and mental health	Scientific management
CIBERSAM	Advanced technology applications and human health	Manuel Desco	Biomedical engineering	Research group
CIBERSAM	Interdisciplinary oncology and biotechnology	Felipe Calvo	Translational oncology	Research group

(Continued on next page)

COOPERATIVE RESEARCH

Structure	Group	Group Director	Area	Role
CIBERES	Infectious diseases	Emilio Bouza	Infectious diseases and AIDS	Research group
CIBERES	Vascular pathophysiology and pharmacology	Francisco Pérez Vizcaíno	Systemic diseases and organ transplantation	Research group
CIBEREHD	Pathophysiology and natural history of liver and gastroenterological diseases	Rafael Bañares	Systemic diseases and organ transplantation	Research group
CIBERER	Oncology-hematology in pediatric patients	Elena Cela	Translational oncology	Research group
CIBERER	Pediatric endocrinology. Hereditary diseases	Begoña Ezquieta	Systemic diseases and organ transplantation	Research group
CIBER-BBN	Molecular immunobiology. Molecular biology of HIV	Mª Ángeles Muñoz Fernández	Diseases of the immune system	Associated group
Plataforma de Biobancos	Molecular immunobiology. Molecular biology of HIV	Mª Ángeles Muñoz Fernández	Diseases of the immune system	<p>Collection of biological samples associated with:</p> <ul style="list-style-type: none"> • Histopathology • Patients with HIV infection • Maternal-fetal medicine • Pediatrics <p>HIV Biobank</p>
Red de terapia celular (TERCEL)	Natural history of heart disease	Francisco Fernández-Avilés	Cardiovascular diseases	Research group
Red SAMID (Red de salud materno infantil y del desarrollo)	Diseases of the critically ill child	Jesús López-Herce Cid	Systemic diseases and organ transplantation	Research group

Structure	Group	Group Director	Area	Role
RTICC-Red temática de investigación cooperativa en cáncer	Genetics and clinical features of hematologic malignancy and hematopoietic cell transplantation	José Luis Diez/ Ismael Buño	Translational oncology	Research group
RTICC-Red temática de investigación cooperativa en cáncer	Translational medical oncology and personalized cancer treatment	Miguel Martín	Translational oncology	Research group
RESITRA	Infectious diseases	Emilio Bouza	Infectious diseases and AIDS	Research group
RIS-Red Española de Investigación en Sida	Molecular biology of HIV	Mª Ángeles Muñoz	Diseases of the immune system	Research group
RIS-Red Española de Investigación en Sida	Infecciones en la población pediátrica	Mª Luisa Navarro	Diseases of the immune system	Research group
RETICEF-Red temática de investigación cooperativa en envejecimiento y fragilidad	Biopathology of aging	José Antonio Serra	Systemic diseases and organ transplantation	Research group
Plataforma de Unidades de Investigación Clínica y Ensayos Clínicos (SCREN)	UCAICEC	María de la Cruz Arguedas	Research support services	Participating unit

3

Group Scientific Output by Area



Area 1. Biomedical Engineering

Area 2. Cardiovascular Diseases

Area 3. Neuroscience and Mental Health

Area 4. Infectious Diseases and AIDS

Area 5. Diseases of the Immune System

Area 6. Translational Oncology

Area 7. Systemic Diseases and Organ
Transplantation

Nursing Group

AREA 1

Area coordinator:
Manuel Desco Menéndez

Biomedical Engineering

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, as well as 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; in fact, the Area of Biomedical Engineering leads the Red de Innovación en Tecnologías Medicas 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. Much 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, promoting multidisciplinary research capacity and rapid knowledge transfer, and, in short, responding effectively to key issues in the field of biomedicine.

Research lines and axes

Strategic axes

- ▶ A1: Consolidation of collaboration with Universidad Carlos III, by boosting joint activities between IISGM and technology groups from UC3M.
- ▶ A2: Consolidation of academic collaboration between the Institute and Universidad Carlos III in the teaching component of the Degree in Biomedical Engineering.
- ▶ A3: Expanding the functions and scope of the Innovation Support Unit.
- ▶ A4: Intensification of the clinical research support line, by continuing with its extension to other hospitals and institutions of the Comunidad de Madrid.

Strategic lines

1. Clinical research support

Strategic objectives:

- Intensify development of imaging-guided surgery by increasing the number of collaborating institutions and groups and recruiting new companies interested in technology transfer in this area.
- Advance in the development of the neuroimaging processing platform by adding new in-house and outsourced processing algorithms, completing implementation of the hardware platform, increasing the efficiency of this platform with the participation of groups specialized in massive computing from Universidad Carlos III, and, finally, establishing contact with companies in the sector who could use the technology developed.

2. Technological development

Strategic objectives:

- Complete the development of a new generation of preclinical PET-CT scanners.
- Develop a combined preclinical PET-MRI system.
- Advance in the development of fluorescence molecular optical tomography (FMT and SPIM).

3. Biomedical experimentation

Strategic objectives:

- Complete the installation and implementation of the molecular probe laboratory.
- Maintain and increase collaboration with other groups in molecular imaging experiments in the fields of cardiology, oncology, and neuroimaging.

Structure of AREA 1

Biomedical Engineering



- ▶ Advanced technological applications and human health

Advanced technological applications and human health

Group director: **MANUEL DESCÓ MENÉNDEZ**

Type: Consolidated

Research lines

- ▶ L1: Imaging support for clinical research.
- ▶ L2: Development of technology.
- ▶ L3: Biomedical experimentation.

The work of this group is aimed mainly at research into medical imaging techniques, in terms of both developing new technology and processing methods and practical applications for clinical practice and biomedical research.

The group comprises researchers from very disparate fields (eg, physicians, engineers, physicists, and biologists) belonging to Universidad Carlos III and to Hospital Gregorio Marañón. These professionals work together in the framework of collaboration between both entities to constitute the liSGM. The group's clearly multidisciplinary character creates a strong connection with real clinical and preclinical needs. Collaboration with hospitals and other biomedical research centers facilitates rapid validation of results and has generated several successful cases of technology transfer to industry.

Consequently, we have a wide range of imaging and processing techniques, some even before they were commercially available, which enable us to offer advanced imaging services to internal and external research groups.

Research activity is based on 3 major lines: imaging support for clinical research, development of the technology for imaging tools, and biomedical research projects that require preclinical molecular imaging.



Group members

- **Mónica Abella García:** Postdoctoral.
- **Yasser Alemán Gómez:** Predoctoral.
- **Iván Balsa Lozano:** Support Technician.
- **Susana Carmona Cañabate:** Postdoctoral.
- **Eva Carravilla Expósito:** Administration.
- **Marta Casquero Veiga:** Predoctoral.
- **Cristina Chavarriás Navas:** Predoctoral.
- **Rigoberto Chil Pérez:** Trainee.
- **Lorena Cussó Mula:** Postdoctoral.
- **Claudia De Molina Gomez:** Trainee.
- **Manuel Descos Menéndez:** Senior Researcher.
- **Esther Díez Santiago:** Support Technician.
- **Alexandra De Francisco López:** Support Technician.
- **Inés García Barquero:** Predoctoral.
- **David García García:** Postdoctoral.
- **Verónica García Vázquez:** Predoctoral.
- **Rosa Trajana Garrido Huerta:** Management.
- **Maria Victoria Gomez Gaviro:** Postdoctoral.
- **Georgios Konstantinou :** Predoctoral.
- **María La Calle Aurioles:** Postdoctoral.
- **Pedro Macías Gordaliza:** Predoctoral.
- **Asier Marcos Vidal:** Trainee.
- **Eugenio Daniel Marinetto Carrillo:** Predoctoral.
- **Kenia Martinez Rodríguez:** Postdoctoral.
- **María Elena Martino Casado:** Postdoctoral.
- **José María Mateos Pérez:** Postdoctoral.
- **Paula Montesinos Suárez De La Vega:** Predoctoral.
- **Arrate Muñoz Barrutia:** Postdoctoral.
- **Diego Muñoz Beltran:** Support Technician.
- **Francisco Javier Navas Sánchez:** Predoctoral.
- **Aurora María Olmo Castillo:** Predoctoral.
- **Ana Ortega Gil:** Predoctoral.



- **Javier Pascau González-Garzón:** Senior Researcher.
- **Santiago Peña Zalbidea:** Predoctoral.
- **Juan Felipe Pérez-Juste Abascal:** Postdoctoral.
- **Anna Riera Guerra:** Management.
- **Jorge Ripoll Lorenzo:** Senior Researcher.
- **Marco Antonio Rivas Fernández:** Management.
- **Laura Sanz Díaz:** Predoctoral.
- **Yolanda Sierra Palomares:** Support Technician.
- **María Luisa Soto Montenegro:** Miguel Servet.
- **Eva Talve:** Management.
- **Juan José Vaquero López:** Senior Researcher.
- **Maria Del Rosario Vázquez Alcázar:** Management.
- **Tom Vettenburg:** Marie Curie.
- **Mónica Abella García:** Postdoctoral.
- **Yasser Alemán Gómez:** Predoctoral.

Research projects – Competitive calls

- Principal investigator: M^a Luisa Soto Montenegro.
Title: Imagen molecular mediante PET/CT de meningiomas con péptidos marcados con Ga-68 en un modelo murino.
Funding body: Instituto de Salud Carlos III.
Start date: 2011.
End date: 2014.
- Principal investigator: Juan José Vaquero López.
Title: Red Cardiovascular.
Funding body: Ministerio de Economía y Competitividad.
Start date: 2013.
End date: 2016.
- Principal investigator: Juan José Vaquero López.
Title: Model-based preclinical development of anti-tuberculosis drug combinations (PreDiCT-TB).
Funding body: Unión Europea
Start date: 2012
End date: 2017
- Principal investigator: Javier Pascau González-Garzón.
Title: Tecnologías para procedimientos intraoperatorios seguros y precisos. XIORT.
Funding body: Ministerio de Economía y Competitividad.
Start date: 2012.
End date: 2015.
- Principal investigator: Juan José Vaquero López.
Title: Detector de radiación gamma compatible con resonancia magnética (MARENGO).
Funding body: Ministerio de Ciencia e Innovación.
Start date: 2012.
End date: 2014.
- Principal investigator: Juan José Vaquero López.
Title: Imagen médica multimodal avanzada en el tiempo real (ARTEMIS).
Funding body: Comunidad de Madrid.
Start date: 2010.
End date: 2014.
- Principal investigator: Javier Pascau González-Garzón.
Title: Desarrollo Tecnológico Salud. "Navegación y guiado de aceleradores móviles para tratamientos de radioterapia intraoperatoria".
Funding body: Instituto de Salud Carlos III.
Start date: 2015.
End date: 2016.
- Principal investigator: Manuel Desco Menéndez.
Title: Infraestructura científico-tecnológica 2013 "Dotación complementaria para la Unidad de Medicina y Cirugía Experimental".
Funding body: Ministerio de Economía y Competitividad.
Start date: 2013.
End date: 2015.
- Principal investigator: María Luisa Soto Montenegro.
Title: Proyecto FIS 2014. "Terapias preventivas en la aparición de desarrollo de la esquizofrenia: Estudios de imagen in vivo (PET y MRI) y de comportamiento.
Funding body: Instituto de Salud Carlos III.
Start date: 2015.
End date: 2017.
- Principal investigator: Manuel Desco Menéndez.
Title: Brade-CM. Grupos de Investigación de la CM en Tecnologías "Ingeniería de datos inspirada en el cerebro".
Funding body: Consejería de Educación. Comunidad de Madrid.
Start date: 2014.
End date: 2018.

ADVANCED TECHNOLOGICAL APPLICATIONS AND HUMAN HEALTH

Theses

Doctoral student	Title	Director	University
Lorena Cussó Mula	Advantages and applications of quantitative molecular imaging	Manuel Desco Menéndez, José Carlos Antoraz Gallego	Universidad Carlos III de Madrid
María La Calle Auriolles	Estudio de las alteraciones hemodinámicas en fases tempranas de la enfermedad de alzheimer mediante imagen por resonancia magnética multimodal: estructural, perfusión y difusión	Manuel Desco Menéndez, María Luisa Vega González	Universidad Complutense de Madrid
José María Mateos Pérez	Contributions to the quantitative analysis of dynamic PET studies using clustering approaches	Juan José Vaquero López	Universidad Carlos III de Madrid

Patents and intellectual property registrations

- Title: Ciclotrón clásico superconductor compacto
Reference: P201330626
Owner: CIEMAT, Universidad Carlos III de Madrid
Inventors: L García-Tabares, CC. Oliver Amoros, F Toral, D Gavela, D Obradors, C Vázquez, I Podadera, J Munilla, J Calero, JM Pérez, M Desco, F Haug
- Title: Aparato de Tomografía Multimodalidad
Reference: P200502612; PCT/ES2006/070160; US2009213983; EP1947835
Owner: FIBHGM - SUINSA MEDICAL SYSTEMS, S.A.
Inventors: Manuel Desco Menéndez, Juan José Vaquero López
- Title: Incubadora para Imagen con Radiación No Ionizante
Reference: PCT/ES2007/070214; EP2221035; US2011125010
Owner: FIBHGM
Inventors: Juan José Vaquero, Manuel Desco Menéndez, Manuel Sánchez Luna
- Title: Aparato de adquisición de datos para tomografía computerizada por emisión de radiación gamma y su funcionamiento
Reference: P200702836
Owner: FIBHGM
Inventors: Juan José Vaquero López, Manuel Desco Menéndez, Pedro Guerra Gutiérrez, Andrés Santos y Lleo, Giancarlo Sportelli
- Title: Procedimiento y dispositivo para la detección y discriminación de eventos válidos en detectores de radiación gamma
Reference: P2011290029; PCT/ES2009/070456
Owner: FIBHGM
Inventors: Eduardo Lage Negro, Gustavo Tapias Gil, José Antonio Sánchez González, Javier del Pino Vaquero, Juan José Vaquero López, Manuel Desco Menéndez

- Title: Método para visualizar la información contenida en imágenes tridimensionales del corazón
Reference: P201000363; PCT/ES2011/000069;US20130069945
Owner: FIBHGM - UPM
Inventors: Esther Pérez David, Ángel Arenal Maíz, Javier Bermejo Thomas, Francisco Fernández Avilés, Manuel Desco Menéndez, M^a Jesús Ledesma Carballo, Andrés de Santos Lleó, José Luis Rubio Guivernau
- Title: Sistema de planificación para radioterapia intraoperatoria y procedimiento para llevar a cabo dicha planificación
Reference: PCT/ES2008/000240
Owner: GMV Aerospace and Defense S.A.
Inventors: Manuel Desco Menéndez, Javier Pascau González-Garzón, Felipe Calvo Manuel, Juan José Vaquero López, Manlio Fabio Valdivieso Cacique, Carlos Guillermo Illana Alejandro
- Title: MANGOOSE
Reference: Nº Asiento Registral 02/2010/4412
Owner: FIBHGM
Authors: Javier Pascau González-Garzón, Manuel Desco Menéndez, Mónica Abellá García, Alejandro Sisnega Crespo, Juan José Vaquero López
- Title: CUSQ: CARDIO US/Quantification
Reference: M-003351/2008
Owner: FIBHGM - UPM
Authors: Manuel Desco Menéndez, María Jesús Ledesma Carbayo, Andrés Santos Lleó
- Title: FIRST (Fast Iterative Reconstruction Software for Tomography)
Reference: Registrado
Owner: FIBHGM - UCM
Authors: José Manuel Udías Moinelo, Joaquín López Herraiz, Samuel España Palomares, Manuel Desco Menéndez, Juan José Vaquero López
- Title: QuTIS (Quantification Tool for in vivo Spectroscopy)
Reference: Registrado
Owner: FIBHGM
Authors: Manuel Desco Menéndez, Juan José Vaquero

- Title: MMWKS
Reference: Registrado
Owner: FIBHGM
Inventors: Manuel Desco Menéndez, Juan José Vaquero

Publications

Total impact factor: 85.1

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Guzman-De-Villoria JA; Mateos-Pérez JM; Fernandez-García P; Castro E; Desco M. *Added value of advanced over conventional magnetic resonance imaging in grading gliomas and other primary brain tumors.* CANCER IMAGING. 2014; 14. IF: 2.066. Quartile: 2.
- Pérez A; García-Penton L; Canales-Rodríguez EJ; Lerma-Usabiaga G; Iturria-Medina Y; Roman FJ; Davidson D; Aleman-Gomez Y; Acha J; Carreiras M. *Brain morphometry of Dravet Syndrome.* EPILEPSY RESEARCH. 2014; 108(8) 1326-1334. IF: 2.015. Quartile: 3.
- Pascau J. *Image-guided intraoperative radiation therapy: current developments and future perspectives.* EXPERT REVIEW OF MEDICAL DEVICES. 2014; 11(5) 431-434. IF: 1.683. Quartile: 3.
- Navas-Sánchez FJ; Aleman-Gomez Y; Sánchez-Gonzalez J; Guzman-De-Villoria JA; Franco C; Robles O; Arango C; Desco M. *White Matter Microstructure Correlates of Mathematical Giftedness and Intelligence Quotient.* HUMAN BRAIN MAPPING. 2014; 35(6) 2619-2631. IF: 5.969. Quartile: 1.
- Dong D; Arranz A; Zhu SP; Yang YJ; Shi LL; Wang J; Shen C; Tian J; Ripoll J. *Vertically scanned laser sheet microscopy.* JOURNAL OF BIOMEDICAL OPTICS. 2014; 19(10). IF: 2.859. Quartile: 1.
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	Number of documents	IF
Own publications	18	57.7
Joint publications	6	27.4
First-decile publications	5	31.2
First-quartile publications	14	63.1
Second-quartile publications	7	16.3
Third-quartile publications	3	5.7
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	24	85.1

AREA 2

Area coordinator:
Francisco Fernández-Avilés Díaz

Cardiovascular diseases

Cardiovascular 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. In fact, its main group coordinates the national Red de Investigación Cardiovascular (RIC [*Cooperative Network for Research on Cardiovascular Disease*]) for the study of cardiovascular diseases, which is funded by the Instituto de Salud Carlos III. 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 EU's Seventh Framework Programme for Research and Technological Development, 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.

Research lines and axes

Strategic axes

- ▶ A1: Consolidation of research lines in cardiovascular diseases.
- ▶ A2: Consolidation of training.
- ▶ A3: Consolidation of infrastructure.
- ▶ A4: R+D+i.

Strategic lines

Axis 1: Consolidation of research lines in cardiovascular diseases

1. Consolidation of the basic research area

Strategic objectives:

- Develop animal models for cardiovascular experimentation.
- Cryopreservation of decellularized tissue and stem cells.
- Model of cerebral ischemia and neuroprotection.

2. Leadership in national and European research projects

Strategic objectives:

- Apply for research projects in FP-7.
- Become national leaders in the creation and development of clinical trials.

3. Consolidation of the translational research area of the cardiac cellular electrophysiology group

Strategic objectives:

- Run the human heart sample processing laboratory at HGUGM.
- Obtain quality assurance certification in the Pharmacology Department of the School of Medicine.

Strategic lines (cont.)

4. Maintenance and consolidation of scientific production

Strategic objectives:

- Increase the number of publications in preclinical research.
- Increase participation in intramural and extramural cooperative studies.
- Perform clinical trials.
- Increase the number of publications on translational research.

5. Diversification of funding sources by consolidating several principal investigators

Strategic objectives:

- Increase participation in national cooperative studies (networks, consortia) and international cooperative studies.
- Scale applications for competitive funding calls in the National Plan.
- Apply for private financing through competitive calls.
- Obtain private funding by converging the group lines with the different private funding bodies.
- Increase funding for predoctoral staff.

Axis 2: Consolidation of training

1. Increase opportunities for postgraduate training

Strategic objective:

- Promote preparation of doctoral theses

2. Promote temporary training periods for researchers in prestigious laboratories

Axis 3: Consolidation of infrastructure

1. Distribution and equipment of the Bioartificial Organ Laboratory

Axis 4: R+D+i

1. Development of a model for evaluating and identifying intellectual property products
2. Development of spin-off models with the hospital and the university

Structure of AREA 2

Cardiovascular diseases



- ▶ Natural history of heart disease
- ▶ Cardiac cellular electrophysiology
- ▶ Cardiovascular pathophysiology
- ▶ Cardiology and heart transplant in children
- ▶ Blood lipids and cardiovascular risk
- ▶ Acute cerebral ischemia: stroke

Natural history of heart disease

Group director: FRANCISCO FERNÁNDEZ-AVILÉS DÍAZ

Type: Consolidated

Research lines

- ▶ L1: Heart failure.
- ▶ L2: Coronary syndromes and chronic ischemic heart disease.
- ▶ L3: Valve disease.
- ▶ L4: Regenerative medicine.
- ▶ L5: Heart imaging.
- ▶ L6: Electrophysiology and arrhythmias.

Group members

- Manuel Abeytua Jiménez: Postdoctoral.
- Andrés Alonso García: Other.
- Lucía Alvaredo Olmos: Management.
- Rocío Angulo Llanos: Predoctoral.
- Ángel Arenal Maíz: Senior Researcher.
- Felipe Atienza Fernández: Senior Researcher.
- Ana Ayesta López: Other.
- Javier Bermejo Thomas: Senior Researcher.
- Vanesa Bruña Fernández: Other.
- Ana Casado Plasencia: Other.
- Tomás Datino Romaniega: Postdoctoral.
- Leonel Diaz Gonzalez: Other.
- Felipe Díez Del Hoyo: Other.
- Jaime Elizaga Corrales: Postdoctoral.
- María Ángeles Espinosa Castro: Predoctoral.
- Ana María Fernandez Baza: Administration.
- Lucia Fernandez Pena Data: Management.
- Mª Eugenia Fernandez Santos: Senior Researcher.

- Francisco Jesús Fernández-Aviles Diaz: Senior Researcher.
- Juan Fernández-Yáñez García-Monge: Predoctoral.
- Lucía Fuentes Arroyo: Predoctoral.
- Jorge García Carreño: Other.
- José Antonio García Robles: Predoctoral.
- Víctor Gómez Carrillo: Other.
- Edwin Tadeo Gomez Gomez: Other.
- Ana Gonzalez Mansilla: Postdoctoral.
- Carmen Gonzalez Morante: Management.
- Ángel Gonzalez Pinto: Postdoctoral.
- Hugo Orlando González Saldívar: Other.
- Esteban González Torrecilla: Postdoctoral.
- Enrique Gutiérrez Ibañes: Predoctoral.
- Miriam Juárez Fernández: Postdoctoral.
- Xin Li: Other.
- Juan Carlos Lopez García: Other.
- María José Lorenzo Hernández Data: Management.
- Gerard Alvaro Loughlin Ramírez: Other.
- Raquel Luna Lopez: Other.
- Irene Martin De Miguel: Other.
- Batiste Andreu Martinez Climent: Postdoctoral.
- Manuel Martínez Selles: Senior Researcher.
- Almudena Martinez Tellez: Administration.
- Pablo Martinez-Legazpi Aguiló: Other.
- José Antonio Mayorga Fernandez: Other.
- Irene Mendez Fernandez: Other.
- Teresa Mombiela Ramírez De Ganuza: Rio Hortega.
- Alberto Pérez Castellanos: Other.
- Esther Pérez David: Postdoctoral.
- María Candelas Pérez Del Villar Moro: Predoctoral.
- Virginia Plasencia Martin: Support Technician.

(Continued on next page)

Group members (cont.)

- **Andrea Postigo Esteban:** Other.
- **Raquel Prieto Arevalo:** Postdoctoral.
- **Allan Roberto Rivera Juarez:** Other.
- **Pablo Ruiz Hernández:** Other.
- **M^a Teresa Sánchez Anegon:** Other.
- **Ricardo Sanz Ruiz:** Postdoctoral.
- **Fernando Sarnago Cebada:** Postdoctoral.
- **Javier Soriano Triguero:** Postdoctoral.
- **Iago Sousa Casasnovas:** Other.
- **Susana Suárez Sancho:** Predoctoral.
- **Maria Amalia Tamargo Delpón:** Other.
- **Maria Jesús Valero Masa:** Other.
- **Maria Eugenia Vazquez Alvarez:** Predoctoral.
- **Alexandra Vazquez Castaño Data:** Management.
- **Pilar Velasco Sevillano:** Support Technician.
- **Jesús Velasquez Rodríguez:** Other.
- **Samuel Antonio Veliz Tapia:** Other.
- **M^a Lourdes Vicent Alaminos:** Other.
- **Adolfo Villa Arranz:** Postdoctoral.
- **Raquel Yotti Alvarez:** Senior Researcher.
- **Eduardo Zatarain Nicolás:** Predoctoral.



Research projects – Competitive calls

- Principal investigator: Francisco Jesús Fernández-Avilés Díaz
 Title: Proyecto Europeo 7º Programa Marco. The effect of intracoronary reinfusion of Bound Marrow Derived Mononuclear Cells (BM-MNC) on all cause mortality in acute myocardial infarction
 Funding body: European Commission
 Start date: 2011
 End date: 2016
- Principal investigator: Raquel Yotti Álvarez
 Title: Análisis de intensidad de ondas en la hipertensión pulmonar asociada a cardiopatía izquierda
 Funding body: Instituto de Salud Carlos III
 Start date: 2013
 End date: 2015
- Principal investigator: Javier Bermejo Thomas
 Title: Caracterización de las propiedades diastólicas intrínsecas del ventrículo izquierdo y derecho mediante nuevos métodos de análisis de señal e imagen cardiovascular
 Funding body: Instituto de Salud Carlos III
 Start date: 2013
 End date: 2016
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz
 Title: Red Cardiovascular
 Funding body: Instituto de Salud Carlos III
 Start date: 2013
 End date: 2014
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz
 Title: Proyecto CellCAM. Programa I+d Biomedicina Comunidad de Madrid. "Una nueva generación de medicamentos celulares más eficaces y seguros"
 Funding body: Comunidad de Madrid
 Start date: 2012
 End date: 2015
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz
 Title: Proyecto Europeo 7º Programa Marco. Bestageing. Biomarker research alliance for diagnosing heart disease in the ageing european population
 Funding body: Instituto de Salud Carlos III
 Start date: 2013
 End date: 2017
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz
 Title: Estudio preclínico de la implantación de parches de tejido cardíaco bioartificial electromecánicamente entrenados en un modelo de infarto de miocardio porcino
 Funding body: Instituto de Salud Carlos III
 Start date: 2014
 End date: 2016
- Principal investigator: Ángel Arenal Maíz
 Title: Ablación del sustrato de las TVMS en un modelo porcino de cicatriz post infarto mediante terapia celular
 Funding body: Instituto de Salud Carlos III
 Start date: 2014
 End date: 2016
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz
 Title: Proyectos RETOS 2014. Cardiac regeneration technology.
 Funding body: Ministerio de Economía y Competitividad
 Start date: 2014
 End date: 2016
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz
 Title: Evaluación funcional de una nueva mutación intrónica de KCNH2 en una familia con síndrome de QT largo. Estudio traslacional de patogenicidad en cultivo monocapa de cardiomiositos diferenciados a partir de células madre inducidas mediante técnicas de mapeo
 Funding body: Fundación Mutua Madrileña
 Start date: 2014
 End date: 2016

- Principal investigator: Felipe Atienza Fernández
Title: Proyecto FIS 2014. Caracterización No-invasiva de los Mecanismos de la Fibrilación Auricular. Estudio PERSONALIZE-AF
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017
- Principal investigator: Tomás Datino Romaniega
Title: Proyecto FIS 2014. Factores de riesgo de muerte súbita en adultos con cardiopatías congénitas. Implicaciones para la implantación de desfibriladores automáticos
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz
Title: Proyecto EXPLORA 2014. "Desarrollo de computadores lógicos biológicos basados en comunicación iónica entre células cardíacas excitables y no excitables
Funding body: Ministerio de Economía y Competitividad
Start date: 2014
End date: 2015

Clinical practice guidelines

Authors	Title	Publication
Datino T; Rexach L; Vidan MT; Alonso A; Gandara A; Ruiz-García J; Fontecha B; Martinez-Selles M	Guidelines on the management of implantable cardioverter defibrillators at the end of life	REVISTA CLINICA ESPAÑOLA
Kohl P; Windecker S; Alfonso F; Collet JP; Cremer J; Falk V; Filippatos G; Hamm C; Head SJ; Juni P; Kappetein AP; Kastrati A; Knuuti J; Landmesser U; Laufer G; Neumann FJ; Richter DJ; Schauerte P; Uva MS; Stefanini GG; Taggart DP; Torracca L; Valgimigli M; Wijns W; Witkowski A; Zamorano JL; Achenbach S; Baumgartner H; Bax JJ; Bueno H; Dean V; Deaton C; Erol C; Fagard R; Ferrari R; Hasdai D; Hoes AW; Kirchhof P; Knuuti J; Kohl P; Lancellotti P; Linhart A; Nihoyannopoulos P; Piepoli MF; Ponikowski P; Sirnes PA; Tamargo JL; Tendera M; Torbicki A; Wijns W; Windecker S; Uva MS; Achenbach S; Pepper J; Anyanwu A; Badimon L; Bauersachs J; Baumbach A; Beygui F; Bonaros N; De Carlo M; Deaton C; Dobrev D; Dunning J; Eeckhout E; Gielen S; Hasdai D; Kirchhof P; Luckraz H; Mahrholdt H; Montalescot G; Paparella D; Rastan AJ; Sanmartin M; Sergeant P; Silber S; Tamargo J; ten Berg J; Thiele H; van Geuns RJ; Wagner HO; Wassmann S; Wendler O; Zamorano JL	2014 ESC/EACTS Guidelines on myocardial revascularization	EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY

NATURAL HISTORY OF HEART DISEASE

Patents and intellectual property

- Title: Método para visualizar la información contenida en imágenes tridimensionales del corazón
Reference: P201000363, PCT/ES2011/000069
Owner: FIBHGM - UPM
Inventors: Esther Pérez David, Ángel Arenal Maíz, Javier Bermejo Thomas, Francisco Fernández Avilés, Manuel Desco Menéndez, MªJesús Ledesma Carballo, Andrés de Santos Lleó, José Luis Rubio Guivernau
- Title: Catéter y método para la detección de actividad eléctrica en un órgano
Reference: P201431315
Owner: FIBHGM - UP Valencia - Univ. Michigan
Inventors: Andreu Martínez, Felipe Atienza, Miguel Rodrigo, Mª Salud Guiñen, Omer Berenfeld
- Title: Dispositivo de localización de arritmias cardíacas
Reference: P201431597
Owner: FIBHGM - UPV
Inventors: Andreu Martínez, Felipe Atienza Fernández, Ángel Arenal, Francisco Fernández Avilés y María S. Guillem

Publications

Total Impact Factor: 214.9

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Martin-Sánchez FJ; Bueno H. Are Available Electrocardiographic Methods Accurate Enough to Diagnose Ventricular Tachycardia in the Emergency Department?. ACADEMIC EMERGENCY MEDICINE. 2014; 21(2) 217-219. IF: 2.006. Quartile: 1.
- Bagai A; Tan M; Di Mario C; Halvorsen S; Cantor WJ; Le May MR; Fernandez-Aviles F; Scheller B; Armstrong PW; Borgia F; Piscione F; Sánchez PL; Westerhout CM; Goodman SG; Yan AT. Routine invasive management early after fibrinolysis: Relationship between baseline risk and treatment effects

in a pooled patient-level analysis of 7 randomized controlled trials. AMERICAN HEART JOURNAL. 2014; 168(5) 757-765. IF: 4.463. Quartile: 1.

- Perin EC; Sanz-Ruiz R; Sánchez PL; Lasso J; Pérez-Cano R; Alonso-Farto JC; Pérez-David E; Fernandez-Santos ME; Serruys PW; Duckers HJ; Kastrup J; Chamu. Adipose-derived regenerative cells in patients with ischemic cardiomyopathy: The PRECISE Trial. AMERICAN HEART JOURNAL. 2014; 168(1) 88-95. IF: 4.463. Quartile: 1.
- Datino T; Arenal A; Pelliza M; Hernández-Hernández J; Atienza F; González-Torrecilla E; Avila P; Bravo L; Fernandez-Aviles F. Comparison of the Safety and Feasibility of Arrhythmia Ablation Using the Amigo Robotic Remote Catheter System Versus Manual Ablation. AMERICAN JOURNAL OF CARDIOLOGY. 2014; 113(5) 827-831. IF: 3.276. Quartile: 2.
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- Diez-Villanueva P; Gutierrez-Ibanez E; Cuerpo-Caballero GP; Sanz-Ruiz R; Abeytua M; Soriano J; Sarnago F; Elizaga J. Direct Injury to Right Coronary Artery in Patients Undergoing Tricuspid Annuloplasty. ANNALS OF THORACIC SURGERY. 2014; 97(4) 1300-1305. IF: 3.849. Quartile: 1.
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for Nonsustained Arrhythmias in ICD Patients III (ADVANCE III) Trial. CIRCULATION. 2014; 130(4) 308-U50. IF: 14.43. Quartile: 1.

- Barana A; Matamoros M; Dolz-Gaiton P; Pérez-Hernández M; Amoros I; Nunez M; Sacristan S; Pedraz A; Pinto A; Fernandez-Aviles F; Tamargo J; Delpon E; Caballero R. Chronic Atrial Fibrillation Increases MicroRNA-21 in Human Atrial Myocytes Decreasing L-Type Calcium Current. CIRCULATION-ARRHYTHMIA AND ELECTROPHYSIOLOGY. 2014; 7(5) 861-U192. IF: 4.513. Quartile: 1.
- Yotti R; Bermejo J; Benito Y; Sanz-Ruiz R; Ripoll C; Martinez-Legazpi P; del Villar CP; Elizaga J; Gonzalez-Mansilla A; Barrio. Validation of Noninvasive Indices of Global Systolic Function in Patients With Normal and Abnormal Loading Conditions A Simultaneous Echocardiography Pressure-Volume Catheterization Study. CIRCULATION-CARDIOVASCULAR IMAGING. 2014; 7(1) 164-172. IF: 5.316. Quartile: 1.
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	Number of documents	IF
Own publications	18	88.5
Joint publications	21	126.4
First-decile publications	12	128.6
First-quartile publications	23	172.3
Second-quartile publications	10	35.3
Third-quartile publications	5	6.6
Fourth-quartile publications	1	0.7
Nonindexed publications	0	-
Total publications	39	214.9

Cardiac cellular electrophysiology

Group director: **EVA DELPÓN MOSQUERA**

Type: Consolidated

Research lines

- ▶ L1: Electrical remodeling in chronic atrial fibrillation.
- ▶ L2: Comparison of electrical remodeling in the left and right atria.
- ▶ L3: Role of endogenous mediators and receptors in the control of electrical activity and remodeling of atrial fibrillation.
- ▶ L4: Identification of therapeutic targets for the treatment of atrial fibrillation.
- ▶ L5: Molecular determinants of block of inwardly rectifying K channels (Kir).
- ▶ L6: Molecular determinants of voltage-dependent channel block.
- ▶ L7: Modulation by endogenous mediators (eg, cannabinoids, nitric oxide) and miRNAs of human cardiac ion channel activity.

Group members

- **Irene Amorós García:** Predoctoral.
- **Adriána Barana Muñoz:** Postdoctoral.
- **Ricardo Caballero Collado:** Senior researcher.
- **Eva Delpón Mosquera:** Senior researcher.
- **Marta Pérez-Hernández Durán:** Predoctoral ISCIII.
- **Juan Tamargo Menéndez:** Senior researcher.

Research projects – Competitive calls

- Principal investigator: Ricardo Caballero Collado
Title: Sulfonylureas to treat Cantú syndrome
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2018

Theses

Doctoral student	Title	Director	University
Pablo Dolz Gaitón	Determinantes moleculares de la modulación farmacológica de los canales cardíacos humanos que generan la corriente IK1	Eva Delpón Mosquera, Ricardo Caballero Collado, Juan Tamargo Menéndez	Universidad Complutense de Madrid
Adriana Barana Muñoz	Papel de los endocannabinoides y ácidos grasos en la regulación de los canales auriculares humanos Kv1.5	Juan Tamargo Menéndez, Eva Delpón Mosquera, Ricardo Caballero Collado	Universidad Complutense de Madrid

Clinical practice guidelines

Authors	Title	Publication
Kohl P; Windecker S; Alfonso F; Collet JP; Cremer J; Falk V; Filippatos G; Hamm C; Head SJ; Juni P; Kappetein AP; Kastrati A; Knuuti J; Landmesser U; Laufer G; Neumann FJ; Richter DJ; Schauerte P; Uva MS; Stefanini GG; Taggart DP; Torracca L; Valgimigli M; Wijns W; Witkowski A; Zamorano JL; Achenbach S; Baumgartner H; Bax JJ; Bueno H; Dean V; Deaton C; Erol C; Fagard R; Ferrari R; Hasdai D; Hoes AW; Kirchhof P; Knuuti J; Kohl P; Lancellotti P; Linhart A; Nihoyannopoulos P; Piepoli MF; Ponikowski P; Sirnes PA; Tamargo JL; Tendera M; Torbicki A; Wijns W; Windecker S; Uva MS; Achenbach S; Pepper J; Anyanwu A; Badimon L; Bauersachs J; Baumbach A; Beygui F; Bonaros N; De Carlo M; Deaton C; Dobrev D; Dunning J; Eeckhout E; Gielen S; Hasdai D; Kirchhof P; Luckraz H; Mahrholdt H; Montalescot G; Paparella D; Rastan AJ; Sanmartin M; Sergeant P; Silber S; Tamargo J; ten Berg J; Thiele H; van Geuns RJ; Wagner HO; Wassmann S; Wendler O; Zamorano JL	2014 ESC/EACTS Guidelines on myocardial revascularization	EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY

(Continued on next page)

CARDIAC CELLULAR ELECTROPHYSIOLOGY

AREA 2: Cardiovascular diseases

Authors	Title	Publication	Authors	Title	Publication
Konstantinides SV, Torbicki A, Agnelli G, Danchin N, Fitzmaurice D, Galie N, Gibbs JS, Huisman MV, Humbert M, Kucher N, Lang I, Lankeit M, Lekakis J, Maack C, Mayer E, Meneveau N, Perrier A, Pruszczyk P, Rasmussen LH, Schindler TH, Svitil P, Vonk Noordegraaf A, Zamorano JL, Zompatori M; Task Force for the Diagnosis and Management of Acute Pulmonary Embolism of the European Society of Cardiology (ESC)	2014 ESC guidelines on the diagnosis and management of acute pulmonary embolism.	EUROPEAN HEART JOURNAL	Authors/Task Force members, Elliott PM, Anastasakis A, Borger MA, Borggreffe M, Cecchi F, Charron P, Hagege AA, Lafont A, Limongelli G, Mahrholdt H, McKenna WJ, Mogensen J, Nihoyannopoulos P, Nistri S, Pieper PG, Pieske B, Rapezzi C, Rutten FH, Tillmanns C, Watkins H	2014 ESC Guidelines on diagnosis and management of hypertrophic cardiomyopathy: the Task Force for the Diagnosis and Management of Hypertrophic Cardiomyopathy of the European Society of Cardiology (ESC)	EUROPEAN HEART JOURNAL
Erbel R, Aboyans V, Boileau C, Bossone E, Bartolomeo RD, Eggebrecht H, Evangelista A, Falk V, Frank H, Gaemperli O, Grabenwöger M, Haverich A, lung B, Manolis AJ, Meijboom F, Nienaber CA, Roffi M, Rousseau H, Sechtem U, Sirnes PA, Allmen RS, Vrints CJ; ESC Committee for Practice Guidelines.	2014 ESC Guidelines on the diagnosis and treatment of aortic diseases: Document covering acute and chronic aortic diseases of the thoracic and abdominal aorta of the adult. The Task Force for the Diagnosis and Treatment of Aortic Diseases of the European Society of Cardiology (ESC).	EUROPEAN HEART JOURNAL	Lip GY, Windecker S, Huber K, Kirchhof P, Marin F, Ten Berg JM, Haeusler KG, Boriani G, Capodanno D, Gilard M, Zeymer U, Lane D; Document Reviewers, Storey RF, Bueno H, Collet JP, Fauchier L, Halvorsen S, Lettino M, Morais J, Mueller C, Potpara TS, Rasmussen LH, Rubboli A, Tamargo J, Valgimigli M, Zamorano JL	Management of antithrombotic therapy in atrial fibrillation patients presenting with acute coronary syndrome and/or undergoing percutaneous coronary or valve interventions: a joint consensus document of the European Society of Cardiology Working Group on Thrombosis, European Heart Rhythm Association (EHRA), European Association of Percutaneous Cardiovascular Interventions (EAPCI) and European Association of Acute Cardiac Care (ACCA) endorsed by the Heart Rhythm Society (HRS) and Asia-Pacific Heart Rhythm Society (APHRS)	EUROPEAN HEART JOURNAL
Authors/Task Force members, Windecker S, Kolh P, Alfonso F, Collet JP, Cremer J, Falk V, Filippatos G, Hamm C, Head SJ, Jüni P, Kappetein AP, Kastrati A, Knuuti J, Landmesser U, Laufer G, Neumann FJ, Richter DJ, Schauerte P, Sousa Uva M, Stefanini GG, Taggart DP, Torracca L, Valgimigli M, Wijns W, Witkowski A.	2014 ESC/EACTS Guidelines on myocardial revascularization: The Task Force on Myocardial Revascularization of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS) Developed with the special contribution of the European Association of Percutaneous Cardiovascular Interventions (EAPCI).	EUROPEAN HEART JOURNAL			

(Continued on next page)

Authors	Title	Publication
Kristensen SD, Knuti J, Saraste A, Anker S, Bøtker HE, Hert SD, Ford I, Gonzalez-Juanatey JR, Gorenk B, Heyndrickx GR, Hoeft A, Huber K, lung B, Kjeldsen KP, Longrois D, Lüscher TF, Pierard L, Pocock S, Price S, Roffi M, Sirnes PA, Sousa-Uva M, Voudris V, Funck-Brentano C; Authors/Task Force Members.	2014 ESC/ESA Guidelines on non-cardiac surgery: cardiovascular assessment and management: The Joint Task Force on non-cardiac surgery: cardiovascular assessment and management of the European Society of Cardiology (ESC) and the European Society of Anaesthesiology (ESA)	EUROPEAN HEART JOURNAL

Publications**Total Impact Factor: 20.9**

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Gomez R; Caballero R; Barana A; Amoros I; De Palm SH; Matamoros M; Nunez M; Pérez-Hernández M; Iriepa I; Tamargo J.; Structural basis of drugs that increase cardiac inward rectifier Kir2.1 currents. CARDIOVASCULAR RESEARCH. 2014; 104(2) 337-346. IF: 5.94. Quartile: 1.
- Barana A; Matamoros M; Dolz-Gaiton P; Pérez-Hernández M; Amoros I; Nunez M; Sacristan S; Pedraz A; Pinto A; Fernandez-Aviles F; Tamargo J; Delpon E; Caballero R. Chronic Atrial Fibrillation Increases MicroRNA-21 in Human Atrial Myocytes Decreasing L-Type Calcium Current. CIRCULATION-ARRHYTHMIA AND ELECTROPHYSIOLOGY. 2014; 7(5) 861-U192. IF: 4.513. Quartile: 1.
- Tamargo J; Caballero R; Delpon E. New Drugs for the Treatment of Hyperkalemia in Patients Treated with Renin- Angiotensin-Aldosterone System Inhibitors - Hype or Hope?. DISCOVERY MEDICINE. 2014; 100. 249-254. IF: 3.626. Quartile: 2.

- Kohl P; Windecker S; Alfonso F; Collet JP; Cremer J; Falk V; Filippatos G; Hamm C; Head SJ; Juni P; Kappetein AP; Kastrati A; Knuuti J; Landmesser U; Laufer G; Neumann FJ; Richter DJ; Schaefer P; Uva MS; Stefanini GG; Taggart DP; Torracca L; Valgimigli M. 2014 ESC/EACTS Guidelines on myocardial revascularization. EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY. 2014; 46(4) 517-592. IF: 3.304. Quartile: 1.
- Tamargo J; Solini A; Ruilope LM. Comparison of Agents That Affect Aldosterone Action. SEMINARS IN NEPHROLOGY. 2014; 34(3) 285-306. IF: 3.483. Quartile: 1.

	Number of documents	IF
Own publications	4	17.6
Joint publications	1	3.3
First-decile publications	1	5.9
First-quartile publications	4	17.2
Second-quartile publications	1	3.6
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	5	20.9

Cardiovascular pathophysiology

Group director: VICTORIA CACHOFEIRO RAMOS

Type: Consolidated

Research lines

- ▶ L1: Metabolic syndrome and obesity.
- ▶ L2: Hypertension and other cardiovascular risk factors.

This group is formed by lecturers and researchers from the Universidad Complutense de Madrid who have been working for several years on the translational and integrated study of the mechanisms involved in cardiovascular damage associated with various risk factors (eg, hypertension, obesity, dyslipidemia, aging, and diabetes). The group is a pioneer in the study of endothelial function.

One of the group's key areas is its translational and integrated approach to the study of the impact of various risk factors on the cardiovascular system. During the last 15 years, its range of interest has expanded to include cardiac damage assessed through experimentation and by participating in various clinical studies. Its most noteworthy recent collaborations were with the University of São Paulo (Brazil), Inserm (Nancy, France), Instituto de Cardiología de Bucaramanga

(Colombia), Universidad Autónoma de Madrid, Hospital Clínico San Carlos, and ICCC-CSIC San Pau (Barcelona, Spain), as well as with other groups from the LiSGM. The fruits of this cooperation can be seen in the numerous publications in prestigious journals both within and outside the field of cardiovascular disease (eg, Atherosclerosis, Thrombosis, and Vascular Biology; International Journal of Cardiology; Cardiovascular Research; Journal of Hypertension; British Journal of Pharmacology; Endocrinology; and Kidney International).

In addition to belonging to the LiSGM, the members of the group have been part of the RIS network of the ISCIII since 2006.

Group members

- José Gutiérrez Tenorio: Predoctoral.
- María Visitación Bartolomé Pascual: Postdoctoral.
- Victoria Cachofeiro Ramos: Senior researcher.
- Raquel Jurado López: Support technician.
- Encarnación Muñoz Ferrero: Support technician.

Publications**Total Impact Factor: 24.2**

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Gomez-Hernández A; Perdomo L; de las Heras N; Beneit N; Escribano O; Otero YF; Guillen C; Diaz-Castroverde S; Gozalbo-Lopez B; Cachofeiro V; Lahera V; Benito M. Antagonistic effect of TNF-alpha and insulin on uncoupling protein 2 (UCP-2) expression and vascular damage. CARDIOVASCULAR DIABETOLOGY. 2014; 13. IF: 4.015. Quartile: 1.
- Cornely OA; Arikan-Akdagli S; Dannaoui E; Groll AH; Lagrou K; Chakrabarti A; Lantertier F; Pagano L; Skiada A; Akova M; Arendrup MC; Boekhout T; Chowdhary A; Cuenca-Estrella M; Freiberger T; Guinea J; Guarro J; de Hoog S; Hope W; Johnson E; Kathuria S; La. ESCMID dagger and ECMM double dagger joint clinical guidelines for the diagnosis and management of mucormycosis 2013. CLINICAL MICROBIOLOGY AND INFECTION. 2014; 20: 5-26. IF: 5.768. Quartile: 1.
- Martinez-Martinez E; Miana M; Jurado-Lopez R; Bartolome MV; Neto FVS; Salaices M; Lopez-Andres N; Cachofeiro V. The potential role of leptin in the vascular remodeling associated with obesity. INTERNATIONAL JOURNAL OF OBESITY. 2014; 38(12) 1565-1572. IF: 5.004. Quartile: 1.
- Martinez-Martinez E; Jurado-Lopez R; Valero-Munoz M; Bartolome MV; Ballesteros S; Luaces M; Briones AM; Lopez-Andres N; Miana M; Cachofeiro. Leptin induces cardiac fibrosis through galectin-3, mTOR and oxidative stress: potential role in obesity. JOURNAL OF HYPERTENSION. 2014; 32(5) 1104-1114. IF: 4.72. Quartile: 1.

- Martin R; Cordova C; San Roman JA; Gutierrez B; Cachofeiro V; Nieto ML. Oleanic acid modulates the immune-inflammatory response in mice with experimental autoimmune myocarditis and protects from cardiac injury. Therapeutic implications for the human disease. JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY. 2014; 72: 250-262. IF: 4.655. Quartile: 1.

	Number of documents	IF
Own publications	2	9.7
Joint publications	3	14.4
First-decile publications	2	10.8
First-quartile publications	5	24.2
Second-quartile publications	0	0.0
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	5	24.2

Cardiology and heart transplant in children

Group director: CONSTANCIO MEDRANO LÓPEZ

Type: Emerging

Research programs

- ▶ P1: Heart transplant in children.
- ▶ P2: Myocardiopathy in children.
- ▶ P3: Respiratory infections and congenital heart disease.
- ▶ P4: Drugs in pediatric cardiology.
- ▶ P5: Cardiac rehabilitation in children.
- ▶ P6: Cell therapy in pediatric cardiology.
- ▶ P7: Innovation in interventional approaches in congenital heart disease and in infants.
- ▶ P8: Innovation in surgical approaches in congenital heart disease and in infants.

The major research lines of this group include respiratory infection and respiratory syncytial virus, the continuation of the CIVIC study with the CIVIC5 study and Risk21, which will be developed during the next few years. They also include the line of echocardiography using specialized techniques (Speckle Tracking, 3D) in myocardiopathy, transplantation, and structural heart disease, as well as the line associated with cardiovascular drugs and transplantation.

Finally, it is noteworthy that this group has initiated a new research line in cell therapy in children with hypoplastic left heart syndrome. A key element of work in this field has been the group's collaboration with specialists in adult cardiology, pediatric hematology-oncology, cell regeneration, and infant heart surgery.

The Pediatric Cardiology group has developed its main research lines in the fields of familial cardiomyopathy and cardiopathy through the MyEstela project implemented during 2010-2012 with a FIS grant. This project has led to collaborations with other research groups. Of note, the group recently cooperated with the Centro Nacional de Investigaciones Cardiovasculares (CNIC [National Center for Cardiovascular Research]) in a high-impact publication in *Nature Medicine*. The group also recently joined the Red Cardiovascular as a differentiated group (the only one working on pediatric cardiology). The network has partially funded the work of a postgraduate for 4 years.

Group members

- Reyes Álvarez García-Rovés: RETICS.
- Teresa Álvarez Martín: Predoctoral.
- Olga Arroyo Riaño: Predoctoral.
- Fernando Ballesteros Tejerizo: Predoctoral.
- Manuela Camino López: Predoctoral.
- Inmaculada Carchenilla Pulido: Support technician.
- Mirian Centeno Jiménez: Predoctoral.
- Susana Cobos Hinojal: Postdoctoral.
- Juan Miguel Gil Jaurena: Predoctoral.
- Nuria Gil Villanueva: Predoctoral.
- Teresa González López: Predoctoral.
- Enrique Maroto Álvaro: Postdoctoral.
- Constancio Medrano López: Senior researcher.
- Gloria Isabel Pinero Díaz: Postdoctoral.
- Cristina Relaño García: Postdoctoral.
- Alejandro Rodríguez Ogando: Predoctoral.
- Adolfo Sobrino Baladrón: Post-MIR.
- Samantha Wilkinson: Support technician.
- José Luis Zunzúñegui Martínez: Predoctoral.



CARDIOLOGY AND HEART TRANSPLANT IN CHILDREN

Research projects – Competitive calls

- Principal investigator: Constancio Medrano López
Title: Sildenafil en el postoperatorio de cirugía cardiaca en niños: estudio Ivory
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015

Clinical practice guidelines

Authors	Title	Publication
Pérez-Lescure Picarzo J, Crespo Marcos D, Centeno Malfaz F; Grupo de Cardiología Clínica de la Sociedad Española de Cardiología Pediátrica y Cardiopatías Congénitas (Medrano Lopez C, colaborador)	Clinical guidelines for the prevention of infective endocarditis	ANALES DE PEDIATRÍA

Publications

Total Impact Factor: 36.2

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Marin MJD; Rotes AS; Ogando AR; Soto AM; Jimenez MQ; Camacho JLG; Sonnenfeld IR; Bonora AM; Brotons DCA; Galdo AM. Assessing Pulmonary Hypertensive Vascular Disease in Childhood. AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE. 2014; 190(12) 1421-1429. IF: 12.996. Quartile: 1.
- Castano MJR; Romero AA; Ogando AR; Castro SV. Use of peritoneal dialysis in newborns undergoing cardiac surgery with cardiopulmonary bypass. ANALES DE PEDIATRÍA. 2014; 80(5) 321-325. IF: 0.833. Quartile: 4.
- Jimenez VA; Iniguez A; Baz JA; Sepulveda J; Zunzunegui JL. Extrinsic Compression of the Left Anterior Descending Coronary Artery During Percutaneous Pulmonary Valve Implantation. JACC-CARDIOVASCULAR INTERVENTIONS. 2014; 7(2) 224-225. IF: 7.345. Quartile: 1.

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- De Leon-Luis J; Gamez F; Bravo C; Tenias JM; Arias A; Pérez R; Maroto E; Aguaron A; Ortiz-Quintana L. Second-trimester fetal aberrant right subclavian artery: original study, systematic review and meta-analysis of performance in detection of Down syndrome. ULTRASOUND IN OBSTETRICS & GYNECOLOGY. 2014; 44(2) 147-153. IF: 3.853. Quartile: 1.

	Number of documents	IF
Own publications	1	7.3
Joint publications	6	28.9
First-decile publications	3	24.2
First-quartile publications	5	31.6
Second-quartile publications	1	3.8
Third-quartile publications	0	0.0
Fourth-quartile publications	1	0.8
Nonindexed publications	0	-
Total publications	7	36.2

Blood lipids and cardiovascular risk

Group director: LUIS ANTONIO ÁLVAREZ-SALA WALTHER

Type: Emerging

Research lines

- ▶ L1: Epidemiology of cardiovascular risk.

Group members

- Luis Antonio Álvarez-Sala Walther: Senior researcher.
- Elena Bello Martínez: Postdoctoral.
- Francisco Javier Cabrera Aguilar: Predoctoral.
- Pedro Conthe Gutiérrez: Postdoctoral.
- José M^a de Miguel Yanes: Postdoctoral.
- Jorge del Toro Cervera: Predoctoral.
- Jesús Millán Núñez-Cortés: Senior researcher.
- Carlos Pérez de Oteyza: Postdoctoral.
- Gloria Pérez Rus: Predoctoral.
- Carlos Recarte García-Andrade: Predoctoral.
- Ana Torres do Rego: Postdoctoral.
- Inés Valdés Gross: Data management.



BLOOD LIPIDS AND CARDIOVASCULAR RISK

Clinical practice guidelines

Authors	Title	Publication
Nunez-Cortes JM; Pedro-Botet J; Brea-Hernando A; Diaz-Rodríguez A; Gonzalez-Santos P; Hernández-Mijares A; Mantilla-Morato T; Pinto-Sala X; Simo R	Use of Expert Consensus to Improve Atherogenic Dyslipidemia Management	REVISTA ESPAÑOLA DE CARDIOLOGÍA
Gomez-Huelgas R; Pérez-Jimenez F; Serrano-Rios M; Gonzalez-Santos P; Roman P; Camafort M; Conthe P; García-Alegria J; Guijarro R; Lopez-Miranda J; Tirado-Miranda R; Valdivielso P	Clinical decisions in patients with diabetes and other cardiovascular risk factors. A statement of the Spanish Society of Internal Medicine	REVISTA CLÍNICA ESPAÑOLA

Research projects – Competitive calls

- Principal investigator: Luis Antonio Álvarez-Sala Walther
Title: Utilidad de los micrornas circulantes en la detección de dilataciones subaneurismáticas de aorta y relación con la aldosterona en pacientes hipertensos.
Funding body: SOMIMACA
Start date: 2014
End date: 2015

Publications

Total Impact Factor: 28.6

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Fruchart JC; Davignon J; Hermans MP; Al-Rubeaan K; Amarencio P; Assmann G; Barter P; Betteridge J; Bruckert E; Cuevas A; Farnier M; Ferrannini E; Fioretto P; Genest J; Ginsberg HN; Gotto AM; Hu DY; Kadowaki T; Kodama T; Krempf M; Matsuzawa Y; Nunez-Cortes. Residual macrovascular risk in 2013: what have we learned?. CARDIOVASCULAR DIABETOLOGY. 2014; 13. IF: 4.015. Quartile: 1.

- Almagro P; Soriano JB; Cabrera FJ; Boixeda R; Alonso-Ortiz MB; Barreiro B; Diez-Manglano J; Murió C; Heredia JL. Short- and Medium-term Prognosis in Patients Hospitalized for COPD Exacerbation The CODEX Index. CHEST. 2014; 145(5) 972-980. IF: 7.483. Quartile: 1.
- do Rego AT; de Isla LP; Cerezo AS; Vitale G; Izarra A; Walther LAAS. Cholesterol control according to the presence of metabolic syndrome in coronary and diabetic patients. Relationship with non-alcoholic fatty liver disease. EUROPEAN JOURNAL OF INTERNAL MEDICINE. 2014; 25(5) 438-443. IF: 2.891. Quartile: 1.
- Diez-Manglano J; Barquero-Romero J; Almagro P; Cabrera FJ; García FL; Montero L; Soriano JB. COPD patients with and without metabolic syndrome: clinical and functional differences. INTERNAL AND EMERGENCY MEDICINE. 2014; 9(4) 419-425. IF: 2.624. Quartile: 1.
- Gomis R; Artola S; Conthe P; Vidal J; Casarnor R; Font B. Prevalence of type 2 diabetes mellitus in overweight or obese patients outpatients in Spain. OBEDIA Study. MEDICINA CLINICA. 2014; 142(11) 485-492. IF: 1.417. Quartile: 2.
- Sola R; Valls RM; Puzo J; Calabuig JR; Brea A; Pedret A; Morina D; Villar J; Millan J; Anguera A. Effects of Poly-Bioactive Compounds on Lipid Profile and Body Weight in a Moderately Hypercholesterolemic Population with Low Cardiovascular Disease Risk: A Multicenter Randomized Trial. PLOS ONE. 2014; 9(8). IF: 3.234. Quartile: 1.
- Conthe P; Contreras EM; Pérez AA; García BB; Martín MNFD; Jurado MG; Baturone MOL; Pinto JL. Treatment compliance in chronic illness: Current situation and future perspectives. REVISTA CLINICA ESPAÑOLA. 2014; 214(6) 336-344. IF: 1.063. Quartile: 3.
- Gomez-Huelgas R; Pérez-Jimenez F; Serrano-Rios M; Gonzalez-Santos P; Roman P; Camafort M; Conthe P; García-Alegria J; Guijarro R; Lopez-Miranda J; Tirado-Miranda R; Valdivielso P. Clinical decisions in patients with diabetes and other cardiovascular risk factors. A statement of the Spanish Society of Internal Medicine. REVISTA CLINICA ESPAÑOLA. 2014; 214(4) 209-215. IF: 1.063. Quartile: 3.

- Pujol R; Conthe P; Alegria JG. Reorganization of Medical Specialization. Beyond the Law of Management of Health Professions. REVISTA CLINICA ESPAÑOLA. 2014; 214(9) 529-533. IF: 1.063. Quartile: 3.
- Nunez-Cortes JM; Pedro-Botet J; Brea-Hernando A; Diaz-Rodríguez A; Gonzalez-Santos P; Hernández-Mijares A; Mantilla-Morato T; Pinto-Sala X; Simo R. Use of Expert Consensus to Improve Atherogenic Dyslipidemia Management. REVISTA ESPAÑOLA DE CARDIOLOGIA. 2014; 67(1) 36-44. IF: 3.792. Quartile: 2.

	Number of documents	IF
Own publications	3	7.7
Joint publications	7	20.9
First-decile publications	1	7.5
First-quartile publications	5	20.2
Second-quartile publications	2	5.2
Third-quartile publications	3	3.2
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	10	28.6

Acute cerebral ischemia. Stroke

Group director: ANTONIO GIL NÚÑEZ

Type: Emerging

Research lines

- ▶ L1: Epidemiologic, clinical, and therapeutic aspects of cerebral ischemic disease.
- ▶ L2: Development of WEBICTUS II for quality assurance in the management of acute stroke.
- ▶ L3: Diagnosis and therapy in cardioembolic cerebral ischemia.
- ▶ L4: Management of carotid near-occlusion stenosis.
- ▶ L5: Neurologic intervention in acute stroke.
- ▶ L6: Validation of etiologic scales.
- ▶ L7: Implementation of telestroke.

The Acute cerebral ischemia and stroke group is characterized by a solid research history that began in the 1970s, with participation at both national and international level and early publications in the field. Growing interest in cerebrovascular disease culminated in the creation of the Stroke Unit in 2000.

During this time, several multidisciplinary relationships have been developed with areas such as vascular neurologic intervention and neuroradiology, peripheral vascular surgery, cardiology, neurosurgery, and intensive care. Technical preparation has improved in recent years, with the creation of the neurosonology laboratory, which made it possible to meet the requirements of the Plan de Atención al Ictus de la Comunidad de Madrid (Madrid Regional Stroke Plan). The Stroke Group played a key role in the development of this laboratory.

Despite the enormous caseload of this group, interest in teaching and research has been growing and has resulted in the development of individual projects, as well as leadership of and participation in multicenter projects,

mainly through Proyecto Ictus of GEECV-SEN and the Stroke Network of Madrid, which is part of the Stroke Forum of the Asociación Madrileña de Neurología (Madrid Neurology Association).

The enthusiasm and efforts of many in the field of teaching and research have led the group to become part of the liSGM, with the aim of becoming a consolidated group.

Group members

- **Yolanda Fernández Bullido:** Predoctoral.
- **Andrés García Pastor:** Predoctoral.
- **Antonio Gil Núñez:** Senior researcher.
- **Ana Iglesias Mohedano:** Post-MIR FIBHGM.
- **Mª Paz Martín Torres:** Management.
- **Pilar Vázquez Alén:** Predoctoral.
- **José Antonio Villanueva Osorio:** Predoctoral.
- **José Shane Villanueva Miyamura:** Management.

Clinical practice guidelines

Authors	Title	Publication
de Lecinana MA; Egido JA; Casado I; Ribo M; Davalos A; Masjuan J; Caniego JL; Vila EM; Tejedor ED; Alvarez-Sabin J; Arenillas J; Calleja S; Castellanos M; Castillo J; Diaz-Otero F; Lopez-Fernandez JC; Freijo M; Gallego J; García-Pastor A; Gil-Nunez A; Gilo F; Irimia P; Lago A; Maestre J; Martí-Fabregas J; Martínez-Sánchez P; Molina C; Morales A; Nombela F; Purroy F; Rodríguez-Yanez M; Roquer J; Rubio F; Segura T; Serena J; Simal P; Tejada J; Vivancos J	Guidelines for the treatment of acute ischaemic stroke	NEUROLOGÍA
Fuentes B; Gallego J; Gil-Nunez A; Morales A; Purroy F; Roquer J; Segura T; Tejada J; Lago A; Diez-Tejedor E; de Lecinana MA; Alvarez-Sabin J; Arenillas J; Calleja S; Casado I; Castellanos M; Castillo J; Davalos A; Diaz-Otero F; Egido JA; Lopez-Fernandez JC; Freijo M; Pastor AG; Gilo F; Irimia P; Maestre J; Masjuan J; Martí-Fabregas J; Martínez-Sánchez P; Martínez-Vila E; Molina C; Nombela F; Ribo M; Rodríguez-Yanez M; Rubio F; Serena J; Simal P; Vivancos J	Guidelines for the preventive treatment of ischaemic stroke and TIA (II). Recommendations according to aetiological sub-type	NEUROLOGÍA

Publications

Total Impact Factor: 14.6

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Alvarez-Sabin J; Quintana M; Santamarina E; Maisterra O; Gil-Nunez A. Low ankle-brachial index predicts new vascular events and functional outcome

after 1 year in patients with non-cardioembolic stroke: our experience and review. *EUROPEAN JOURNAL OF NEUROLOGY*. 2014; 21(1) 100-106. IF: 4.055. Quartile: 1.

- Purroy F; Caballero PEJ; Gorospe A; Torres MJ; Alvarez-Sabin J; Martínez-Sánchez P; Canovas D; Freijo M; Egido JA; Ramírez-Moreno JM; Alonso-Arias A; Rodríguez-Campello A; Casado-Naranjo I; Martí-Fabregas J; Silva Y; Cardona P; Morales A; García-Pastor A.; How predictors and patterns of stroke recurrence after a TIA differ during the first year of follow-up. *JOURNAL OF NEUROLOGY*. 2014; 261(8) 1614-1621. IF: 3.377. Quartile: 2.
- de Lecinana MA; Egido JA; Casado I; Ribo M; Davalos A; Masjuan J; Caniego JL; Vila EM; Tejedor ED; Alvarez-Sabin J; Arenillas J; Calleja S; Castellanos M; Castillo J; Diaz-Otero F; Lopez-Fernandez JC; Freijo M; Gallego J; García-Pastor A; Gil-Nunez. Guidelines for the treatment of acute ischaemic stroke. *NEUROLOGIA*. 2014; 29(2) 102-122. IF: 1.381. Quartile: 4.
- Fernandez JCL; Vallejo JM; Lara JA; Gonzalez MB; Paniagua EB; Naranjo IC; Arbona ED; Soriano BE; Guerrero MMF; Fuentes B; Cullere JG; Scclar斯基 DG; Nunez AG; Escalonilla CG; Martin AL; Ramírez IL; Montero JLM; Moreno JM; Alvarez FM; Arrondo RM; García FP;. Analysis of stroke care resources in Spain in 2012: Have we benefitted from the Spanish Health System's stroke care strategy?. *NEUROLOGIA*. 2014; 29(7) 387-396. IF: 1.381. Quartile: 4.
- Fuentes B; Gallego J; Gil-Nunez A; Morales A; Purroy F; Roquer J; Segura T; Tejada J; Lago A; Diez-Tejedor E; de Lecinana MA; Alvarez-Sabin J; Arenillas J; Calleja S; Casado I; Castellanos M; Castillo J; Davalos A; Diaz-Otero F; Egido JA; Lopez-Fernandez. Guidelines for the preventive treatment of ischaemic stroke and TIA (II). Recommendations according to aetiological sub-type. *NEUROLOGIA*. 2014; 29(3) 168-183. IF: 1.381. Quartile: 4.
- Cruz PMR; Sánchez JRP; Cuello JP; García PS; Peracho GV; Arratibel AG; Guzman DS; Quelle NB; Ruano BG; Morcillo CA; Henriquez FC; Delgado FR; Gonzalez AM; Rubio RD; Mohedano AMI; Barriga MLM; Fages BD; Otero FD. Workload of on-call emergency room neurologists in a Spanish tertiary care centre. A one-year prospective study. *NEUROLOGIA*. 2014; 29(4) 193-199. IF: 1.381. Quartile: 4.

ACUTE CEREBRAL ISCHEMIA. STROKE

- Masjuan J; Alvarez-Sabin J; Blanco M; de Felipe A; Gil-Nunez A; Gallego-Cullere J; Vivancos J. Current management of antithrombotic treatment in patients with non valvular atrial fibrillation and prior history of stroke or transient ischemic attack. REVISTA DE NEUROLOGIA. 2014; 59(1) 25-36. IF: 0.83. Quartile: 4.
- Pérez-Sánchez JR; García-Pastor A; Diaz-Otero F; Sobrino-García P; Rodríguez-Cruz PM; Vicente-Peracho G; Vazquez-Alen P; Fernandez-Bullido Y; Villanueva-Osorio JA. Bilateral carotid artery occlusion: prognosis and neurosonological features. REVISTA DE NEUROLOGIA. 2014; 59(2) 57-62. IF: 0.83. Quartile: 4.

	Number of documents	IF
Own publications	3	6.3
Joint publications	5	8.4
First-decile publications	0	0.0
First-quartile publications	1	4.1
Second-quartile publications	1	3.4
Third-quartile publications	0	0.0
Fourth-quartile publications	6	7.2
Nonindexed publications	0	-
Total publications	8	14.6

AREA 3

*Area coordinator:
Celso Arango López*

Neuroscience and mental health

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 patient, 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.

Research lines and axes

Strategic axes

- ▶ A1: Consolidation of research networks and alliances in neuroscience.
- ▶ A2: Consolidation of research lines in neuroscience.
- ▶ A3: Consolidation of the teaching plan in neuroscience.
- ▶ A4: Consolidation of infrastructure.

Strategic lines

Axis 1: Consolidation of research networks and alliances in neuroscience

1. Consolidation of a network for the study of the pathophysiologic continuum between autism spectrum disorders and schizophrenia spectrum disorders

Strategic objectives:

- Ensure convergence of programs on schizophrenia and other psychoses and neurodevelopmental disorders.
- Merge databases.
- Study common markers.

2. More efficient integration of basic research at UCM and clinical practice at HGUGM by Means of collaborative projects and animal models

Strategic objectives:

- Collaborate with the Department of Physiology (Animal Physiology II), School of Biology, Universidad Complutense de Madrid.
- Collaborate with the Department of Pharmacology, School of Medicine, Universidad Complutense de Madrid.

3. Increase the capacity and complementarity of our group within CIBERSAM to ensure extension of the samples necessary to reach significant results in collaborative studies

Strategic objectives:

- Promote translational and collaborative research.
- Continue current collaborative studies and develop new collaborative studies.
- Adapt our resources to ensure that they are suitable for joint projects within CIBERSAM.

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Strategic lines (cont.)

Axis 2: Consolidation of research lines in neuroscience

1. Consolidation of a line of functional neuroimaging in the children of patients with schizophrenia and bipolar disorder

Strategic objectives:

- Obtain necessary funding.
- Develop protocols for evaluation and for functional neuroimaging that are applicable to these populations.
- Collaborate with the Experimental Medicine and Surgery Service.

2. Creation of a clinical research unit for Parkinson's disease

Strategic objectives:

- Establish agreements between the IISGM and pharmaceutical companies.
- Collaborate with potentially synergistic groups (medical imaging, engineering, Instituto Ramón y Cajal).

3. Extension of additional sources of funding: autonomous, national, and international

Strategic objectives:

- Participate in calls for consolidated groups within the Comunidad de Madrid.
- Participate in European calls within the 7th Framework Programme.
- Consolidate of emerging researchers with their own funding lines: promotion of participation in public and private calls.

4. Increase in scientific production in the neurodevelopment disorders program

Strategic objectives:

- Lead research in the autism spectrum disorders line with particular emphasis on the neurobiological aspects of these diseases.
- Promote the development of publications in quality of services and evaluation of programs.
- Develop and validate specific instruments for evaluation and neuroimaging techniques for diagnosis and follow-up of disease.

5. Increase in scientific production in basic research

Strategic objectives:

- Expand the number of publications from the basic science laboratory. Lead and develop new collaborative studies.
- Increase participation in intramural and extramural cooperative studies.

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Strategic lines (cont.)

6. Continuation and promotion of transnational and collaborative research in schizophrenia and other psychoses

Strategic objectives:

- Continue and finish current studies.
- Lead and develop new collaborative studies.
- Promote collaboration with specific national and international consortia in this field of research in schizophrenia.

7. Complete lines in progress in the ALS-Neuromuscular Unit and increase multicenter collaboration for the study of this disease (included within "Rare Diseases") as a group linked to CIBERNED

Strategic objectives:

- Complete the use of data obtained during the first 5 years of the Unit and provide stable care in the Unit.
- Lead and develop new collaborative studies.

Axis 3: Consolidation of the teaching plan for neuroscience

1. Consolidation of the group's teaching plan with a stable offer of courses, training placements, and preparation of doctoral theses

Strategic objectives:

- Obtain certification of courses from the Continuing Training Committee.
- Participate in and publish the training offered by CIBERSAM/HGUGM.
- Collaborate with the Academic Council and persons responsible for training of medical residents at HGUGM.
- Obtain funding for predoctoral staff.
- Promote preparation of doctoral theses.
- Continue the work of training medical residents in neurology in our hospital and other centers.

Axis 4: Consolidation of infrastructure

1. Extension of laboratory structures and equipment; consolidation of the Psychiatry Laboratory

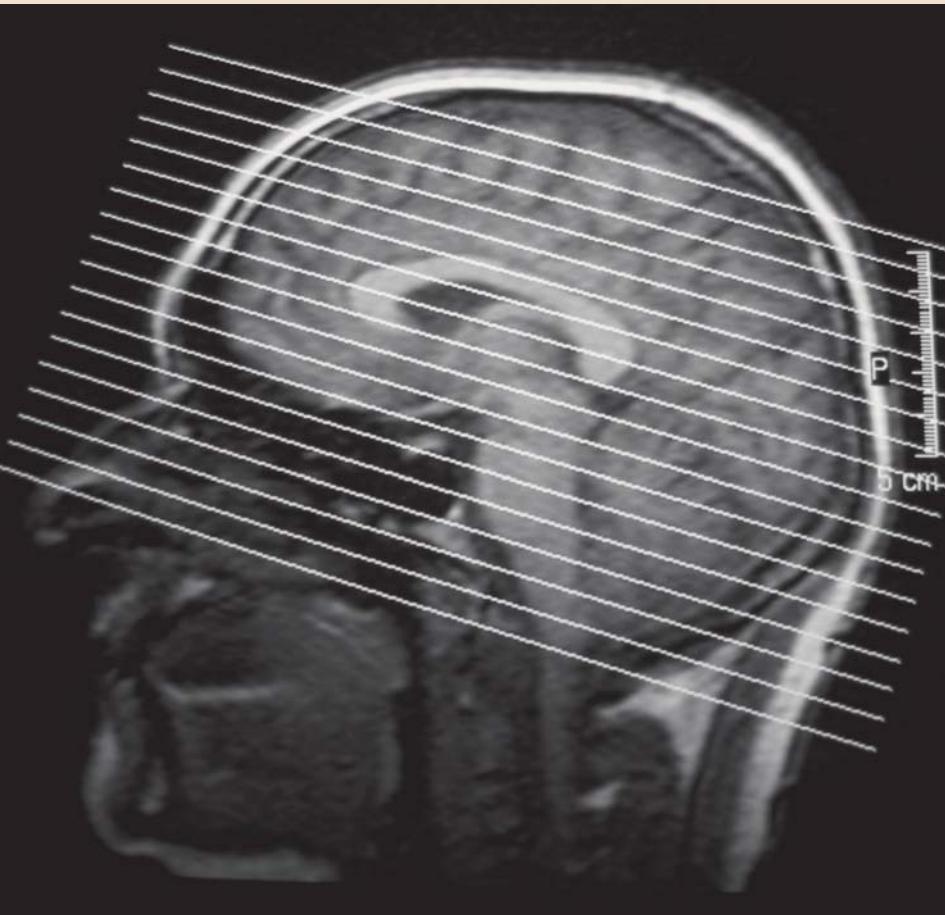
Strategic objectives:

- Increase personnel: participate in calls from human resources for support technicians and postdoctoral staff.
- Incentivize basic research in order to identify new therapeutic targets.
- Increase our technical equipment: agreements with the Experimental Medicine and Surgery Laboratory.
- Order the technical equipment and consumables set out in the project financial reports.

2. Extension of structures and resources of the ALS-Neuromuscular Unit

Structure of AREA 3

Neuroscience and mental health



- ▶ Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders
- ▶ Parkinson's disease and movement disorders
- ▶ Clinical and etiologic-pathogenic aspects of neuromuscular diseases
- ▶ Neuroimmunology
- ▶ Clinical neurology
- ▶ Biology of inflammation

Psychological and neurobiological bases of mental disorders. Neurodevelopmental disorders

Group director: CELSO ARANGO LÓPEZ

Type: Consolidated

Research programs and lines

P1: Schizophrenia and other psychotic disorders

- ▶ L1: First psychotic episodes.
- ▶ L2: Cognition in psychiatric disorders.
- ▶ L3: Neuroimaging of mental disorders.
- ▶ L4: Efficacy of psychological interventions.
- ▶ L5: Markers of vulnerability in risk populations.

P2: Neurodevelopmental disorders

- ▶ L1: Autistic spectrum disorders.
- ▶ L2: Neuropathophysiological basis of mental disorders with onset during infancy and adolescence.
- ▶ L3: Neuropsychopharmacology of development.

This group, which is specialized in the study of the neurobiological and psychological basis of mental and neurodevelopmental disorders is part of the Department of Psychiatry of HGUGM. The group's main research lines cover schizophrenia and other psychotic disorders, as well as neurodevelopmental disorders, and the staff comprise clinicians who participate in research, contracted staff, and trainees dedicated exclusively to research. The group has also designed, coordinated, and implemented different regional, national, and international studies and research programs, as seen in the group's activity and annual reports (ver www.hggm.es/ua and www.cibersam.es).

This group is one of the few to gain international recognition in the field of schizophrenia and early onset psychosis. In terms of research, the Unit has been particularly productive and has collaborated with national and international

centers, as reflected in externally evaluated projects financed by competitive public funds and private funds, incorporation of contracted researchers and research trainees, publications, and collaborations, as well as in the introduction of several research lines with other hospital departments (biochemistry, medical imaging, experimental medicine, cardiology, genetics, and nutrition).

The research team also has broad experience in training in research through a systematic training plan with regular quality checks as part of the EFQM quality assurance program implemented in the Unit.

The experience and the coordinating ability of the Child and Adolescent Psychiatry Service is clearly reflected in the choice of its Principal Investigator as the Scientific Director of CIBERSAM.

The group currently participates in 6 active research programs financed within the EU's Seventh Framework Program, as well as in the IMI call. Its members have published a large number of articles on psychosis and etiopathophysiology in high-impact journals. Similarly, the Integrated Medical Care Program for Autism Spectrum Disorders is the first of its kind to provide specific care to patients with these diseases and a reference for the Comunidad de Madrid.



Group members

- **Maria Alvarez Blázquez:** CIBER.
- **Celso Arango López Senior:** Researcher.
- **Bárbara Arias Sampériz:** Postdoctoral.
- **Miguel Ángel Barcenilla González:** Support technician.
- **Leticia Boada Muñoz:** Predoctoral.
- **Marta Bravo Sánchez:** Predoctoral.
- **Ana Belén Calvo Calvo:** Predoctoral.
- **Lourdes Cerezo Román:** Predoctoral.
- **Guadalupe Chiclana Actis:** Predoctoral.
- **Javier Conejo Galindo:** Predoctoral.
- **Azucena Corral Zarapuz:** Administration.
- **Pedro Cuadrado Calleja:** Postdoctoral.

- **Enrique de Portugal Fernández del Rivero:** Postdoctoral.
- **Ángel Luis del Rey Mejías:** Predoctoral.
- **Carlos Delgado Lacosta:** Predoctoral.
- **María Luisa Dorado Martínez:** Predoctoral.
- **Álvaro Esguevillas Cuesta:** Predoctoral.
- **Ana Espliego Felipe:** Predoctoral.
- **Joana Fernández Miró:** Predoctoral.
- **David Fraguas Herraez:** Predoctoral.
- **Alicia García Alcón:** Predoctoral.
- **Leticia García Álvarez:** Postdoctoral.
- **Enrique García Bernardo:** Predoctoral.
- **Elisa García Martínez:** Predoctoral.
- **Ainhoa Garibi Pérez:** Predoctoral.
- **Santiago Gil Molina:** Predoctoral.
- **Emiliano González Vioque:** Postdoctoral.
- **Oihana Guridi Garitaonandia:** Predoctoral.
- **Joost Janssen Jeucken:** Ramón y Cajal.
- **Estela Jiménez López:** Predoctoral.
- **Lara Kehrmann Irisarri:** Predoctoral.
- **Alejandra Teresa Laorden Nieto:** Predoctoral.
- **Cloe Llorente Sarabia:** Predoctoral.
- **Paula López González**
- **Gonzalo López Montoya:** Postdoctoral.
- **María Jesús Maldonado Belmonte:** Predoctoral.
- **María Covadonga Martínez Díaz-Caneja:** Rio Hortega.
- **Maria Mayoral Aragón:** Postdoctoral.
- **Jessica Merchán Naranjo:** CIBER.

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Group members (cont.)

- **Susana Merchán Ribera:** Support technician.
- **Purificación Morán Moya:** Management.
- **Mª Dolores Moreno Pardillo:** Postdoctoral.
- **Carmen Moreno Ruiz:** Postdoctoral.
- **Maria Goretti Morón Nozaleda:** Post-MIR FIBHGM.
- **Estrella Munilla Suárez:** Predoctoral.
- **María Soledad Olmeda García:** Postdoctoral.
- **Mª José Parellada Redondo Senior:** Researcher.
- **María José Penzol Alonso:** Postdoctoral.
- **Laura Pina Camacho:** Rio Hortega.
- **María José Ramos Rodríguez:** Predoctoral.
- **Marta Rapado Castro:** Sara Borrell.
- **Sandra Recio Lamparero:** CIBER.
- **Eva Rivas Cambronero:** Predoctoral.
- **Pamela Rodríguez Latorre:** CIBER.

- **Alberto Rodríguez Quiroga:** CIBER.
- **José Juan Rodríguez Solano:** Postdoctoral.
- **Elisa Rodríguez Toscano:** Trainee.
- **Laura Roldán Díaz:** Predoctoral.
- **José Romo Villa:** Predoctoral.
- **Enrique Sainz Cortón:** Postdoctoral.
- **Emilio Ignacio Sánchez Díaz:** Predoctoral.
- **Beatriz Sánchez González:** Predoctoral.
- **Teresa Sánchez Gutiérrez:** Trainee.
- **Petra Sánchez Mascaraque:** Predoctoral.
- **Elena Serrano Drozdowskyj:** Postdoctoral.
- **Cecilia Tapia Casellas:** CIBER.
- **Lucía Torres Jiménez:** Postdoctoral.
- **Isabel Vicente Sánchez:** Predoctoral.
- **Jorge Vidal de la Fuente:** Predoctoral.
- **Cristina Vilares Oliveira:** Postdoctoral.

Research projects – Competitive calls

- Principal investigator: Celso Arango López
Title: Proyecto Europeo 7º Programa Marco. EU-GEI. "The EU joint national schizophrenia networks for the identification of gene-environment interactions". (HEALTH-F2-2010-241909)
Funding body: European Commission
Start date: 2010
End date: 2015
- Principal investigator: Celso Arango López
Title: Proyecto Europeo 7º Programa Marco. OPTIMISE. "Optimization of treatment in the management in schizophrenia"
Funding body: European Commission
Start date: 2010
End date: 2016
- Principal investigator: Celso Arango López
Title: Proyecto Europeo 7º Programa Marco. PERS. "Paediatric European risperidone studies".
Funding body: European Commission
Start date: 2010
End date: 2015
- Principal investigator: Marta Rapado Castro
Title: Marcadores oxidativos y neuroinflamatorios de la disfunción cognitiva y de los síntomas negativos en espectroscopía por emisión de protones.
Funding body: F. Koplowitz
Start date: 2012
End date: 2014
- Principal investigator: Carmen Moreno Ruiz
Title: Mecanismos biológicos implicados en la neuroprotección mediante ácidos grasos omega-3 en la psicosis de inicio temprano.
Funding body: F. Koplowitz
Start date: 2012
End date: 2014
- Principal investigator: Margarita García Amador
Title: Modulación dopaminérgica para la incorporación de reglas en poblaciones que presentan primer episodio psicótico o riesgo para el desarrollo de la enfermedad bipolar o la esquizofrenia.
Funding body: F. Mutua Madrileña
Start date: 2011
End date: 2014
- Principal investigator: Mª José Parellada Redondo
Title: Determinantes clínicos y neurobiológicos de segundos episodios de esquizofrenia. estudio longitudinal de primeros episodios psicóticos.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Carlos Delgado Lacosta
Title: Estudio de seguimiento tras cuatro años de la primera evaluación de niños y adolescentes hijos de pacientes con esquizofrenia o trastorno bipolar.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Enrique de Portugal Fernández del Rivero
Title: Alteraciones neurocognitivas en la patogenia de las ideas delirantes en la paranoia (trastorno delirante).
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Joost Janssen Jeucken
Title: From ASD to SSD: a study of brain network efficiency and cognitive impairment in autism spectrum disorders and schizophrenia spectrum disorders.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014

PSYCHOLOGICAL AND NEUROBIOLOGICAL BASES OF MENTAL DISORDERS. NEURODEVELOPMENTAL DISORDERS

- Principal investigator: Celso Arango López
Title: Estudio neurologico de la perdida de sustancia gris cerebral en primeros episodios psicoticos de inicio temprano.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2016
 - Principal investigator: Celso Arango López
Title: Proyecto AGES. Programa I+D Biomedicina Comunidad de Madrid. "Ambiente y genes en esquizofrenia-grupos de investigación de la Comunidad de Madrid"
Funding body: Comunidad de Madrid
Start date: 2012
End date: 2015
 - Principal investigator: Celso Arango López
Title: Valor pronóstico y bases etiopatogénicas de los cambios cerebrales a los 5 años en primeros episodios psicoticos en niños y adolescentes.
Funding body: F. Koplowitz
Start date: 2013
End date: 2015
 - Principal investigator: M^a José Parellada Redondo
Title: Diet-gut-brain paywhay autismo. Estudio de la hipótesis digestivo-inflamatoria de los trastornos del espectro autista.
Funding body: F. Koplowitz
Start date: 2013
End date: 2015
 - Principal investigator: Celso Arango López
Title: Proyecto Europeo 7^a Programa Marco. Bestageing. Biomarker research alliance for diagnosing heart disease in the ageing european population.
Funding body: European Commission
Start date: 2013
End date: 2017
 - Principal investigator: Celso Arango López
Title: Proyecto Europeo 7^a Programa Marco. Aggression subtyping for improved insight and treatment innovation in psychiatric disorders.
- Funding body: European Commission
Start date: 2013
End date: 2018
 - Principal investigator: Celso Arango López
Title: Proyecto Europeo 7^a Programa Marco. MATRICS. Multidisciplinary Approaches to Translational Research In Conduct Syndromes
Funding body: European Commission
Start date: 2014
End date: 2019
 - Principal investigator: Celso Arango López
Title: Proyecto Europeo 7^a Programa Marco. METSY. Neuroimaging platform for characterisation of metabolic co-morbidities in psychotic disorders
Funding body: European Commission
Start date: 2013
End date: 2017
 - Principal investigator: María Mayoral Arangón
Title: Estudio longitudinal de primeros episodios psicóticos en la infancia y adolescencia, seguimiento a 10 años.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016
 - Principal investigator: David Fraguas Herráez
Title: Proyecto FIS 2014. "Envejecimiento celular en primeros episodios psicóticos de inicio temprano".
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017
 - Principal investigator: Joost Jansen Jeucken
Title: Proyecto FIS 2014. "Desarrollo de una matriz global y multimodal de conectividad cerebral y su aplicación al estudio de trastornos del espectro autista (TEA) y de trastornos del espectro en esquizofrenia (TEE)".
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017

- Principal investigator: Carmen Moreno Ruiz
Title: Proyecto FIS 2014. "Mecanismos etiofisiopatológicos comunes y diferenciales en el trastorno bipolar y la depresión mayor de inicio temprano".
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017
- Principal investigator: Mª José Parellada Redondo
Title: Proyecto FIS 2014. "Estudio de vías fisiopatológicas diferenciales asociadas a fenotipos distintivos en una muestra de 200 pacientes con trastornos del espectro autista".
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017

Theses

Doctoral student	Title	Director	University
Teresa Sánchez Gutiérrez	Efecto modulador del consumo de cannabis en la trayectoria del funcionamiento cognitivo en adolescentes con un primer episodio psicótico a dos años de seguimiento	Marta Rapado Castro, Celso Arango López	Universidad Complutense de Madrid
Montserrat Graell Berna	Psicosis de inicio en la adolescencia: estudio caso-control y longitudinal con resonancia magnética espectroscópica	Celso Arango López, Gonzalo Morandé	Universidad Autónoma de Madrid

Doctoral student	Title	Director	University
Maria del Prado Ayala Munoz	Detección de beta-7-casomorfina en orina de niños con autismo	María José Parellada Redondo	Universidad Complutense de Madrid
Teresa Sánchez Gutiérrez	Efecto modulador del consumo de cannabis en la trayectoria del funcionamiento cognitivo en adolescentes con un primer episodio psicótico a dos años de seguimiento	Marta Rapado Castro, Celso Arango López	Universidad Complutense de Madrid

Clinical practice guidelines

Authors	Title	Publication
Díaz-Caneja CM, Moreno C, Llorente C, Espliego A, Arango C, Moreno D	Practitioner review: Long-term pharmacological treatment of pediatric bipolar disorder	JOURNAL OF CHILD PSICOLOGY AND PSYCHIATRY
Fleischhacker WW, Arango C, Arteel P, Barnes TR, Carpenter W, Duckworth K, Galderisi S, Halpern L, Knapp M, Marder SR, Moller M, Sartorius N, Woodruff P	Schizophrenia--time to commit to policy change	SCHIZOPHRENIA BULLETIN
Arango C.	Libro Blanco de la Psiquiatría del Niño y el Adolescente	FUNDACIÓN ALICIA KOPLOWITZ

PSYCHOLOGICAL AND NEUROBIOLOGICAL BASES OF MENTAL DISORDERS. NEURODEVELOPMENTAL DISORDERS

Publications

Total Impact Factor: 195.5

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Arango C. The Other Side of Bipolar Disorder. AMERICAN JOURNAL OF PSYCHIATRY. 2014; 171(11) 1145-1147. IF: 12.295. Quartile: 1.
- Glennon J; Purper-Ouakil D; Bakker M; Zuddas A; Hoekstra P; Schulze U; Castro-Fornieles J; Santosh PJ; Arango C; Kolch M; Coghill D; Flamarique I; Penzol MJ; Wan M; Murray M; Wong ICK; Danckaerts M; Bonnot O; Falissard B; Masi G; Fegart JM; Vicari S; Caru. Paediatric European Risperidone Studies (PERS): context, rationale, objectives, strategy, and challenges. EUROPEAN CHILD & ADOLESCENT PSYCHIATRY. 2014; 23(12) 1149-1160. IF: 3.336. Quartile: 1.
- Cuerda C; Velasco C; Merchan-Naranjo J; García-Peris P; Arango C. The effects of second-generation antipsychotics on food intake, resting energy expenditure and physical activity. EUROPEAN JOURNAL OF CLINICAL NUTRITION. 2014; 68(2) 146-152. IF: 2.709. Quartile: 2.
- Parellada M; Penzol MJ; Pina L; Moreno C; Gonzalez-Vioque E; Zalsman G; Arango C. The neurobiology of autism spectrum disorders. EUROPEAN PSYCHIATRY. 2014; 29(1) 11-19. IF: 3.439. Quartile: 2.
- Navas-Sánchez FJ; Aleman-Gómez Y; Sánchez-González J; Guzman-De-Villoria JA; Franco C; Robles O; Arango C; Desco M. White Matter Microstructure Correlates of Mathematical Giftedness and Intelligence Quotient. HUMAN BRAIN MAPPING. 2014; 35(6) 2619-2631. IF: 5.969. Quartile: 1.
- Haro JM; Ayuso-Mateos JL; Bitter I; Demotes-Mainard J; Leboyer M; Lewis SW; Linszen D; Maj M; Mcdaid D; Meyer-Lindenberg A; Robbins TW; Schumann G; Thornicroft G; Van der Feltz-Cornelis C; Van Os J; Wahlbe. ROAMER: roadmap for mental health research in Europe. INTERNATIONAL JOURNAL OF METHODS IN PSYCHIATRIC RESEARCH. 2014; 23: 1-14. IF: 3.759. Quartile: 1.
- Diaz-Caneja CM; Espliego A; Parellada M; Arango C; Moreno C. Polypharmacy with antidepressants in children and adolescents. INTERNATIONAL JOURNAL OF NEUROPSYCHOPHARMACOLOGY. 2014; 17(7) 1063-1082. IF: 4.009. Quartile: 1.
- Lahera G; Boada L; Pousa E; Mirapeix I; Moron-Nozaleda G; Marinas L; Gisbert L; Pamias M; Parellada M. Movie for the Assessment of Social Cognition (MASC): Spanish Validation. JOURNAL OF AUTISM AND DEVELOPMENTAL DISORDERS. 2014; 44(8) 1886-1896. IF: 3.665. Quartile: 1.
- Diaz-Caneja CM; Moreno C; Llorente C; Espliego A; Arango C; Moreno D. Practitioner Review: Long-term pharmacological treatment of pediatric bipolar disorder. JOURNAL OF CHILD PSYCHOLOGY AND PSYCHIATRY. 2014; 55(9) 959-980. IF: 6.459. Quartile: 1.
- Usall J; Lopez-Carrilero R; Iniesta R; Roca M; Caballero M; Rodríguez-Jiménez R; Oliveira C; Bernardo M; Corripio I; Sindreu SD; Piqueras JCG; Felipe AE; de Corres BF; Ibanez A; Huerta R. Double-Blind, Placebo-Controlled Study of the Efficacy of Reboxetine and Citalopram as Adjuncts to Atypical Antipsychotics for Negative Symptoms of Schizophrenia. JOURNAL OF CLINICAL PSYCHIATRY. 2014; 75(6) 608-615. IF: 5.498. Quartile: 1.
- Baeza I; de la Serna E; Calvo-Escalona R; Morer A; Merchan-Naranjo J; Tapia C; Martinez-Cantarero MC; Andres P; Alda JA; Sánchez B; Arango C; Castro-Fornieles J. Antipsychotic Use in Children and Adolescents A 1-Year Follow-Up Study. JOURNAL OF CLINICAL PSYCHOPHARMACOLOGY. 2014; 34(5) 613-619. IF: 3.243. Quartile: 2.
- Calvo A; Moreno M; Ruiz-Sancho A; Rapado-Castro M; Moreno C; Sánchez-Gutierrez T; Arango C; Mayoral M. Intervention for Adolescents With Early-Onset Psychosis and Their Families: A Randomized Controlled Trial. JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY. 2014; 53(6) 688-696. IF: 7.26. Quartile: 1.
- Arango C; Giraldez M; Merchan-Naranjo J; Baeza I; Castro-Fornieles J; Alda JA; Martinez-Cantarero C; Moreno C; de Andres P; Cuerda C; de la Serna E; Correll CU; Fraguas D;. Second-Generation Antipsychotic Use in Children and Adolescents: A Six-Month Prospective Cohort Study in Drug-Naïve Patients. JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY. 2014; 53(11) 1179-1190. IF: 7.26. Quartile: 1.
- Steinberg S; de Jong S; Mattheisen M; Costas J; Demontis D; Jamain S; Pielilainen OPH; Lin K; Papiol S; Huttenlocher J; Sigurdsson E; Vassos E;

- Giegling I; Breuer R; Fraser G; Walker N; Melle I. Common variant at 16p11.2 conferring risk of psychosis. *MOLECULAR PSYCHIATRY*. 2014; 19(1) 108-114. IF: 14.496. Quartile: 1.
- De Rubeis S; He X; Goldberg AP; Poultnay CS; Samocha K; Cicek AE; Kou Y; Liu L; Fromer M; Walker S; Singh T; Klei L; Kosmicki J; Fu SC; Alekic B; Biscaldi M; Bolton PF; Brownfeld JM; Cai JL; Campbell NG; Carracedo A; Chahrour MH; Chiocchetti AG; Coon H; Synaptic, transcriptional and chromatin genes disrupted in autism. *NATURE*. 2014; 515(7526) 209-U119. IF: 41.456. Quartile: 1.
 - García-Portilla MP; Gomar J; Bobes-Bascaran MT; Menendez-Miranda I; Saiz PA; Muniz J; Arango C; Patterson T; Harvey P; Bobes J; Goldberg T. Development of the Spanish Brief-version of the University of California Performance Skills Assessment (Sp-UPSA-Brief) in patients with schizophrenia and bipolar disorder. *REVISTA DE PSIQUIATRIA Y SALUD MENTAL*. 2014; 7(3) 113-120. IF: 1.622. Quartile: 3.
 - Pina-Camacho L; Diaz-Caneja CM; Saiz PA; Bobes J; Corripio I; Grasa E; Rodríguez-Jimenez R; Fernandez M; Sanjuan J; García-Lopez A; Tapia-Caseillas C; Alvarez-Blazquez M; Fraguas D; Mitjans M; Arias B. Pharmacogenetic study of second-generation antipsychotic long-term treatment metabolic side effects (the SLiM Study): Rationale, objectives, design and sample description. *REVISTA DE PSIQUIATRIA Y SALUD MENTAL*. 2014; 7(4) 166-178. IF: 1.622. Quartile: 3.
 - de Dios C; Goikolea JM; Colom F; Moreno C; Vieta E. Bipolar disorders in the new DSM-5 and ICD-11 classifications. *REVISTA DE PSIQUIATRIA Y SALUD MENTAL*. 2014; 7(4) 179-185. IF: 1.622. Quartile: 3.
 - Fleischhacker WW; Arango C; Arteel P; Barnes TRE; Carpenter W; Duckworth K; Galderisi S; Halpern L; Knapp M; Marder SR; Moller M; Sartorius N; Wooldruff P. Schizophrenia-Time to Commit to Policy Change. *SCHIZOPHRENIA BULLETIN*. 2014; 40: S165-S194. IF: 8.45. Quartile: 1.
 - O'Donnell P; Do KQ; Arango C. Oxidative/Nitrosative Stress in Psychiatric Disorders: Are We There Yet?. *SCHIZOPHRENIA BULLETIN*. 2014; 40(5) 960-962. IF: 8.45. Quartile: 1.
 - García-Bueno B; Bioque M; Mac-Dowell KS; Barcones MF; Martinez-Cengotabengoa M; Pina-Camacho L; Rodríguez-Jimenez R; Saiz PA; Castro C; Lafuente A; Santabarbara J; Gonzalez-Pinto A; Parellada M; Rubio G; García-Portilla MP; Mico JA; Bernardo M; Pro-/Anti-inflammatory Dysregulation in Patients With First Episode of Psychosis: Toward an Integrative Inflammatory Hypothesis of Schizophrenia. *SCHIZOPHRENIA BULLETIN*. 2014; 40(2) 376-387. IF: 8.45. Quartile: 1.
 - Arango C; Fraguas D; Parellada M. Differential Neurodevelopmental Trajectories in Patients With Early-Onset Bipolar and Schizophrenia Disorders. *SCHIZOPHRENIA BULLETIN*. 2014; 40: S138-S146. IF: 8.45. Quartile: 1.
 - van Os J; Rutten BP; Myin-Germeys I; Delespaul P; Viechtbauer W; van Zelst C; Bruggeman R; Reininghaus U; Morgan C; Murray RM; Di Forti M; McGuire P; Valmaggia LR; Kempton MJ; Gayer-Anderson C; Hubbard K; Beards S; Stilo SA; Onyejiaka A; Bourque F; Modino. Identifying Gene-Environment Interactions in Schizophrenia: Contemporary Challenges for Integrated, Large-scale Investigations. *SCHIZOPHRENIA BULLETIN*. 2014; 40(4) 729-736. IF: 8.45. Quartile: 1.
 - Fraguas D; del Rey-Mejias A; Moreno C; Castro-Fornieles J; Graell M; Otero S; Gonzalez-Pinto A; Moreno D; Baeza I; Martinez-Cengotabengoa M; Arango C; Parellada M. Duration of untreated psychosis predicts functional and clinical outcome in children and adolescents with first-episode psychosis: A 2-year longitudinal study. *SCHIZOPHRENIA RESEARCH*. 2014; 152(1) 130-138. IF: 3.923. Quartile: 1.
 - Abayomi O; Amato D; Bailey C; Bitanahirwe B; Bowen L; Burshtein S; Cullen A; Fuste M; Herrmann AP; Khodaei B; Kilian S; Lang QA; Manning EE; Masuda R; Nurjono M; Sadiq S; Sanchez-Gutierrez T; Sheinbaum T; Shivakumar V; Simon N; Spiteri-Staines A; Sirijit. The 4th Schizophrenia International Research Society Conference, 5-9 April 2014, Florence, Italy: A summary of topics and trends. *SCHIZOPHRENIA RESEARCH*. 2014; 159(2-3) E1-E22. IF: 3.923. Quartile: 1.
 - Janssen J; Aleman-Gomez Y; Schnack H; Balaban E; Pina-Camacho L; Alfonso-Almagro F; Castro-Fornieles J; Otero S; Baeza I; Moreno. Cortical morphology of adolescents with bipolar disorder and with schizophrenia. *SCHIZOPHRENIA RESEARCH*. 2014; 158(1-3) 91-99. IF: 3.923. Quartile: 1.

PSYCHOLOGICAL AND NEUROBIOLOGICAL BASES OF MENTAL DISORDERS. NEURODEVELOPMENTAL DISORDERS

- Fraguas D; Merchan-Naranjo J; del Rey-Mejias A; Castro-Fornieles J; Gonzalez-Pinto A; Rapado-Castro M; Pina-Camacho L; Diaz-Caneja. A longitudinal study on the relationship between duration of untreated psychosis and executive function in early-onset first-episode psychosis. SCHIZOPHRENIA RESEARCH. 2014; 158(1-3) 126-133. IF: 3.923. Quartile: 1.
- Martinez-Cengotitabengoa M; Mico JA; Arango C; Castro-Fornieles J; Graell M; Paya B; Leza JC; Zorrilla I; Parellada M; Lopez MP; Baeza I; Moreno C; Rapado-Castro M; Gonzalez-Pinto A. Basal low antioxidant capacity correlates with cognitive deficits in early onset psychosis. A 2-year follow-up study. SCHIZOPHRENIA RESEARCH. 2014; 156(1) 23-29. IF: 3.923. Quartile: 1.
- Ivorra JL; Rivero O; Costas J; Iniesta R; Arrojo M; Ramos-Rios R; Carracedo A; Palomo T; Rodriguez-Jimenez R; Cervilla J; Gutierrez B; Molina E; Arango C; Alvarez M; Pascual JC; Perez V; Saiz PA; Garcia-Portilla MP; Bobes J; Gonzalez-Pinto A; Zorr. Replication of previous genome-wide association studies of psychiatric diseases in a large schizophrenia case-control sample from Spain. SCHIZOPHRENIA RESEARCH. 2014; 159(1) 107-113. IF: 3.923. Quartile: 1.

	Number of documents	IF
Own publications	14	77.4
Joint publications	15	118.1
First-decile publications	14	146.3
First-quartile publications	23	181.3
Second-quartile publications	3	9.4
Third-quartile publications	3	4.9
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	29	195.5

Parkinson's disease and movement disorders

Group director: **FRANCISCO GRANDAS PÉREZ**

Type: Emerging

Research lines

- ▶ L1: New pharmacological therapy for Parkinson's disease.
- ▶ L2: Deep brain stimulation for movement disorders.
- ▶ L3: Biological markers of Parkinson's disease.
- ▶ L4: Pathophysiology of dystonia.
- ▶ L5: Balance and gait disorders.
- ▶ L6: Hereditary spastic paraparesis.

Group members

- **Beatriz de la Casa Fages:** Postdoctoral.
- **Ana Contreras Chicote:** Predoctoral.
- **Ángel Esteban García:** Postdoctoral.
- **Carlos Fernández Carballal:** Predoctoral.
- **María Pilar Fernández García:** Predoctoral.
- **Francisco Javier Grandas Pérez:** Senior researcher.
- **Juan Adán Guzmán de Villoria Lebiedziejewski:** Postdoctoral.
- **Javier Ricardo Pérez Sánchez:** Predoctoral.
- **Julio Ignacio Prieto Montalvo:** Postdoctoral.
- **Julia Romero Martínez:** Predoctoral.
- **Alfredo Traba López:** Predoctoral.
- **José Miguel Velázquez Pérez:** Predoctoral.

Research projects – Competitive calls

- Principal investigator: Francisco Javier Grandas Pérez
Title: Biopsia de la mucosa olfatoria: posible biomarcador de la enfermedad de Parkinson.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015

Publications

Total Impact Factor: 18.8

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Guzman-De-Villoria JA; Mateos-Pérez JM; Fernandez-García P; Castro E; Desco M. Added value of advanced over conventional magnetic resonance imaging in grading gliomas and other primary brain tumors. CANCER IMAGING. 2014; 14. IF: 2.066. Quartile: 2.
- Navas-Sánchez FJ; Aleman-Gómez Y; Sánchez-González J; Guzman-De-Villoria JA; Franco C; Robles O; Arango C; Desco M. White Matter Microstructure Correlates of Mathematical Giftedness and Intelligence Quotient. HUMAN BRAIN MAPPING. 2014; 35(6) 2619-2631. IF: 5.969. Quartile: 1.
- Lacalle-Auriolés M; Mateos-Pérez JM; Guzman-De-Villoria JA; Olazaran J; Cruz-Orduna I; Aleman-Gómez Y; Martino ME; Desco M. Cerebral blood flow is an earlier indicator of perfusion abnormalities than cerebral blood volume in Alzheimer's disease. JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM. 2014; 34(4) 654-659. IF: 5.407. Quartile: 1.
- Cruz PMR; Sánchez JRP; Cuello JP; García PS; Perachón GV; Arratibel AG; Guzman DS; Quelle NB; Ruano BG; Morcillo CA; Henríquez FC; Delgado FR; González AM; Rubio RD; Mohedano AMI; Barriga MLM; Fages BD; Otero FD. Workload of on-call emergency room neurologists in a Spanish tertiary care centre. A one-year prospective study. NEUROLOGIA. 2014; 29(4) 193-199. IF: 1.381. Quartile: 4.

- Pérez-Sánchez JR; García-Pastor A; Diaz-Otero F; Sobrino-García P; Rodríguez-Cruz PM; Vicente-Perachón G; Vázquez-Alén P; Fernández-Bullido Y; Villanueva-Osorio JA. Bilateral carotid artery occlusion: prognosis and neurosonological features. REVISTA DE NEUROLOGIA. 2014; 59(2) 57-62. IF: 0.83. Quartile: 4.
- Lillo-Triguero L; Del Castillo A; Moran-Jiménez MJ; Guzmán-De Villoria JA; Guillem A; Peraita-Adrádos R. Brain iron accumulation in dysmetabolic iron overload syndrome with restless legs syndrome. SLEEP MEDICINE. 2014; 15(8) 1004-1005. IF: 3.154. Quartile: 2.

	Number of documents	IF
Own publications	3	6.1
Joint publications	3	12.8
First-decile publications	1	6.0
First-quartile publications	2	11.4
Second-quartile publications	2	5.2
Third-quartile publications	0	0.0
Fourth-quartile publications	2	2.2
Nonindexed publications	0	-
Total publications	6	18.8

Clinical and etiologic-pathogenic aspects of neuromuscular diseases

Group director: **JOSÉ LUIS MUÑOZ BLANCO**

Type: **Emerging**

Research lines

- ▶ L1: Biomarkers and etiopathogenesis of amyotrophic lateral sclerosis: gene expression in lymphocytes and behavior of stem cells from the olfactory neuroepithelium.
- ▶ L2: System of identification and quantification of human endogenous retrovirus in patients with amyotrophic lateral sclerosis.

Group members

- **Irene Catalina Álvarez:** Predoctoral.
- **María Rosario Jiménez Bautista:** Predoctoral.
- **Roberto Moure Romano:** Predoctoral.
- **José Luis Muñoz Blanco:** Senior researcher.
- **Ángela Puche Torres:** Predoctoral.

Publications**Total Impact Factor: 21.4**

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Dols-Icardo O; García-Redondo A; Rojas-García R; Sánchez-Valle R; Noguera A; Gómez-Tortosa E; Pastor P; Hernández I; Esteban-Pérez J; Suárez-Calvet M; Anton-Aguirre S; Amer G; Ortega-Cubero S; Blesa R; Fortea J; Alcolea D; Capdevila A; Antonell A; Llado A. Characterization of the repeat expansion size in C9orf72 in amyotrophic lateral sclerosis and frontotemporal dementia. HUMAN MOLECULAR GENETICS. 2014; 23(3) 749-754. IF: 6.393. Quartile: 1.
- Smith BN; Ticicci N; Fallini C; Gkazi AS; Topp S; Kenna KP; Scotter EL; Kost J; Keagle P; Miller JW; Calini D; Vance C; Danielson EW; Troakes C; Tiloca C; Al-Sarraj S; Lewis EA; King A; Colombrita C; Pensato V; Castellotti B; De Belleroche J; Baas F; ten. Exome-wide Rare Variant Analysis Identifies TUBA4A Mutations Associated with Familial ALS. NEURON. 2014; 84(2) 324-331. IF: 15.054. Quartile: 1.

	Number of documents	IF
Own publications	0	0.0
Joint publications	2	21.4
First-decile publications	1	15.1
First-quartile publications	2	21.4
Second-quartile publications	0	0.0
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	2	21.4



Neuroimmunology

Group director: CLARA DE ANDRÉS FRUTOS

Type: Emerging

Research lines

- ▶ L1: Role of the immune system in the pathogenesis and treatment of multiple sclerosis.
- ▶ L2: Autoimmune optic neuritis and myelitis.

Group members

- **Clara de Andrés Frutos:** Senior researcher.
- **Juan Pablo Cuello:** Predoctoral.
- **José Manuel García Domínguez:** Other.
- **Haydee Goicoechea Briceño:** Support technician.
- **Yolanda Higuera Fernández:** Postdoctoral.
- **María Luisa Martínez Ginés:** Predoctoral.
- **María Rosa Peraita Adrados:** Postdoctoral.
- **Fernando Romero Delgado:** Predoctoral.



Publications**Total Impact Factor: 35.6**

Publications in journals with impact factor indexed in the Journal Citation Report:

- Villar LM; Casanova B; Ouamara N; Comabella M; Jalili F; Leppert D; de Andres C; Izquierdo G; Arroyo R; Avsar T; Lapin SV; Johnson T; Montalban X; Fernandez O; Alvarez-Lafuente R; Masterman D; García-Sánchez MI; Coret F; Siva A; Evdoshenko E; Alvarez-Cerm. Immunoglobulin M Oligoclonal Bands: Biomarker of Targetable Inflammation in Primary Progressive Multiple Sclerosis. ANNALS OF NEUROLOGY. 2014; 76(2) 231-240. IF: 9.977. Quartile: 1.
- Tejera-Alhambra M; Casrouge A; de Andres C; Ramos-Medina R; Alonso B; Vega J; Albert ML; Sánchez-Ramon S. Low DPP4 expression and activity in multiple sclerosis. CLINICAL IMMUNOLOGY. 2014; 150(2) 170-183. IF: 3.672. Quartile: 2.
- de Andres C; Tejera-Alhambra M; Alonso B; Valor L; Teijeiro R; Ramos-Medina R; Mateos D; Faure F; Sánchez-Ramon S. New regulatory CD19(+) CD25(+) B-cell subset in clinically isolated syndrome and multiple sclerosis relapse. Changes after glucocorticoids. JOURNAL OF NEUROIMMUNOLOGY. 2014; 270(1-2) 37-44. IF: 2.467. Quartile: 3.
- Martinez-Orozco FJ; Vicario JL; Villalibre-Valderrey I; De Andres C; Fernandez-Arquero M; Peraita-Adrados R. Narcolepsy with cataplexy and comorbid immunopathological diseases. JOURNAL OF SLEEP RESEARCH. 2014; 23(4) 414-419. IF: 3.347. Quartile: 2.
- Hoggart CJ; Venturini G; Mangino M; Gomez F; Aszari G; Zhao JH; Teumer A; Winkler TW; Tsernikova N; Luan J; Mihailov E; Ehret GB; Zhang WH; Lampaeter D; Esko T; Mace A; Rueger S; Bochud PY; Barcella M; Dauvilliers Y; Benyamin B; Evans DM; Hayward C; Lopez. Novel Approach Identifies SNPs in SLC2A10 and KCNK9 with Evidence for Parent-of-Origin Effect on Body Mass Index. PLOS GENETICS. 2014; 10(7). IF: 7.528. Quartile: 1.
- Miano S; Peraita-Adrados R. Pediatric insomnia: clinical, diagnosis, and treatment. REVISTA DE NEUROLOGIA. 2014; 58(1) 35-42. IF: 0.83. Quartile: 4.

- Tafti M; Hor H; Dauvilliers Y; Lammers GJ; Overeem S; Mayer G; Javidi S; Iranzo A; Santamaria J; Peraita-Adrados R; Vicario JL; Arnulf I; Plazzi G; Bayard S; Poli F; Pizza F; Geisler P; Wierzbicka A; Bassetti CL; Mathis J; Lecendreux M; Donjacour CEHM; va. DQB1 Locus Alone Explains Most of the Risk and Protection in Narcolepsy with Cataplexy in Europe. SLEEP. 2014; 37(1) 19-U228. IF: 4.591. Quartile: 1.
- Lillo-Triguero L; Del Castillo A; Moran-Jimenez MJ; Guzman-De Villoria JA; Guillem A; Peraita-Adrados R. Brain iron accumulation in dysmetabolic iron overload syndrome with restless legs syndrome. SLEEP MEDICINE. 2014; 15(8) 1004-1005. IF: 3.154. Quartile: 2.

	Number of documents	IF
Own publications	4	9.8
Joint publications	4	25.8
First-decile publications	2	17.5
First-quartile publications	3	22.1
Second-quartile publications	3	10.2
Third-quartile publications	1	2.5
Fourth-quartile publications	1	0.8
Nonindexed publications	0	-
Total publications	8	35.6

Clinical neurology

Group director: **POSITION VACANT**

Type: Associated Clinical

Research lines

- ▶ L1: Cognitive impairment.
- ▶ L2: Dementia.

Group members

- **David Ezpeleta Echávarri:** Predoctoral.
- **Nicolasa Muñoz Rubio:** Administration.
- **Francisco Javier Olazarán Rodríguez:** Postdoctoral.
- **Pilar Pérez González de Apodaca:** Predoctoral.

Publications

Total Impact Factor: 13.4

Publications in journals with impact factor indexed in the Journal Citation Reports:

	Number of documents	IF
Own publications	1	4.2
Joint publications	3	9.3
First-decile publications	0	0.0
First-quartile publications	2	9.6
Second-quartile publications	0	0.0
Third-quartile publications	1	2.5
Fourth-quartile publications	1	1.4
Nonindexed publications	0	-
Total publications	4	13.4

Biology of inflammation

Group director: M^a CONCEPCIÓN GUIASOLA ZULUETA

Type: Associated Clinical

Research lines

- ▶ L1: Inflammatory mediators in degeneration of the knee joint.
- ▶ L2: Inflammatory markers of Alzheimer's disease in serum (Raman Project) and CSF (Signal Project).
- ▶ L3: Heat shock proteins and cardiovascular disease.

The biology of inflammation group is an associated group of the IISGM that focuses on the biology of inflammation, which is defined as the response of an organism's immune system to the damage to its vascularized tissue and cells caused by biological, chemical, physical, or mechanical agents.

The group's research history is a continuation of the work of the Cellular Biology Laboratory of the Experimental Medicine and Surgery Unit created in 1994 by Dr. García-Barreno to study the biology of heat shock proteins, which are induced as part of the cellular response to insult. Its objectives were later extended with the study of the tissue response and inflammatory mediators, especially cytokines (interleukins, lymphokines, interferons, chemokines, colony stimulating factors, and growth factors); hence its new name, Biology of Inflammation.

In order to develop its research lines, this group collaborates with the Child and Adolescent Psychiatry Service of HGUGM. It belongs to CIBERSAM and the Neurology Service of HGUGM. It is also involved in the cooperative project CIBERNED, the Artificial Circulation Laboratory of IISGM, and the Orthopedic Surgery Service of HGUGM as part of a multicenter project with Universidad San Pablo, CEU (Instituto de Medicina Molecular Aplicada [Institute of Applied Molecular Medicine], and the Orthopedic Surgery Service).



Group members

- **Elena Dulin Íñiguez:** Postdoctoral.
- **María Concepción Guisasola Zulueta:** Group director.
- **María del Mar Pérez Vivas:** Support technician.
- **María Jesús Sánchez Fernández:** Support technician.

Projects

- Principal investigator: M^a Concepción Guisasola Zulueta
Title: Metaloproteinasas y sus inhibidores en la degeneración articular de la rodilla.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016

Patents

- Title: Procedimiento mejorado para evaluar el riesgo cardiovascular
Reference: P200901923; PCT/ES2010/070622
Owner: FIBHGM
Inventors: María Concepción Guisasola Zulueta, Elena Dulin Iñiguez

AREA 4

Area coordinator:
Emilio Bouza Santiago

Infectious diseases and AIDS

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 2 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.

Research lines and axes

Strategic axes

- ▶ A1: Consolidation of research networks and collaborations in infectious diseases and AIDS.
- ▶ A2: Consolidation of research lines in infectious diseases and AIDS.
- ▶ A3: Training.
- ▶ A4: Infrastructure.

Strategic lines

Axis 1: Consolidation of research networks and collaborations in infectious diseases and AIDS

1. Integration in research networks in the area of infectious diseases and AIDS

Strategic objectives:

- Ensure integration of the Area in the European Network for the study of *Clostridium difficile infection*.
- Become a core group in the AIDS Research Network at the next call.

2. Promote alliances and collaborations in the area of infectious diseases and AIDS

Strategic objectives:

- Increase participation and collaboration in intramural and extramural cooperative studies.
- Collaborate with other hospital services and other research groups from the IISGM.
- Collaborate with international centers.

Axis 2: Consolidation of research lines in infectious diseases and AIDS

1. Scientific continuity in the microbiology research line

Strategic objectives:

- Develop new molecular epidemiology systems based on direct sample analysis.
- Perform systematic characterization of clonal complexity in *Mycobacterium tuberculosis* infection.
- Establish the genetic significance of microevolution in *Mycobacterium tuberculosis*.
- Evaluate the mechanisms involved in differential infectivity by *Mycobacterium tuberculosis*.

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Strategic lines (cont.)

2. Scientific continuity in the research line of immunodepressed patients and invasive mycoses

Strategic objectives:

- Investigate the molecular diagnosis of invasive mycoses and characterization of isolates.
- Perform studies on antifungal resistance and pharmacokinetics of antifungal agents.
- Optimize the diagnosis and treatment of invasive mycosis in a general hospital.
- Perform a multicenter study of antifungal resistance in hospitals in Madrid.
- Assess resistance to azoles in clinical and environmental isolates of *Aspergillus* species.
- Perform a multicenter study of transplant recipients admitted to the intensive care unit.
- Optimize the management of infectious complications in solid organ recipients.

3. Consolidation of the *Clostridium difficile* research line

Strategic objectives:

- Consolidate research into diagnostic methods in *Clostridium difficile* infection.
- Consolidate research into the molecular epidemiology of *Clostridium difficile*.

4. Consolidate the research line of sensitivity to new antibiotics and resistance mechanisms in gram-positive microorganisms

5. Consolidate the research line of cardiovascular infection

Strategic objectives:

- Optimize rapid diagnosis of ventilator-associated pneumonia.
- Perform a multicenter study of nosocomial pneumonia and pneumonia requiring admission to hospital.
- Examine the role of viral pathogens in severe nosocomial pneumonia.
- Investigate new mechanisms of alert in sepsis.
- Investigate the molecular diagnosis of bloodstream infections caused by fungi and bacteria.
- Establish more effective diagnosis and treatment of catheter-related sepsis.
- Evaluate new diagnostic and therapeutic approaches in endocarditis.

6. Maintenance of clinical trial activity (HIV, HCV, opportunistic infections, tumors)

7. Maintenance of scientific output (impact factor)

(Continued on next page)

Strategic lines (cont.)

8. Maintenance and diversification of funding sources

Strategic objectives:

- Maintain public and private financial support.
- Enter into agreements with R&D&ti companies.
- Participate and obtain funding in calls for publicly funded projects.
- Participate and obtain funding in calls for privately financed projects.
- Obtain private funding for trials with new antibiotics in gram-positive cocci.
- Maintain the number of researchers contracted.
- Diversify and increase the number of principal investigators who can successfully compete in the calls of the National Plan.

Axis 3: Training

1. Increase possibilities for training

Strategic objectives:

- Promote contracting of clinical research staff.
- Develop undergraduate training in the laboratory.

Axis 4: Improve and increase the physical space available for research in infectious diseases and AIDS

Strategic objectives:

- Create a hepatitis C research laboratory for implementation of the group's basic research area.

Structure of AREA 4

Infectious diseases and AIDS



- ▶ Infectious diseases
- ▶ Clinical and epidemiological aspects of HIV and associated conditions
- ▶ Biological insult after heart surgery

Infectious diseases

Group director: EMILIO BOUZA SANTIAGO

Type: Consolidated

Research programs and lines

P1: Cardiovascular infection

- ▶ L1: Endocarditis.
- ▶ L2: Bacteremia.
- ▶ L3: Catheters.

P2: Nosocomial infection

- ▶ L1: Ventilator-associated pneumonia.
- ▶ L2: *Clostridium difficile*.
- ▶ L3: Non-ventilator-associated nosocomial pneumonia.

P3: Infection in immunodepressed patients

- ▶ L1: Invasive mycosis.
- ▶ L2: BK virus.
- ▶ L3: Infections in transplant recipients.

P4: Infection by mycobacteria

- ▶ L1: Tuberculosis and molecular epidemiology.
- ▶ L2: Development of new molecular diagnostic techniques.

P5: Bone and joint infection

- ▶ L1: Prosthesis infection.

P6: Antimicrobials and antimicrobial resistance mechanisms



Group members

- Iván Adan Rodríguez: Administration.
- Luís Alcalá Hernández: Predoctoral.
- Emilio Bouza Santiago: Senior researcher.
- Almudena Burillo Albizu: Postdoctoral.
- Inmaculada Cabrero Ballesteros: Predoctoral.
- Emilia Cercenado Mansilla: Predoctoral.
- Pilar Escribano Martos: Sara Borrell.
- Alia Eworo Ndongo: Predoctoral.
- Ana Elisa Fernández Cruz: Postdoctoral.
- Rocío Fernández Rey: Administration.
- Beatriz Gama Ahijado: Support technician.
- Paula García Morales: Support technician.
- Dario García de Viedma del Álamo: Senior researcher.
- Paloma Gijón Vidaurreta: Predoctoral.
- Marcela González del Vecchio: Post-MIR FIBHGM.
- María Guembe Ramírez: Miguel Servet.
- Jesús Vicente Guinea Ortega: Miguel Servet.
- Marta Herranz Martín: CIBER.
- Cristina Iglesias Arribas: CIBER.
- Ángel José Iglesias Bautista: Support technician.
- Martha Jeannette Kestler Hernández: Post-MIR FIBHGM.
- Laura Judith Marcos Zambrano: Trainee.
- María de las Mercedes Marín Arriaza: Postdoctoral.
- Adoración Martín López: Postdoctoral.
- Pablo Martín-Rabadán Caballero: Predoctoral.
- Patricia Muñoz García-Paredes: Senior researcher.



- Yurena de los Ángeles Navarro García: Predoctoral.
- Belén Padilla Ortega: Senior researcher.
- Mª Teresa Peláez García de la Rasilla: Postdoctoral.
- Laura Pérez García: Postdoctoral.
- María Jesús Pérez Granda: Postdoctoral.
- Elena Manuela Reigadas Ramírez: Rio Hortega.
- Belén Rodríguez Sánchez: Miguel Servet.
- Adrián Ruiz Rodríguez: Support technician.
- María Jesús Ruiz Serrano: Predoctoral.
- Mar Sánchez Somolinos: Predoctoral.
- Maricela Valerio Minero: Predoctoral.
- Antonio Vena: Predoctoral ISCIII.

Research projects – Competitive calls

- Principal investigator: Emilio Bouza Santiago
Title: Estudio comparativo de métodos microbiológicos para el diagnóstico de catéteres totalmente implantables. Proyecto ESCATI.
Funding body: F. Mutua Madrileña
Start date: 2011
End date: 2014
- Principal investigator: Jesús Vicente Guinea Ortega
Title: Caraterización de levaduras causantes de fungemia: identificación molecular, determinación de la sensibilidad antifúngica, genotipado de resistencia a equinocandinas y tipificación molecular.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Darío García de Viedma del Álamo
Title: Integración de estrategias de secuenciacion de genoma completo (WGS) para avanzar en el conocimiento de aspectos clave en la infección por *Mycobacterium tuberculosis*: virulencia, transmisión, capacidad de adaptación y adquisición de variabilidad.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2016
- Principal investigator: María Guembe Ramírez
Title: Estudio de optimización del diagnóstico y manejo de la candemia relacionada con el catéter. Proyecto ESDIMAC.
Funding body: F. Mutua Madrileña
Start date: 2013
End date: 2014
- Principal investigator: Patricia Muñoz García-Paredes
Title: PROMULGA II: Validación de la eficacia de un "bundle" de medidas en la incidencia, diagnóstico rápido, tratamiento y mortalidad de la infección fungica nosocomial.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016
- Principal investigator: M^a Teresa Peláez García de la Rasilla
Title: Evaluación de la resistencia a azoles de los aislados de *Aspergillus spp.* en la Comunidad de Madrid. Primer proyecto multicéntrico.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016
- Principal investigator: Emilio Bouza Santiago
Title: Evolución de la prevalencia, diagnóstico, caracterización fenotípica y genotípica de la infección por *C. difficile* (ICD) en España. Factores de riesgo de recurrencia y valor del PET-TAC en la ICD.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016
- Principal investigator: María Guembe Ramírez
Title: Proyecto de Investigación asociado a Miguel Servet tipo I.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016
- Principal investigator: Emilio Bouza Santiago
Title: Estudio randomizado para evaluar el sellado de catéteres venosos periféricos con heparina vs. suero salino en pacientes ingresados en medicina interna.
Funding body: FEMI
Start date: 2015
End date: 2018

INFECTIOUS DISEASES

- Principal investigator: Maricela Valerio Minero
Title: Optimización del manejo de la infección fungica invasora en el paciente transplantado y en el paciente oncológico, mortalidad y coste hospitalario.
Funding body: F. Mutua Madrileña
Start date: 2015
End date: 2018
- Principal investigator: Belén Rodríguez Sánchez
Title: Estudio Randomizado para evaluar el sellado de catéteres venosos periféricos con heparina vs. suero salino en pacientes ingresados en Medicina Interna. Proyecto de investigación asociado a Miguel Servet tipo I.
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017
- Principal investigator: Jesús Vicente Guinea Ortega
Title: Proyecto FIS 2014. Impacto clínico de la integración de la triada compuesta por datos de farmacocinética, farmacodinamia y patogenicidad de *Candida* en el pronóstico del paciente con candidemia.
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017

Theses

Doctoral student	Title	Director	University
Eleonora Bunsow	Un modelo de intervención desde el servicio de microbiología en la alerta precoz de la sepsis	Emilio Bouza Santiago	Universidad Complutense de Madrid

Clinical Practice Guidelines

Authors	Title	Publication
S. B. Debast, M. P. Bauer, E. J. Kuijper, on behalf of the Committee*	European Society of Clinical Microbiology and Infectious Diseases: update of the treatment guidance document for Clostridium difficile infection	CLINICAL MICROBIOLOGY AND INFECTION
Cornely OA; Arikan-Akdagli S; Dannaoui E; Groll AH; Lagrou K; Chakrabarti A; Lanternier F; Pagano L; Skiada A; Akova M; Arendrup MC; Boekhout T; Chowdhary A; Cuenca-Estrella M; Freiberger T; Guinea J; Guarro J; de Hoog S; Hope W; Johnson E; Kathuria S; Lackner M; Lass-Florl C; Lortholary O; Meis JF; Meletiadis J; Munoz P; Richardson M; Roilides E; Tortorano AM; Ullmann AJ; van Diepeningen A; Verweij P; Petrikos G	ESCMID dagger and ECMM double dagger joint clinical guidelines for the diagnosis and management of mucormycosis 2013	CLINICAL MICROBIOLOGY AND INFECTION
Tortorano AM; Richardson M; Roilides E; van Diepeningen A; Caira M; Munoz P; Johnson E; Meletiadis J; Pana ZD; Lackner M; Verweij P; Freiberger T; Cornely OA; Arikan-Akdagli S; Dannaoui E; Groll AH; Lagrou K; Chakrabarti A; Lanternier F; Pagano L; Skiada A; Akova M; Arendrup MC; Boekhout T; Chowdhary A; Cuenca-Estrella M; Guinea J; Guarro J; de Hoog S; Hope W; Kathuria S; Lortholary O; Meis JF; Ullmann AJ; Petrikos G; Lass-Florl C	ESCMID and ECMM joint guidelines on diagnosis and management of hyalohyphomycosis: <i>Fusarium</i> spp., <i>Scedosporium</i> spp. and others	CLINICAL MICROBIOLOGY AND INFECTION

(Continued on next page)

Authors	Title	Publication
Chowdhary A; Meis JF; Guarro J; de Hoog GS; Kathuria S; Arendrup MC; Arikan-Akdagli S; Akova M; Boekhout T; Caira M; Guinea J; Chakrabarti A; Dannaoui E; van Diepeningen A; Freiberger T; Groll AH; Hope WW; Johnson E; Lackner M; Lagrou K; Lanterrier F; Lass-Florl C; Lortholary O; Meletiadis J; Munoz P; Pagano L; Petrikos G; Richardson MD; Roilides E; Skida A; Tortorano AM; Ullmann AJ; Verweij PE; Cornely OA; Cuenca-Estrella M	ESCMID and ECMM joint clinical guidelines for the diagnosis and management of systemic phaeohyphomycosis: diseases caused by black fungi	CLINICAL MICROBIOLOGY AND INFECTION

Intellectual property

- Title: Estudio de impacto clínico de un plan docente de formación continua sobre las infecciones asociadas a dispositivos intravasculares
Reference: M-003545/2013
Owner: FIBHGM
Inventors: Emilio Bouza, María Guembe, Patricia Muñoz, Mª Eugenia González, Mª Jesús Pérez, Mª del Mar San Segundo
- Title: Dispositivo para prevenir la neumonía asociada a ventilación mecánica
Reference: U201430814
Owner: FIBHGM
Inventors: Juan Francisco del Cañizo, Emilio Bouza, Mª Jesús Pérez
- Title: Dispositivo aplicador de antifúngico coloreado
Reference: P201430751
Owner: FIBHGM
Inventors: Pablo Martín-Rabadán

- Title: Portaobjetos
Reference: U201430943
Owner: FIBHGM
Inventors: Pablo Martín-Rabadán

Publications

Total Impact Factor: 311.1

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Gonzalez-Del Vecchio M; Bunsow E; Sanchez-Carrillo C; Leoni EG; Rodriguez-Creixems M; Bouza E. *Occult bloodstream infections in adults: a "benign" entity.* AMERICAN JOURNAL OF EMERGENCY MEDICINE. 2014; 32(9) 966-971. IF: 1.274. Quartile: 2.
- Granda MJP; Guembe M; Cruces R; Martin-Rabadan P; Bouza E. *Colonization of stickers used for the identification of intravenous lines: Results from an in vitro study.* AMERICAN JOURNAL OF INFECTION CONTROL. 2014; 42(11) 1161-1164. IF: 2.206. Quartile: 2.
- Martinez FG; Gomez MLN; Lozano JS; Sebastian MMS; Fernandez RR; Sanchez MG; Mansilla EC; Matos THS. *Emergence of invasive pneumococcal disease caused by non-vaccine serotypes in the era of the 7-valent conjugate vaccine.* ANALES DE PEDIATRIA. 2014; 80(3) 173-180. IF: 0.833. Quartile: 4.
- Espinel-Ingroff A; Pfaller MA; Bustamante B; Canton E; Fothergill A; Fuller J; Gonzalez GM; Lass-Florl C; Lockhart SR; Martin-Mazuelos E; Meis JF; Melhem MSC; Ostrosky-Zeichner L; Pelaez T; Szczes MW; St-Germain G; Bonefietti LX; Guarro J; Turnidge J. *Multilaboratory Study of Epidemiological Cutoff Values for Detection of Resistance in Eight Candida Species to Fluconazole, Posaconazole, and Voriconazole.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2014; 58(4) 2006-2012. IF: 4.476. Quartile: 1.
- Marcos-Zambrano LJ; Escribano P; Sanchez C; Munoz P; Bouza E; Guinea J. *Antifungal Resistance to Fluconazole and Echinocandins Is Not Emerging in Yeast Isolates Causing Fungemia in a Spanish Tertiary Care Center.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2014; 58(8) 4565-4572. IF: 4.476. Quartile: 1.

- Guembe M; Guinea J; Marcos-Zambrano LJ; Fernandez-Cruz A; Pelaez T; Munoz P; Bouza E. *Micafungin at Physiological Serum Concentrations Shows Antifungal Activity against Candida albicans and Candida parapsilosis Biofilms.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2014; 58(9) 5581-5584. IF: 4.476. Quartile: 1.
- Alvarez-Perez S; Blanco JL; Pelaez T; Cutuli M; Garcia ME. *In Vitro Amphotericin B Susceptibility of Malassezia pachydermatis Determined by the CLSI Broth Microdilution Method and Etest Using Lipid-Enriched Media.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2014; 58(7) 4203-4206. IF: 4.476. Quartile: 1.
- Pfaller MA; Espinel-Ingroff A; Bustamante B; Canton E; Diekema DJ; Fothergill A; Fuller J; Gonzalez GM; Guarro J; Lass-Florl C; Lockhart SR; Martin-Mazuelos E; Meis JF; Ostrosky-Zeichner L; Pelaez T; St-Germain G; Turnidge J. *Multicenter Study of Anidulafungin and Micafungin MIC Distributions and Epidemiological Cutoff Values for Eight Candida Species and the CLSI M27-A3 Broth Microdilution Method.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2014; 58(2) 916-922. IF: 4.476. Quartile: 1.
- Oteo J; Gonzalez-Lopez JJ; Ortega A; Quintero-Zarate JN; Bou G; Cerecedo E; Conejo MC; Martinez-Martinez L; Navarro F; Oliver A; Bartolome RM; Campos J. *Inhibitor-Resistant TEM- and OXA-1-Producing Escherichia coli Isolates Resistant to Amoxicillin-Clavulanate Are More Clonal and Possess Lower Virulence Gene Content than Susceptible Clinical Isolates.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2014; 58(7) 3874-3881. IF: 4.476. Quartile: 1.
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Publications in journals not indexed in the Journal Citation Reports:

- Debast SB; Bauer MP; Kuijper EJ. *European Society of Clinical Microbiology and Infectious Diseases: update of the treatment guidance document for Clostridium difficile infection.* CLIN MICROBIOL INFECT. 2014 Mar;20 Suppl 2:1-26.
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	Number of documents	IF
Own publications	46	162.9
Joint publications	29	148.1
First-decile publications	31	189.2
First-quartile publications	46	253.0
Second-quartile publications	9	20.4
Third-quartile publications	16	34.1
Fourth-quartile publications	4	3.6
Nonindexed publications	4	-
Total publications	79	311.1

Clinical and epidemiological aspects of HIV and associated conditions

Group director: JUAN BERENGUER BERENGUER

Type: Consolidated

Research programs and lines

P1: HIV infection

- ▶ L1: Epidemiology of HIV infection.
- ▶ L2: Natural history of HIV infection.
- ▶ L3: Immunopathology of HIV infection.
- ▶ L4: Treatment of HIV infection.
- ▶ L5: Vaccines against HIV.
- ▶ L6: Strategies for the eradication of HIV.

P2. Comorbid conditions associated with HIV infection

- ▶ L1: Liver complications in HIV-infected patients.
- ▶ L2: Malignancy in HIV-infected patients.
- ▶ L3: Cardiovascular complications in HIV-infected patients.
- ▶ L4: Renal complications in HIV-infected patients.
- ▶ L5: Metabolic complications in HIV-infected patients.
- ▶ L6: Neurocognitive impairment in HIV-infected patients.
- ▶ L7: HIV and aging.

Group members

- **M^a Teresa Aldámiz-Echevarría Lois:** Río Hortega.
- **Juan Berenguer Berenguer:** Senior researcher.
- **Ana María Carrero Gras:** Predoctoral.
- **Saray Corral Carretero:** Predoctoral.
- **Cristina Díez Romero:** ISCIII Support.
- **Isabel Gutiérrez Cuéllar:** Predoctoral.
- **Juan Carlos López Bernaldo de Quirós:** Senior researcher.
- **Pilar Miralles Martín:** Predoctoral.
- **Francisco Parras Vázquez:** Postdoctoral.
- **Leire Pérez Latorre:** Postdoctoral.
- **Margarita Ramírez Schacke:** Predoctoral.
- **Pablo Ryan Murua:** Predoctoral.
- **Francisco Tejerina Picado:** FIPSE.

Research projects – Competitive calls

- Principal investigator: Juan Berenguer Berenguer
Title: Erradicación del VHC en pacientes coinfectados por VIH/VHC: efecto sobre la inflamación, el daño endotelial, la activación inmune y la aterosclerosis preclínica.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Juan Berenguer Berenguer
Title: Fiabilidad de la elastografía de transición para predecir eventos hepáticos y supervivencia en pacientes coinfectados con VIH y VHC
Funding body: Gilead Sciences S.L.
Start date: 2014
End date: 2015
- Principal investigator: Juan Berenguer Berenguer
Title: Proyecto FIS 2014. Efectos de la erradicación del VHC en pacientes con cirrosis avanzada por VHC una aproximación traslacional.
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017

Clinical practice guidelines

Authors	Title	Publication
Rodriguez RP; Galligo EM; Iribarren JA; Pedrol PD; Garcia ML; de Mallorca P; Montesinos VM; Martin PM; Julian AN; Hernandez AO; Bares MLP; Franch AS; Beneitez MCV; Tome MIG	Executive Summary of the Consensus Statement on monitoring HIV: Pregnancy, birth, and prevention of mother-to-child transmission	ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA
Berenguer J; Polo R; Lozano F; Aldeguer JL; Antela A; Arribas JR; Asensi V; Blanco JR; Clotet B; Domingo P; Galindo MJ; Gatell JM; Gonzalez-Garcia J; Iribarren JA; Locutura J; Lopez JC; Mallolas J; Martinez E; Miralles C; Miro JM; Moreno S; Palacios R; Elias MJP; Pineda JA; Podzamczer D; Portilla J; Pulido F; Ribera E; Riera M; Rubio R; Santos J; Sanz J; Tuset M; Vida F; Rivero A	Executive summary of the GeSIDA/National AIDS Plan consensus document on antiretroviral therapy in adults infected by the human immunodeficiency virus (updated January 2014)	ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA

Theses

Doctoral student	Title	Director	University
Pablo Ryan Murua	Resistencia a la insulina en pacientes coinfectados por el virus de la hepatitis C y el virus de la inmunodeficiencia humana: prevalencia, factores asociados e influencia en la respuesta al tratamiento con interferón y ribavirina	Juan Berenguer Berenguer	Universidad Complutense de Madrid

Publications

Total Impact Factor: 67.0

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Pineda-Tenor D; Micheloud D; Berenguer J; Jimenez-Sousa MA; Fernandez-Rodriguez A; Garcia-Broncano P; Guzman-Fulgencio M; Diez C; Bellon JM; Carrero A; Aldamiz-Echevarria T; G. *SLC30A8 rs13266634 polymorphism is related to a favorable cardiometabolic lipid profile in HIV/hepatitis C virus-coinfected patients.* AIDS. 2014; 28(9) 1325-1332. IF: 5.554. Quartile: 1.
- Pineda-Tenor D; Berenguer J; Jimenez-Sousa MA; Garcia-Alvarez M; Aldamiz-Echevarria T; Carrero A; Vazquez-Moron S; Garcia-Broncano P; Diez C;

CLINICAL AND EPIDEMIOLOGICAL ASPECTS OF HIV AND ASSOCIATED CONDITIONS

- Tejerina F; Guzman-Fulgencio M; R. *FTO rs9939609 polymorphism is associated with metabolic disturbances and response to HCV therapy in HIV/HCV-coinfected patients.* BMC MEDICINE. 2014; 12. IF: 7.249. Quartile: 1.
- Perez-Latorre L; Sanchez-Conde M; Rincon D; Miralles P; Aldamiz-Echevarria T; Carrero A; Tejerina F; Diez C. *Prediction of Liver Complications in Patients With Hepatitis C Virus-Related Cirrhosis With and Without HIV Coinfection: Comparison of Hepatic Venous Pressure Gradient and Transient Elastography.* CLINICAL INFECTIOUS DISEASES. 2014; 58(5) 713-718. IF: 8.886. Quartile: 1.
 - Berenguer J; Polo R; Lozano F; Aldeguer JL; Antela A; Arribas JR; Asensi V; Blanco JR; Clotet B; Domingo P; Galindo MJ; Gatell JM; Gonzalez-Garcia J; Iribarren JA; Locutura J; Lopez JC; Mallolas J; Martinez E; Miralles C; Miro JM; Moreno S; Palacios R; E. *Executive summary of the GeSIDA/National AIDS Plan consensus document on antiretroviral therapy in adults infected by the human immunodeficiency virus (updated January 2014).* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2014; 32(7) 447-458. IF: 2.172. Quartile: 3.
 - Rodriguez RP; Galligo EM; Iribarren JA; Pedrol PD; Garcia ML; de Mallorca P; Montesinos VM; Martin PM; Julian AN; Hernandez AO; Bares MLP; Franch AS; Beneitez MCV; Tome MIG. *Executive Summary of the Consensus Statement on monitoring HIV: Pregnancy, birth, and prevention of mother-to-child transmission.* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2014; 32(5) 311-319. IF: 2.172. Quartile: 3.
 - Pineda-Tenor D; Berenguer J; Garcia-Broncano P; Jimenez-Sousa MA; Fernandez-Rodriguez A; Diez C; Garcia-Alvarez M; Carrero A; Catalan P; Aldamiz-Echevarria T; Resino S. *Association of adiponectin (ADIPOQ) rs2241766 polymorphism and dyslipidemia in HIV/HCV-coinfected patients.* EUROPEAN JOURNAL OF CLINICAL INVESTIGATION. 2014; 44(5) 453-462. IF: 2.734. Quartile: 1.
 - Guzman-Fulgencio M; Rallon N; Berenguer J; Fernandez-Rodriguez A; Soriano V; Miralles P; Jimenez-Sousa MA; Restrepo C; Lopez JC; Garcia-Alvarez M; Aldamiz T; Benito JM; Resino S. *European mitochondrial haplogroups are not associated with hepatitis C virus (HCV) treatment response in HIV/HCV-coinfected patients.* HIV MEDICINE. 2014; 15(7) 425-430. IF: 3.988. Quartile: 1.
 - Ramirez MLM; Miro JM; Quereda C; Jou A; von Wichmann MA; Berenguer J; Gonzalez-Garcia JJ; Hernando A; Ortega E; Sanz J; Arribas JR. *Incidence of Hepatocellular Carcinoma in HIV-Infected Patients With Cirrhosis: A Prospective Study.* JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2014; 65(1) 82-86. IF: 4.556. Quartile: 1.
 - Fernandez-Rodriguez A; Berenguer J; Rallon N; Jimenez-Sousa MA; Lopez JC; Soriano V; Garcia-Alvarez M; Cosin J; Martinez P; Guzman-Fulgencio M; Miralles P; Benito JM; Resino S. *PPAR gamma 2 Pro12Ala Polymorphism Is Associated With Sustained Virological Response in HIV/HCV-Coinfected Patients Under HCV Therapy.* JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2014; 67(2) 113-119. IF: 4.556. Quartile: 1.
 - Berenguer J; Zamora FX; Carrero A; Von Wichmann MA; Crespo M; Lopez-aldeguer J; Aldamiz-Echevarria T; Montes M; Quereda C; Tellez MJ; Galindo MJ; Sanz J; Santos I; Guardiola JM; Esteban H; Bellon JM; Gonzalez-Garcia J. *Effects of Sustained Viral Response in Patients With HIV and Chronic Hepatitis C and Nonadvanced Liver Fibrosis.* JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2014; 66(3) 280-287. IF: 4.556. Quartile: 1.
 - Podzamczer D; Imaz A; Perez I; Viciana P; Valencia E; Curto J; Martin T; Castano M; Rojas J; Espinosa N; Moreno V; Asensi V; Iribarren JA; Clotet B; Force L; Bachiller P; Knobel H; De Quiros JCLB; Blanco JR; Rozas N; Vergas J; Ocampo A; Camacho A; Flores. *Abacavir/lamivudine plus darunavir/ritonavir in routine clinical practice: a multicentre experience in antiretroviral therapy-naive and -experienced patients.* JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2014; 69(9) 2536-2540. IF: 5.313. Quartile: 1.
 - Pineda-Tenor D; Berenguer J; Jimenez-Sousa MA; Guzman-Fulgencio M; Aldamiz-Echevarria T; Carrero A; Garcia-Alvarez M; Diez C; Tejerina F; Briz V; Resino S. *CXCL9, CXCL10 and CXCL11 polymorphisms are associated with sustained virologic response in HIV/HCV-coinfected patients.* JOURNAL OF CLINICAL VIROLOGY. 2014; 61(3) 423-429. IF: 3.016. Quartile: 2.

- Guzman-Fulgencio M; Garcia-Alvarez M; Berenguer J; Jimenez-Sousa MA; Cosin J; Pineda-Tenor D; Carrero A; Aldamiz T; Alvarez E; Lopez JC; Resino S. *Vitamin D deficiency is associated with severity of liver disease in HIV/HCV coinfected patients.* JOURNAL OF INFECTION. 2014; 68(2) 176-184. IF: 4.441. Quartile: 1.
- Garcia-Broncano P; Berenguer J; Fernandez-Rodriguez A; Pineda-Tenor D; Jimenez-Sousa MA; Garcia-Alvarez M; Miralles P; Aldamiz-Echevarria T; Lopez JC; Micheloud D; Resino S. *PPAR gamma 2 Pro12Ala polymorphism was associated with favorable cardiometabolic risk profile in HIV/HCV coinfected patients: a cross-sectional study.* JOURNAL OF TRANSLATIONAL MEDICINE. 2014; 12. IF: 3.93. Quartile: 1.
- Jimenez-Sousa MA; Berenguer J; Fernandez-Rodriguez A; Micheloud D; Guzman-Fulgencio M; Miralles P; Pineda-Tenor D; Garcia-Alvarez M; Lopez JC; Aldamiz-Echevarria T; Carrero A.; *IL28RA polymorphism (rs10903035) is associated with insulin resistance in HIV/HCV-coinfected patients.* JOURNAL OF VIRAL HEPATITIS. 2014; 21(3) 189-197. IF: 3.909. Quartile: 1.

	Number of documents	IF
Own publications	3	15.6
Joint publications	12	51.4
First-decile publications	4	27.0
First-quartile publications	12	59.7
Second-quartile publications	1	3.0
Third-quartile publications	2	4.3
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	15	67.0

Biological insult after heart surgery

Group director: FRANCISCO JAVIER HORTAL IGLESIAS

Type: Associated

Research lines

- ▶ L1: Risk scales in heart surgery.
- ▶ L2: Infections in immunodepressed patients.

Group members

- José Miguel Álvarez Valdivieso: Predoctoral.
- Mónica Barranco Benito: Predoctoral.
- Francisco Javier Hortal Iglesias: Senior researcher.

Publications

Total Impact Factor: 7.7

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Perez-Granda MJ; Barrio JM; Munoz P; Hortal J; Rincon C; Bouza E. *Impact of four sequential measures on the prevention of ventilator-associated pneumonia in cardiac surgery patients.* CRITICAL CARE. 2014; 18(2). IF: 4.476. Quartile: 1.
- Perez-Granda MJ; Barrio JM; Munoz P; Hortal J; Rincon C; Rabadian PM; Pernia MS; Bouza E. *Ethanol Lock Therapy (E-Lock) in the Prevention of Catheter-Related Bloodstream Infections (CR-BSI) after Major Heart Surgery (MHS): A Randomized Clinical Trial.* PLOS ONE. 2014; 9(3). IF: 3.234. Quartile: 1.

	Number of documents	IF
Own publications	0	0.0
Joint publications	2	7.7
First-decile publications	0	0.0
First-quartile publications	2	7.7
Second-quartile publications	0	0.0
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	2	7.7

AREA 5

*Area coordinator:
Eduardo Fernández-Cruz Pérez*

Diseases of the immune system

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, Inmunotek, Grifols).

The area has set itself the strategic objectives of expanding the core activity of its more clinical groups, training undergraduate and postgraduate staff in order to consolidate and improve scientific output, and expanding the number of principal investigators able to successfully apply for competitive calls.

Research lines and axes

Strategic axes

- ▶ A1: Promotion of alliances and collaborations in immunology.
- ▶ A2: Consolidation of research lines in immunology.
- ▶ A3: Training.
- ▶ A4: Quality assurance.

Strategic lines

Axis 1: Promotion of alliances and collaborations in immunology

1. Consolidation of the INSIGHT agreement in the field of transplant immunology

Strategic objectives:

- Report on collaboration with INSIGHT.

2. National and international collaboration for the immunology-based diagnosis of patients included in therapy protocol HLH-2004 (Institut Pasteur, Paris; Hospital Charité, Berlin)

3. Cooperation with clinical groups in oncology

Strategic objectives:

- Participation in established cooperative research structures.
- Biomedicina/2010 CM Programa NEOPLASBIM.

4. Cooperation with clinical groups in rheumatology

Strategic objectives:

- Participation in established cooperative research structures.
- Biomedicina/2010 CM Programa REUMATOLOGIA.

(Continued on next page)

Strategic lines (cont.)

Axis 2: Consolidation of research lines in immunology

1. Development of new diagnostic procedures in immunoallergy: component-based diagnosis

Strategic objectives:

- Develop diagnostic tests for the response to aeroallergens.
- Develop diagnostic tests for the response to food allergens.

2. Design and development of a phase II multicenter clinical trial with the company Inmunotek

Strategic objectives:

- Develop a personalized bacterial vaccine for the immunomodulation of patients with recurrent infections.

3. Validation of laboratory procedures for the quantification of serum levels of *Salmonella typhi* antibodies in the evaluation of immunodeficiencies (multicenter clinical trial on production of antibodies)

4. Consolidation of research lines with public or private funding

Strategic objectives:

- Apply for funding from the National Plan.
- Apply for funding from private institutions.
- Promote research agreements and contracts with public and private institutions. National and international.

5. Continuing improvement in scientific output

Strategic objectives:

- Maintain collaborations with groups of scientific excellence.
- Favor research lines in human disease.

6. Expansion of the basic activity of the rheumatology group

7. Design, introduction, maintenance, and utilization of national and international registries of immunodeficiencies

(Continued on next page)

Strategic lines (cont.)

Axis 3: Training

1. Consolidation and improvement of the scientific output of trainees

Strategic objectives:

- Publish results from basic and clinical research.
- Encourage participation of medical residents and trainees in the preparation of manuscripts.
- Promote preparation of doctoral theses.

Axis 4: Quality assurance

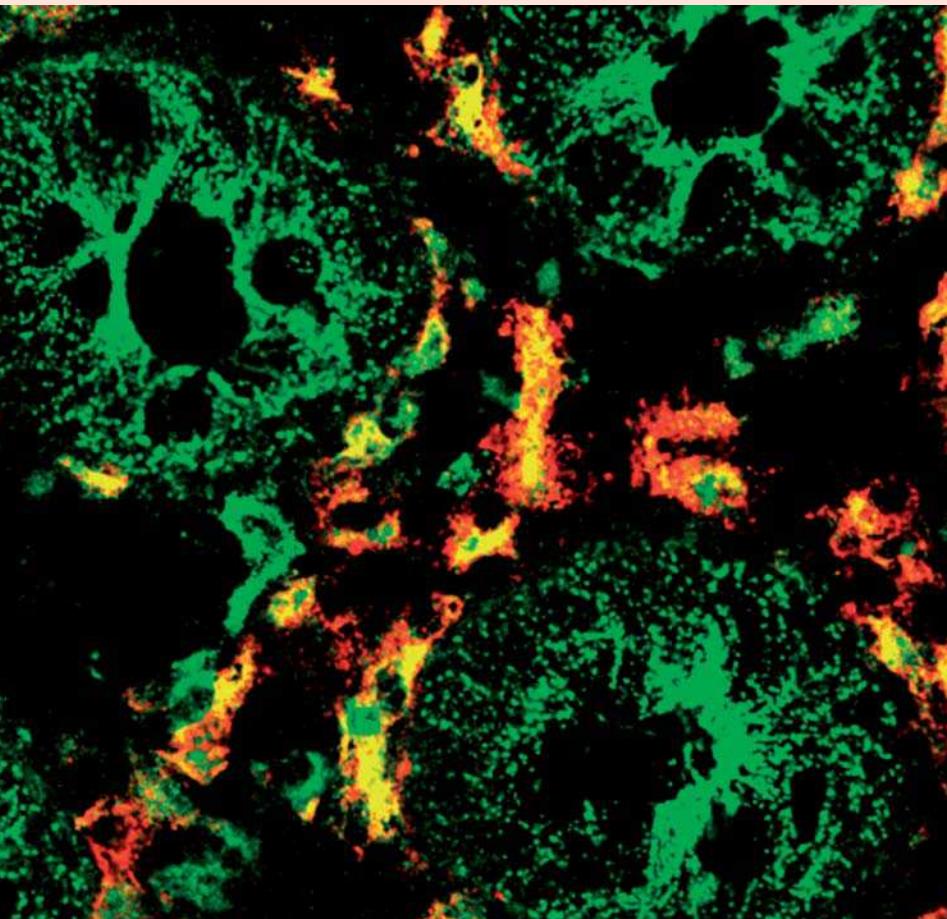
1. Certification of the laboratory by ENAC. Standard UNE-EN-ISO 15189. (maintenance and extension of the scope of the certification)

Strategic objectives:

- Re-evaluation of the laboratory.
- Certification by category; flexible scope.
- Promotion of activity so that the laboratory can be used to perform clinical trials.

Structure of AREA 5

Diseases of the immune system



- ▶ Pathophysiology and clinical investigation of chronic inflammatory and immune diseases
- ▶ Molecular biology of HIV
- ▶ Immuno-oncology
- ▶ Autoimmune systemic diseases
- ▶ Infections in the pediatric patients
- ▶ Immune homeostasis and regulation in diseases associated with the immune system
(group developed from Immunology of HIV infection in the pediatric patients)
- ▶ Pathogenesis of the immunoallergic response
- ▶ Allergic diseases in the pediatric patients

Pathophysiology and clinical investigation of chronic inflammatory and immune diseases

Group director: EDUARDO FERNÁNDEZ-CRUZ PÉREZ

Type: Consolidated

Research programs and lines

P1: Immunomodulation and reconstitution of the immune response to viral and bacterial infections

- ▶ L1: Study of the immunomodulatory response to a personalized vaccine in patients with recurrent infection.
- ▶ L2: Study of the response of *Salmonella typhi* antibodies for evaluation of immunodeficiencies.

P2: Primary immunodeficiencies: pathogenesis, classification, and treatment

- ▶ L1: Study, functional characterization, and treatment of primary immunodeficiencies.
- ▶ L2: Classification and segregation of familial primary immunodeficiencies.
- ▶ L3: Impact of the polymorphism C77G in exon 4 of the CD45 gene on hemophagocytic lymphohistiocytosis.

P3: Molecular immunogenetics of immune diseases

- ▶ L1: Characterization of genetic variants, susceptibility single-nucleotide polymorphisms (SNPs), and molecular diagnosis in immunodeficiencies and immune diseases.

P4: Transplant immunology

- ▶ L1: Immunology of infections and rejection in solid organ recipients.

P5: Neuroimmunology of multiple sclerosis

- ▶ L1: Immunoregulation and immunomodulation in multiple sclerosis.

P6: Immunology of autoimmune chronic inflammatory diseases

- ▶ L1: Study of the role of anticitrullinated peptide antibodies in chronic autoimmune inflammatory diseases (rheumatoid arthritis)

P7: Reproductive immunology

- ▶ L1: Quantitative and functional study of lymphocyte subpopulations and immunogenetic study of diseases of the reproductive system (recurrent miscarriage, IVF, obstetric antiphospholipid antibody syndrome): immunomodulation.

P8: Standardization of laboratory immunochemical procedures in monoclonal gammopathy and allergy

- ▶ L1: Implementation of new analytic procedures in allergy: component-resolved diagnosis.

Group members

- **Javier Alberto Carbone Campoverde:** Senior researcher.
- **Eduardo Fernández-Cruz Pérez:** Senior researcher.
- **Juana Gil Herrera:** Senior researcher.
- **Joaquín Navarro Caspistegui:** Postdoctoral.
- **Ricardo Suárez Fernández:** Postdoctoral.
- **Juan José Rodríguez Molina:** Postdoctoral.
- **Carmen Rodríguez Sainz:** Postdoctoral.
- **Elizabeth Angélica Sarmiento Marchese:** Postdoctoral.
- **José Antonio Avilés Izquierdo:** Predoctoral.
- **Ofelia Baniandrés Rodríguez:** Predoctoral.
- **Ana Pulido Pérez:** Predoctoral.

Research projects – Competitive calls

- Principal investigator: Juana Gil Herrera
Title: Perfiles inmunogenéticos en la linfohistiocitosis hemofagocítica (HLH) aplicados al diagnóstico rápido de los casos familiares (FHL) de la enfermedad.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015
- Principal investigator: Eduardo Fernández-Cruz Pérez
Title: Evaluación de la respuesta a un inmunógeno polivalente administrado vía mucosa sublingual en la prevención de infecciones recurrentes en pacientes con EPOC.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015
- Principal investigator: Javier Alberto Carbone Campoverde
Title: Estudio de reconstitución de la inmunidad humoral específica tras uso de gammaglobulina intravenosa para la prevención de infecciones en pacientes con hipogammaglobulemia IGG tras el trasplante cardíaco.
Funding body: F. Mutua Madrileña
Start date: 2013
End date: 2014

Publications

Total Impact Factor: 30.5

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Ramos-Medina R; García-Segovia A; Gil J; Carbone J; de la Cruz AA; Seyfferth A; Alonso B; Alonso J; Leon JA; Alecsandru D; Melia E; de Albornoz EC; Ordonez D; Santillan I; Verdu V; de Morales JMGR; L. *Experience in IVIg Therapy for Selected Women with Recurrent Reproductive Failure and NK Cell Expansion.* AMERICAN JOURNAL OF REPRODUCTIVE IMMUNOLOGY. 2014; 71(5) 458-466. IF: 2.438. Quartile: 2.

- Aviles-Izquierdo JA; Conde-Montero E; Barchino-Ortiz L; Lazaro-Ochaita P. *Dermoscopic features of dermatofibrosarcoma protuberans.* AUSTRALASIAN JOURNAL OF DERMATOLOGY. 2014; 55(2) 125-127. IF: 1.106. Quartile: 3.
- Sarmiento E; Arraya M; Jaramillo M; Diez P; Fernández-Yanez J; Palomo J; Navarro J; Carbone J. *Intravenous immunoglobulin as an intervention strategy of risk factor modification for prevention of severe infection in heart transplantation.* CLINICAL AND EXPERIMENTAL IMMUNOLOGY. 2014; 178. 156-158. IF: 3.037. Quartile: 2.
- Mendoza-Cembranos MD; Campos-Dominguez M; Pulido-Perez A; Conde-Montero E; Parra-Blanco V; Suárez-Fernández R. *Pruritic papular eruption and blisters in a 5-year-old girl.* CLINICAL AND EXPERIMENTAL DERMATOLOGY. 2014; 39(2) 256-258. IF: 1.092. Quartile: 3.
- Tejera-Alhambra M; Casrouge A; de Andres C; Ramos-Medina R; Alonso B; Vega J; Albert ML; Sánchez-Ramon S. *Low DPP4 expression and activity in multiple sclerosis.* CLINICAL IMMUNOLOGY. 2014; 150(2) 170-183. IF: 3.672. Quartile: 2.
- Espana A; Koga H; Suárez-Fernández R; Ohata C; Ishii N; Irarrazaval I; Teye K; Ohyama B; Hashimoto T. *Antibodies to the amino-terminal domain of desmoglein 1 are retained during transition from pemphigus vulgaris to pemphigus foliaceus.* EUROPEAN JOURNAL OF DERMATOLOGY. 2014; 24(2) 174-179. IF: 1.99. Quartile: 2.
- Esteso G; Luzon E; Sarmiento E; Gomez-Caro R; Steinle A; Murphy G; Carbone J; Vales-Gomez M; Reyburn HT. *Altered MicroRNA Expression after Infection with Human Cytomegalovirus Leads to TIMP3 Downregulation and Increased Shedding of Metalloprotease Substrates, Including MICA.* JOURNAL OF IMMUNOLOGY. 2014; 193(4) 1344-1352. IF: 4.922. Quartile: 1.
- Dominguez-Soto A; de las Casas-Engel M; Bragado R; Medina-Echeverz J; Aragoneses-Fenoll L; Martin-Gayo E; van Rooijen N; Berraondo P; Toribio ML; Moro MA; Cuartero I; Castrillo A; Sancho D; Sánchez-Torres C; Bruhns P; Sánchez-Ramon S; Corbi AL. *Intravenous Immunoglobulin Promotes Antitumor Responses by Modulating Macrophage Polarization.* JOURNAL OF IMMUNOLOGY. 2014; 193(10) 5181-5189. IF: 4.922. Quartile: 1.

- de Andres C; Tejera-Alhambra M; Alonso B; Valor L; Teijeiro R; Ramos-Medina R; Mateos D; Faure F; Sánchez-Ramon S. *New regulatory CD19(+)CD25(+) B-cell subset in clinically isolated syndrome and multiple sclerosis relapse. Changes after glucocorticoids.* JOURNAL OF NEUROIMMUNOLOGY. 2014; 270(1-2) 37-44. IF: 2.467. Quartile: 3.
- Horcajada-Reales C; Conde-Montero E; Campos-Dominguez M; Suárez-Fernández R. *Crystalline miliaria.* MEDICINA CLINICA. 2014; 143(4) 190-190. IF: 1.417. Quartile: 2.
- Sánchez-Ramon S; Valor L. *Therapy with intravenous gammaglobulins in systemic inflammatory autoimmune diseases: New indications?.* MEDICINA CLINICA. 2014; 143(3) 130-133. IF: 1.417. Quartile: 2.
- Sarmiento E; Navarro J; Fernández-Yanez J; Palomo J; Muñoz P; Carbone J. *Evaluation of an immunological score to assess the risk of severe infection in heart recipients.* TRANSPLANT INFECTIOUS DISEASE. 2014; 16(5) 802-812. IF: 2.064. Quartile: 3.

	Number of documents	IF
Own publications	9	18.7
Joint publications	3	11.8
First-decile publications	0	0.0
First-quartile publications	2	9.8
Second-quartile publications	6	14.0
Third-quartile publications	4	6.7
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	12	30.5

Molecular biology of HIV

Group director: M^a ÁNGELES MUÑOZ FERNÁNDEZ

Type: Consolidated

Research programs and lines

P1: HIV infection

- ▶ L1: Immunology and virology of HIV.
- ▶ L2: Cellular and molecular biology of HIV.

P2: Neonatology and pediatrics

P3: Nanomedicine: Cell and gene therapy

P4: Biobank

- ▶ L1: Coordination of the biobank.
- ▶ L2: Technical aspects of the biobank.
- ▶ L3: Biobank support.

P5: Management

- ▶ L1: Laboratory management.
- ▶ L2: Database management.

Group members

- Esther Alonso García: FIPSE.
- Susana Álvarez Losada: Postdoctoral.
- Rafael Ceña Díez: Predoctoral.
- María Isabel Clemente Mayoral: ISCIII Support.
- Irene Consuegra Fernández: RETICS.
- Laura Díaz Muñoz: ISCIII Support.
- Jorge Luis Gallego de la Fuente: Support technician.
- Dolores García Alonso: Support technician.
- Isabel María García Merino: RETICS.
- Coral Gómez Rico: Support technician.
- Santiago Jiménez de Ory: RETICS.
- Jose Luis Jiménez Fuentes: Stabilized.
- Marta Martínez Bonet: Trainee.
- M^a Ángeles Muñoz Fernández: Senior researcher.
- Paula Palau Concejo: RETICS.
- Marjorie Pion: Postdoctoral.
- Ana Judith Perise Barrios: Postdoctoral.
- Miguel Reloso Cereceda: Miguel Servet.
- Laura Salinas Muñoz: Predoctoral.
- Begoña Santiago García: Rio Hortega.
- Daniel Sepúlveda Crespo: Predoctoral.
- M^a Jesús Serramía Lobera: Support technician.
- Daniel Tornero Prieto: Sara Borrell.

Research projects – Competitive calls

- Principal investigator: Miguel Reloso Cereceda
Title: Estudio del mecanismo molecular anti-inflamatorio del estradiol para buscar nuevas dianas terapéuticas.
Funding body: F. Mutua Madrileña
Start date: 2011
End date: 2014
- Principal investigator: José Luis Jiménez Fuentes
Title: Dendrímeros carbosilanos aniónicos con efecto antiinflamatorio como posibles microbicidas frente VIH.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Marjorie Pion
Title: Descapsidación de viriones VIH-1 y tráfico hacia P-bodies como mecanismo de restricción de las primeras etapas del ciclo viral en linfocitos.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015
- Principal investigator: M^a Ángeles Muñoz Fernández
Title: Desarrollo y mecanismo de acción de dendrímeros como microbicidas para frenar la infección por el VIH por transmisión sexual (vaginal y anal): prueba de concepto.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016
- Principal investigator: M^a Ángeles Muñoz Fernández
Title: Red de Sida (RIS).
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2014
- Principal investigator: M^a Ángeles Muñoz Fernández
Title: Proyecto INDISNET. Programa I+D Comunidad de Madrid. "Redes moleculares y celulares en enfermedades inflamatorias".
Funding body: Comunidad de Madrid
Start date: 2012
End date: 2015
- Principal investigator: José Luis Jiménez Fuentes
Title: Proyecto NANODENDMED. Programa I+D Comunidad de Madrid. "Nanosistemas dendríticos como agentes y vectores terapéuticos en distintas aplicaciones biomédicas".
Funding body: Comunidad de Madrid
Start date: 2012
End date: 2015
- Principal investigator: Miguel Reloso Cereceda
Title: Mecanismos de la regulación hormonal en la diferenciación y reprogramación de los neutrófilos N1 y N-MDSC.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016
- Principal investigator: Miguel Reloso Cereceda
Title: Búsqueda de marcadores diferenciadores de neutrófilos intratumorales inflamatorios y antiinflamatorios para su uso en el pronóstico del cáncer de mama y su reprogramación.
Funding body: F. Mutua Madrileña
Start date: 2014
End date: 2017
- Principal investigator: M^a Ángeles Muñoz Fernández
Title: PROYECTO EUROPEO 7º PROGRAMA MARCO. "EU-Belarus-Russia Network in Nanomaterials-Driven Anti-Cancer Gene Therapy". (NANOGENE).
Funding body: European Commission
Start date: 2014
End date: 2016

- Principal investigator: José Luis Jiménez Fuentes
Title: Proyecto FIS 2014. "Prevención de la transmisión del IVH mediante el uso de la nanotecnología dirigida frente a proteínas virales, receptores celulares y DC-SIGN". Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017

Theses

Doctoral student	Title	Director	University
Leidi Didiana Jaramillo Ruiz	Efecto de la infección por el VIH-1 sobre el fenotipo y la funcionalidad de las células Treg (Treg). Uso de los dendrímeros carbosilano como protectores de las Treg frente a la infección por el VIH	M Ángeles Muñoz Fernández, Rafael Correa Rocha	Universidad Autónoma de Madrid
Rafael Correa Rocha	Células Treg y homeostasis inmune en la infancia. Implicaciones en distintas alteraciones inmunes pediátricas	M Ángeles Muñoz Fernández, M José Mellado Peña	Universidad Autónoma de Madrid
Talia Sainz Costa	Arteriosclerosis carotidea en niños y adolescentes infectados por el VIH: factores fisiopatológicos implicados	M Ángeles Muñoz Fernández, M José Mellado Peña	Universidad Complutense de Madrid
Marta Martínez Bonet	Nuevas estrategias frente a la infección por el VIH-1	M Ángeles Muñoz Fernández, Ricardo Madrid González	Universidad Autónoma de Madrid

Patents

- Title: Dendrímeros carboxilos catiónicos obtenidos mediante «click chemistry», su preparación y sus usos
Reference: P201130804
Owner: FIBHGM-UAH, Instituto Científico y Tecnológico de Navarra, S.A.
Inventors: Francisco Javier De La Mata, Rafael Gómez Ramírez, Eduardo Arnaiz Garrido, Sandra García Gallego, José Luis Copa Patiño, Juan Soliveri De Carranza, José Manuel Hernández Ros, M Ángeles Muñoz-Fernández, Verónica Briz Sebastián, M Jesús Serramía Lobera, Conchita Tros de llarduya.
- Title: Dendrímeros carbosilanos con un núcleo polifenólico y su uso como antivirales
Reference: P201030450
Owner: UAH - HGUGM
Inventors: Francisco Javier De La Mata, Rafael Gómez Ramírez, Javier Sánchez-Nieves Fernández, Paula Ortega López, M Ángeles Muñoz-Fernández, Louis Chonco Jiménez, M Jesús Serramía Lobera.
- Title: Dendrímeros carbosilanos y su uso como antivirales
Reference: P201030233; WO2011101520; PCT/ES/2011/070104; EP 11719842.4; USA13/579,849; Australia 2011217142; China 201180010129,5; Japón 20120553360
Owner: UAH - HGUGM
Inventors: Francisco Javier De La Mata, Rafael Gómez Ramírez, M Ángeles Muñoz-Fernández, Javier Sánchez-Nieves Fernández, Beatriz Rasines Moreno, Louis Chonco Jiménez, Eduardo Arnaiz Garrido, M Jesús Serramía Lobera.
- Title: Compuestos dendríticos carbosilanos homo y hetero-funcionalizados
Reference: P201231187; PCT/ES2009/070456
Owner: UAH - HGUGM
Inventors: Francisco Javier de la Mata, Rafael Gómez Ramírez, M Ángeles Muñoz-Fernández, Javier Fernández Sánchez-Nieves, José Luis Jiménez Fuentes, Silvia Fernández Soriano, Marta Galán Herranz, Raquel Lorente Rodríguez, Elena Fuentes Paniagua, Javier Sánchez Rodríguez, Cornelia Peña González, M Jesús Serramía Lobera, Rosa Reguera.

MOLECULAR BIOLOGY OF HIV

Creation of a technology-based company

- Name: AMBIOX BIOTECH, S.L.

Description: Ambiox Biotech is characterized by its entrepreneurial spirit, innovation, and social commitment. Its mission is to apply innovative developments in biomedical nanotechnology and thus bring added value to society that can be appreciated at international level. The creativity and innovation of Ambiox Biotech are developed for application in human health care, thus building the bridge between science and the market.

The company was created as a spin-off at Universidad de Alcalá de Henares. Its team includes M^a Ángeles Muñoz, Director of the HIV Molecular Biology Group of the IISGM.

Publications

Total Impact Factor: 169

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Perise-Barrios AJ; Correa-Rocha R; Álvarez S; Muñoz-Fernández MA; Pion M. *HIV-1 induces B-cell activation and class switch recombination via spleen tyrosine kinase and c-Jun N-terminal kinase pathways.* AIDS. 2014; 28(16) 2365-2374. IF: 5.554. Quartile: 1.
- Sainz T; Díaz L; Navarro ML; Rojo P; Blazquez D; Ramos JT; de Jose MI; Álvarez-Fuente M; Serrano-Villar S; Mellado MJ; Muñoz-Fernández MA. *Cardiovascular biomarkers in vertically HIV-infected children without metabolic abnormalities.* ATHEROSCLEROSIS. 2014; 233(2) 410-414. IF: 3.994. Quartile: 1.
- Hauptmann N; Pion M; Wehner R; Muñoz-Fernández MA; Schmitz M; Voit B; Appelhans D. *Potential of Ni(II)-NTA-Modified Poly(ethylene imine) Glyco-polymers as Carrier System for Future Dendritic Cell-Based Immunotherapy.* BIOMACROMOLECULES. 2014; 15(3) 957-967. IF: 5.75. Quartile: 1.
- Vacas-Cordoba E; Bastida H; Pion M; Hameau A; Ionov M; Bryszewska M; Caminade AM; Majoral JP; Muñoz-Fernández MA. *HIV-Antigens Charged on Phosphorus Dendrimers as Tools for Tolerogenic Dendritic Cells-Based Immunotherapy.* CURRENT MEDICINAL CHEMISTRY. 2014; 21(16) 1898-1909. IF: 3.853. Quartile: 1.

- García-Navarro C; García I; Medin G; Ramos-Arnador JT; Navarro-Gómez M; Mellado-Peña MJ; Gómez MID; Cortes M; Crespo BZ; Muñoz-Fernández MA; Gamero DB; González-Tome MI. *Psychosocial aspects in a cohort of vertically transmitted human immunodeficiency virus-infected adolescents.* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2014; 32(10) 631-637. IF: 2.172. Quartile: 3.
- Sánchez-Nieves J; Fransen P; Pulido D; Lorente R; Muñoz-Fernández MA; Albericio F; Royo M; Gómez R; de la Mata EJ. *Amphiphilic Cationic Carbosilane-PEG Dendrimers: Synthesis and Applications in Gene Therapy.* EUROPEAN JOURNAL OF MEDICINAL CHEMISTRY. 2014; 76: 43-52. IF: 3.447. Quartile: 1.
- Serrano-Villar S; Estrada V; Gómez-Garre D; Avila M; Fuentes-Ferrer M; San Roman J; Soriano V; Sánchez-Parra C; Sainz T; Fernández-Cruz A. *Diagnosis of subclinical atherosclerosis in HIV-infected patients: higher accuracy of the D:A:D risk equation over Framingham and SCORE algorithms.* EUROPEAN JOURNAL OF PREVENTIVE CARDIOLOGY. 2014; 21(6) 739-748. IF: 3.319. Quartile: 2.
- Sansoni P; Vescovini R; Fagnoni FF; Akbar A; Arens R; Chiu YL; Cicin-Sain L; Dechanet-Merville J; Derhovanessian E; Ferrando-Martínez S; Franceschi C; Frasca D; Fulop T; Furman D; Gkrania-Klotsas E; Goodrum F; Grubeck-Loebenstein B; Hurme M; Kern F; Lille. *New advances in CMV and immunosenescence.* EXPERIMENTAL GERONTOLOGY. 2014; 55: 54-62. IF: 3.485. Quartile: 1.
- Serrano-Villar S; Moreno S; Fuentes-Ferrer M; Sánchez-Marcos C; Avila M; Sainz T; de Villar NGP; Fernández-Cruz A; Estrada V. *The CD4:CD8 ratio is associated with markers of age-associated disease in virally suppressed HIV-infected patients with immunological recovery.* HIV MEDICINE. 2014; 15(1) 40-49. IF: 3.988. Quartile: 1.
- Vacas-Cordoba E; Galan M; de la Mata FJ; Gómez R; Pion M; Muñoz-Fernández MA. *Enhanced activity of carbosilane dendrimers against HIV when combined with reverse transcriptase inhibitor drugs: searching for more potent microbicides.* INTERNATIONAL JOURNAL OF NANOMEDICINE. 2014; 9: 3591-3600. IF: 4.383. Quartile: 1.

- Ziemb B; Franiak-Pietryga I; Pion M; Appelhans D; Munoz-Fernández MA; Voit B; Bryszewska M; Klajnert-Maculewicz B. *Toxicity and proapoptotic activity of poly(propylene imine) glycodendrimers in vitro: Considering their contrary potential as biocompatible entity and drug molecule in cancer.* INTERNATIONAL JOURNAL OF PHARMACEUTICS. 2014; 461(1-2) 391-402. IF: 3.65. Quartile: 1.
- Shcharbin D; Shcharbina N; Milowska K; de la Mata FJ; Munoz-Fernández MA; Mignani S; Gomez-Ramirez R; Majoral JP; Bryszewska M. *Interference of cationic polymeric nanoparticles with clinical chemistry tests-Clinical relevance.* INTERNATIONAL JOURNAL OF PHARMACEUTICS. 2014; 473(1-2) 599-606. IF: 3.65. Quartile: 1.
- Martin-Echevarria E; Serrano-Villar S; Sainz T; Moreno A; Casado JL; Dronda F; Elias MJP; Navas E; Zapata MR; Moreno S. *Development of tuberculosis in human immunodeficiency virus infected patients receiving antiretroviral therapy.* INTERNATIONAL JOURNAL OF TUBERCULOSIS AND LUNG DISEASE. 2014; 18(9) 1080-1084. IF: 2.315. Quartile: 3.
- Guzman-Fulgencio M; Jimenez JL; Jimenez-Sousa MA; Bellon JM; Garcia-Álvarez M; Soriano V; Gijon-Vidaurreta P; Bernal-Morell E; Viciana P; Munoz-Fernández MA; Resino S. *ACSM4 Polymorphisms Are Associated With Rapid AIDS Progression in HIV-Infected Patients.* JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2014; 65(1) 27-32. IF: 4.556. Quartile: 1.
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- and Ribavirin Reduces CD4 T-Cell-Associated HIV-1 DNA in HIV-1/Hepatitis C Virus-Coinfected Patients.* JOURNAL OF INFECTIOUS DISEASES. 2014; 209(9) 1315-1320. IF: 5.997. Quartile: 1.
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 - Ferrando-Martínez S; Lorente R; Gurbido D; De Jose MI; Leal M; Munoz-Fernández MA; Correa-Rocha R. *Low Thymic Output, Peripheral Homeostasis Deregulation, and Hastened Regulatory T Cells Differentiation in Children with 22q11.2 Deletion Syndrome.* JOURNAL OF PEDIATRICS. 2014; 164(4) 882-889. IF: 3.79. Quartile: 1.
 - Arnaiz E; Vacas-Cordoba E; Galan M; Pion M; Gomez R; Munoz-Fernández MAA; de la Mata FJ. *Synthesis of Anionic Carbosilane Dendrimers via "Click Chemistry" and Their Antiviral Properties Against HIV.* JOURNAL OF POLYMER SCIENCE PART A-POLYMER CHEMISTRY. 2014; 52(8) 1099-1112. IF: 3.113. Quartile: 1.
 - Vacas-Cordoba E; Climent N; De La Mata FJ; Plana M; Gomez R; Pion M; Garcia F; Munoz-Fernández MA. *Dendrimers as nonviral vectors in dendritic cell-based immunotherapies against human immunodeficiency virus: steps toward their clinical evaluation.* NANOMEDICINE. 2014; 9(17) 2683-2702. IF: 5.413. Quartile: 1.
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	Number of documents	IF
Own publications	13	61.7
Joint publications	23	107.2
First-decile publications	13	87.4
First-quartile publications	33	161.2
Second-quartile publications	1	3.3
Third-quartile publications	2	4.5
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	36	169.0



Immuno-oncology

Group director: PALOMA SÁNCHEZ-MATEOS RUBIO

Type: Consolidated

Research programs

- ▶ P1: Cell migration and adhesion (organization and regulation of the cytoskeleton, cell polarity in extravasation of tumor cells, invasion of 3D matrices).
- ▶ P2: Macrophages in inflammatory diseases.
- ▶ P3: Chemokines and their receptors.

Group members

- **Ana Estecha Palomero:** ISCIII Support.
- **Alejandra Gutiérrez González:** Predoctoral.
- **Amaya Rocío Puig Kröger:** Miguel Servet.
- **Rafael Samaniego García:** Support technician.
- **Paloma Sánchez-Mateos Rubio:** Group director.
- **Blanca Soler Palacios:** Predoctoral.
- **Julia Villarejo Gómez:** Predoctoral.

Research projects – Competitive calls

- Principal investigator: Amaya Rocío Puig Kröger
Title: Polarización de macrófagos en artritis reumatoide: efecto del metotrexato.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Amaya Rocío Puig Kröger
Title: Artritis reumatoide: mecanismos fisiopatológicos e identificación de posibles dianas terapéuticas.
Funding body: Comunidad de Madrid
Start date: 2012
End date: 2015
- Principal investigator: Paloma Sánchez-Mateos Rubio
Title: Microambiente inflamatorio del melanoma humano: interacciones recíprocas tumor-estroma-tumor y significado clínico del estado de polarización de los macrófagos asociados a tumor.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016
- Principal investigator: Amaya Rocío Puig Kröger
Title: Biomarcadores de respuesta terapéutica y de hepatotoxicidad a anti-folatos en enfermedades inflamatorias.
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017

Publications

Total Impact Factor: 16.2

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Arroyo-Villa I; Bautista-Caro MB; Balsa A; Aguado-Acin P; Bonilla-Hernan MG; Plasencia C; Villalba A; Nuno L; Puig-Kroger A; Martin-Mola E; Miran-

da-Carus ME. *Constitutively altered frequencies of circulating follicular helper T cell counterparts and their subsets in rheumatoid arthritis.* ARTHRITIS RESEARCH & THERAPY. 2014; 16(6). IF: 3.753. Quartile: 2.

- Sierra-Filardi E; Nieto C; Dominguez-Soto A; Barroso R; Sánchez-Mateos P; Puig-Kroger A; López-Bravo M; Joven J; Ardavin C; Rodríguez-Fernández JL; Sánchez-Torres C; Mellado M; Corbi AL. *CCL2 Shapes Macrophage Polarization by GM-CSF and M-CSF: Identification of CCL2/CCR2-Dependent Gene Expression Profile.* JOURNAL OF IMMUNOLOGY. 2014; 192(8) 3858-3867. IF: 4.922. Quartile: 1.
- Samaniego R; Palacios BS; Domínguez-Soto A; Vidal C; Salas A; Matsuyama T; Sánchez-Torres C; de la Torre I; Miranda-Carus ME; Sánchez-Mateos P; Puig-Kroger A. *Macrophage uptake and accumulation of folates are polarization-dependent in vitro and in vivo and are regulated by activin A.* JOURNAL OF LEUKOCYTE BIOLOGY. 2014; 95(5) 797-808. IF: 4.289. Quartile: 1.
- Bautista-Caro MB; Arroyo-Villa I; Castillo-Gallego C; de Miguel E; Peiteado D; Plasencia-Rodríguez C; Villalba A; Sánchez-Mateos P; Puig-Kroger A; Martín-Mola E; Miranda-Carus ME. *Decreased Frequencies of Circulating Follicular Helper T Cell Counterparts and Plasmablasts in Ankylosing Spondylitis Patients Naïve for TNF Blockers.* PLOS ONE. 2014; 9(9). IF: 3.234. Quartile: 1.

	Number of documents	IF
Own publications	1	4.3
Joint publications	3	11.9
First-decile publications	0	0.0
First-quartile publications	3	12.4
Second-quartile publications	1	3.8
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	4	16.2

Autoimmune systemic diseases

Group director: LUIS CARREÑO PÉREZ

Type: Consolidated

Research lines

- ▶ L1: Immune-mediated inflammatory diseases.
- ▶ L2: Rheumatoid arthritis.

Group members

- **Elena Becerra Fernández:** Predoctoral.
- **Luis Carreño Pérez:** Senior researcher.
- **Carlos Manuel González Fernández:** Postdoctoral.
- **Diana Carolina Hernández Flórez:** Predoctoral.
- **Francisco José López Longo:** Senior researcher.
- **Indalecio Monteagudo Sáez:** Postdoctoral.
- **María Montoro Álvarez:** Predoctoral.
- **Esperanza Naredo Sánchez:** Senior researcher.
- **Francisco Javier Rivera Redondo:** Postdoctoral.
- **Marilyn Salvat Lago:** Predoctoral.
- **Inmaculada de la Torre Ortega:** Postdoctoral.
- **Larissa Elena Valor Méndez:** Postdoctoral.

Research projects – Competitive calls

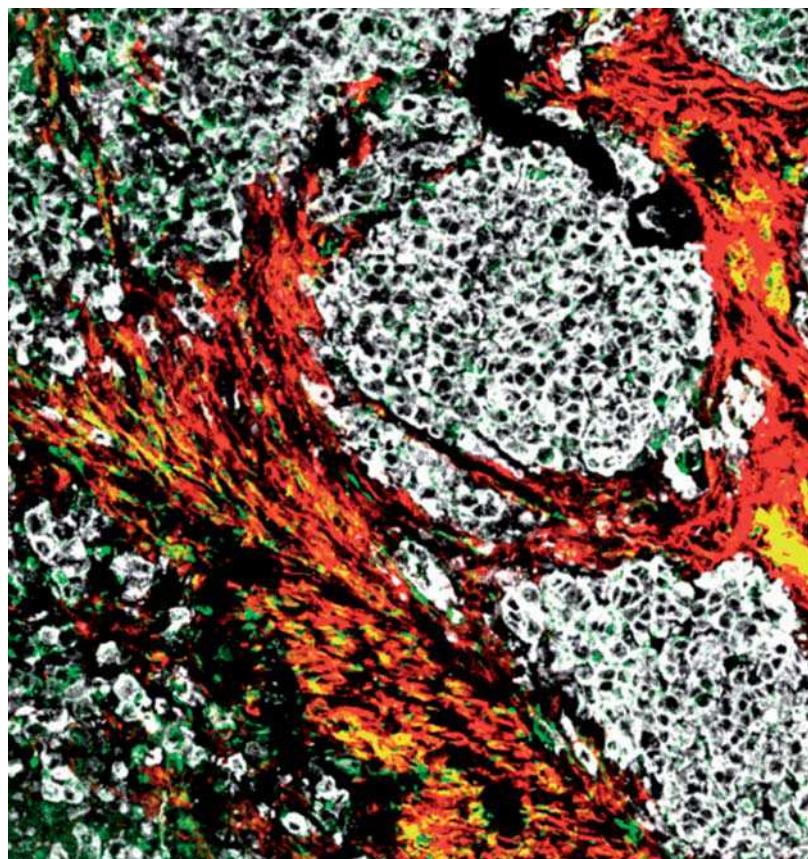
- Principal investigator: Luis Carreño Pérez

Title: Remisión clínica, serología, fenotípica y ecografía en pacientes con artritis reumatoide respondedores a terapias biológicas.

Funding body: Instituto de Salud Carlos III

Start date: 2012

End date: 2014



Clinical practice guidelines

Authors	Title	Publication
Iagnocco A; Porta F; Cuomo G; Delle Sedie A; Filippucci E; Grassi W; Sakellariou G; Epis O; Adinolfi A; Ceccarelli F; De Lucia O; Di Geso L; Di Sabatino V; Gabba A; Gattamelata A; Gutierrez M; Massaro L; Massarotti M; Perricone C; Picerno V; Ravagnani V; Riente L; Scioscia C; Naredo E; Filippou G	The Italian MSUS Study Group recommendations for the format and content of the report and documentation in musculoskeletal ultrasonography in rheumatology	RHEUMATOLOGY
Iagnocco A; Naredo E; Wakefield R; Bruyn GAW; Collado P; Jousse-Joulin S; Finzel S; Ohrndorf S; Delle Sedie A; Backhaus M; Berner-Hammer H; Gandjbakhch F; Kaeley G; Loeuille D; Moller I; Terslev L; Aegerter P; Aydin S; Balint PV; Filippucci E; Mandl P; Pineda C; Roth J; Magni-Manzoni S; Tzaribachev N; Schmidt WA; Conaghan PG; D'Agostino MA	Responsiveness in Rheumatoid Arthritis. A Report from the OMERACT 11 Ultrasound Workshop	JOURNAL OF RHEUMATOLOGY
Bruyn GAW; Hanova P; Iagnocco A; d'Agostino MA; Moller I; Terslev L; Backhaus M; Balint PV; Filippucci E; Baudoin P; van Vugt R; Pineda C; Wakefield R; Garrido J; Pecha O; Naredo E	Ultrasound definition of tendon damage in patients with rheumatoid arthritis. Results of a OMERACT consensus-based ultrasound score focusing on the diagnostic reliability	ANNALS OF THE RHEUMATIC DISEASES

Patents

- Title: Manual para la creación de una unidad funcional de terapias biológicas en pacientes con artritis crónicas
Reference: Número de registro: 16/2013/5179
Owner: FIBHGM
Inventors: Luis Carreño, Inmaculada de la Torre, Larisa Valor, Tamara del Río, Vicente Escudero, Diana Hernández, Carmen Rodríguez

Publications

Total Impact Factor: 96.9

Publications in journals with impact factor indexed in the Journal Citation Reports

- Naredo E; Uson J; Jimenez-Palop M; Martinez A; Vicente E; Brito E; Rodriguez A; Cornejo FJ; Castaneda S; Martinez MJ; Sanz J; Moller I; Batlle-Gualda E; Garrido J; Pascual E. *Ultrasound-detected musculoskeletal urate crystal deposition: which joints and what findings should be assessed for diagnosing gout?* ANNALS OF THE RHEUMATIC DISEASES. 2014; 73(8) 1522-1528. IF: 10.377. Quartile: 1.
- Bruyn GAW; Hanova P; Iagnocco A; d'Agostino MA; Moller I; Terslev L; Bachkau M; Balint PV; Filippucci E; Baudoin P; van Vugt R; Pineda C; Wakefield R; Garrido J; Pecha O; Naredo E. *Ultrasound definition of tendon damage in patients with rheumatoid arthritis. Results of a OMERACT consensus-based ultrasound score focussing on the diagnostic reliability.* ANNALS OF THE RHEUMATIC DISEASES. 2014; 73(11) 1929-1934. IF: 10.377. Quartile: 1.
- Terslev L; Naredo E; Iagnocco A; Balint PV; Wakefield RJ; Aegeerter P; Aydin SZ; Bachta A; Hammer HB; Bruyn GAW; Filippucci E; Gandjbakhch F; Mandl P; Pineda C; Schmidt WA; D'Agostino MA. *Early Illness Features Associated With Mortality in the Juvenile Idiopathic Inflammatory Myopathies.* ARTHRITIS CARE & RESEARCH. 2014; 66(5) 741-748. IF: 4.713. Quartile: 1.
- Ferreiro-Iglesias A; Calaza M; Perez-Pampin E; Longo FJL; Marenco JL; Blanco FJ; Narvaez J; Navarro F; Canete JD; de la Serna AR; Gonzalez-Alvaro I; Herrero-Beaumont G; Pablos JL; Balsa A; Fernandez-Gutierrez B; Caliz R;

Gomez-Reino JJ; Gonzalez A. *Lack of replication of interactions between polymorphisms in rheumatoid arthritis susceptibility: case-control study.* ARTHRITIS RESEARCH & THERAPY. 2014; 16(5). IF: 3.753. Quartile: 2.

- Garcia-Bermudez M; Lopez-Mejias R; Genre F; Castaneda S; Llorca J; Gonzalez-Juanatey C; Corrales A; Ubilla B; Miranda-Filloy JA; Pina T; Gomez-Vaquero C; Rodriguez-Rodriguez L; Fernandez-Gutierrez B; Balsa A; Pascual-Salcedo D; Lopez-Longo FJ; Carreira P;. *Interferon regulatory factor 5 genetic variants are associated with cardiovascular disease in patients with rheumatoid arthritis.* ARTHRITIS RESEARCH & THERAPY. 2014; 16(4). IF: 3.753. Quartile: 2.
- Collado A; Gomez E; Coscolla R; Sunyol R; Sole E; Rivera J; Altarriba E; Carbonell J; Castells X. *Work, family and social environment in patients with Fibromyalgia in Spain: an epidemiological study: EPIFFAC study.* BMC HEALTH SERVICES RESEARCH. 2014; 14. IF: 1.712. Quartile: 2.
- Collado P; Gamir ML; Lopez-Robledillo JC; Merino R; Modesto C; Monteagudo I. *Detection of synovitis by ultrasonography in clinically inactive juvenile idiopathic arthritis on and off medication.* CLINICAL AND EXPERIMENTAL RHEUMATOLOGY. 2014; 32(4) 597-603. IF: 2.724. Quartile: 2.
- Naredo E; Monteagudo I. *Doppler techniques.* CLINICAL AND EXPERIMENTAL RHEUMATOLOGY. 2014; 32(1) S12-S19. IF: 2.724. Quartile: 2.
- Nieto-Gonzalez JC; Monteagudo I; Bello N; Martinez-Estupinan L; Naredo E; Carreno L. *Salivary gland ultrasound in children: a useful tool in the diagnosis of juvenile Sjogren's syndrome.* CLINICAL AND EXPERIMENTAL RHEUMATOLOGY. 2014; 32(4) 578-580. IF: 2.724. Quartile: 2.
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- de Andres C; Tejera-Alhambra M; Alonso B; Valor L; Teijeiro R; Ramos-Medina R; Mateos D; Faure F; Sanchez-Ramon S. *New regulatory CD19(+)/CD25(+) B-cell subset in clinically isolated syndrome and multiple sclerosis relapse.*

- Changes after glucocorticoids.* JOURNAL OF NEUROIMMUNOLOGY. 2014; 270(1-2) 37-44. IF: 2.467. Quartile: 3.
- D'Agostino MA; Boers M; Kirwan J; van der Heijde D; Ostergaard M; Schett G; Landewe RB; Maksymowich WP; Naredo E; Dougados M; Iagnocco A; Bingham CO; Brooks PM; Beaton DE; Gandjbakhch F; Gossec L; Guillemin F; Hewlett SE; Kloppenburg M; March L; Mease PJ;. *Updating the OMERACT Filter: Implications for Imaging and Soluble Biomarkers.* JOURNAL OF RHEUMATOLOGY. 2014; 41(5) 1016-1024. IF: 3.187. Quartile: 2.
 - Iagnocco A; Naredo E; Wakefield R; Bruyn GAW; Collado P; Jousse-Joulin S; Finzel S; Ohrndorf S; Delle Sedie A; Backhaus M; Berner-Hammer H; Gandjbakhch F; Kaeley G; Loeuille D; Moller I; Terslev L; Aegeerter P; Aydin S; Balint PV; Filippucci E; Mandl P; Pi. *Responsiveness in Rheumatoid Arthritis. A Report from the OMERACT 11 Ultrasound Workshop.* JOURNAL OF RHEUMATOLOGY. 2014; 41(2) 379-382. IF: 3.187. Quartile: 2.
 - Fernández-Nebro A; Marenco JL; López-Longo F; Galindo M; Hernandez-Cruz BE; Narvaez J; Rua-Figueroa I; Raya-Álvarez E; Zea A; Freire M; Sánchez-Atrio AI; García-Vicuna R; Pego-Reigosa JM; Manrique-Arija S; Nieves-Martin L; Carreno L. *The effects of rituximab on the lipid profile of patients with active systemic lupus erythematosus: results from a nationwide cohort in Spain (LESIMAB).* LUPUS. 2014; 23(10) 1014-1022. IF: 2.197. Quartile: 3.
 - López-Mejías R; Genre F; García-Bermudez M; Ubilla B; Castaneda S; Llorca J; González-Juanatey C; Corrales A; Miranda-Filloy JA; Pina T; Gomez-Vaquero C; Rodríguez-Rodríguez L; Fernández-Gutierrez B; Balsa A; Pascual-Salcedo D; López-Longo FJ; Carreira P;. *Lack of Association between ABO, PPAP2B, ADAMST7, PIK3CG, and EDNRA and Carotid Intima-Media Thickness, Carotid Plaques, and Cardiovascular Disease in Patients with Rheumatoid Arthritis.* MEDIATORS OF INFLAMMATION. 2014. IF: 3.236. Quartile: 2.
 - Vlad V; Berghea F; Iagnocco A; Micu M; Damjanov N; Skakic V; Prodanovic S; Radunovic G; Szkudlarek M; Nestorova R; Petranova T; Kakavouli J; Porta F; Perricone C; Ciechomska A; Moller I; Varzaru L; Peric P; Dejaco C; Bojinca M; Fodor D; Milicescu M; Nared. *Inter & Intra-Observer Reliability Of Grading Ultrasound Videoclips With Hand Pathology In Rheumatoid Arthritis By Using Non- Sophisticated Internet Tools (LUMINA Study).* MEDICAL ULTRASOUND. 2014; 16(1) 32-36. IF: 1.108. Quartile: 4.
 - Sánchez-Ramon S; Valor L. *Therapy with intravenous gammaglobulins in systemic inflammatory autoimmune diseases: New indications?* MEDICINA CLINICA. 2014; 143(3) 130-133. IF: 1.417. Quartile: 2.
 - Valor L; Monteagudo I; de la Torre I; Fernández CG; Montoro M; Longo JL; Carreno L. *Young male patient diagnosed with cutaneous polyarteritis nodosa successfully treated with etanercept.* MODERN RHEUMATOLOGY. 2014; 24(4) 688-689. IF: 2.397. Quartile: 3.
 - Docampo E; Escaramis G; Gratacos M; Villatoro S; Puig A; Kogevinas M; Collado A; Carbonell J; Rivera J; Vidal J; Alegre J; Estivill X; Rabionet R. *Genome-wide analysis of single nucleotide polymorphisms and copy number variants in fibromyalgia suggest a role for the central nervous system.* PAIN. 2014; 155(6) 1102-1109. IF: 5.213. Quartile: 1.
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 - Genre F; López-Mejías R; García-Bermudez M; Castaneda S; González-Juanatey C; Llorca J; Corrales A; Ubilla B; Miranda-Filloy JA; Pina T; Gomez-Vaquero C; Rodríguez-Rodríguez L; Fernández-Gutierrez B; Balsa A; Pa. *Osteoprotegerin CGA Haplotype Protection against Cerebrovascular Complications in Anti-CCP Negative Patients with Rheumatoid Arthritis.* PLOS ONE. 2014; 9(9). IF: 3.234. Quartile: 1.
 - Iagnocco A; Porta F; Cuomo G; Delle Sedie A; Filippucci E; Grassi W; Sakellarious G; Epis O; Adinolfi A; Ceccarelli F; De Lucia O; Di Geso L; Di Sabatino V; Gabba A; Gattamelata A; Gutierrez M; Massaro L; Massarotti M; Perricone C; Picerno V; Ravagnani V;. *The Italian MSUS Study Group recommendations for the format and content of the report and documentation in musculoskeletal ultrasonography in rheumatology.* RHEUMATOLOGY. 2014; 53(2) 367-373. IF: 4.475. Quartile: 1.
 - Magni-Manzoni S; Collado P; Jousse-Joulin S; Naredo E; D'Agostino MA; Muratore V; Merli P; Roth J. *Current state of musculoskeletal ultrasound in*

paediatric rheumatology: results of an international survey. RHEUMATOLOGY. 2014; 53(3) 491-496. IF: 4.475. Quartile: 1.

- Naredo E; Hinojosa M; Valor L; Hernandez-Florez D; Mata-Martínez C; Serrano-Benavente B; Del Rio T; Bello N; Montoro M; Nieto-González JC; González CM; López-Longo. *Does ultrasound-scored synovitis depend on the pharmacokinetics of subcutaneous anti-TNF agents in patients with rheumatoid arthritis?* RHEUMATOLOGY. 2014; 53(11) 2088-2094. IF: 4.475. Quartile: 1.
- Rivera J; Vallejo MA; Offenbacher M. *Classifying fibromyalgia patients according to severity: the combined index of severity in fibromyalgia.* RHEUMATOLOGY INTERNATIONAL. 2014; 34(12) 1683-1689. IF: 1.516. Quartile: 3.
- Cobo-Ibanez T; Loza-SantaMaría E; Pego-Reigosa JM; Marques AO; Rua-Figueroa I; Fernández-Nebro A; Caliz RC; Longo FJL; Munoz-Fernández S. *Efficacy and safety of rituximab in the treatment of non-renal systemic lupus erythematosus: A systematic review.* SEMINARS IN ARTHRITIS AND RHEUMATISM. 2014; 44(2) 175-185. IF: 3.925. Quartile: 1.

	Number of documents	IF
Own publications	11	42.0
Joint publications	15	54.8
First-decile publications	3	26.0
First-quartile publications	10	55.6
Second-quartile publications	11	31.6
Third-quartile publications	4	8.6
Fourth-quartile publications	1	1.1
Nonindexed publications	0	-
Total publications	26	96.9

Infections in pediatric patients

Group director: M^a LUISA NAVARRO GÓMEZ

Type: Consolidated

Research programs and lines

P1: Clinical and epidemiological research on HIV infection and its complications in pediatric patients

- ▶ L1: HIV.
- ▶ L2: Vaccines.
- ▶ L3: HIV/HCV coinfection.

P2: Infectious diseases in pediatric patients

- ▶ L1: Respiratory virus infection in immunodepressed patients.
- ▶ L2: Bronchiolitis-RSV.
- ▶ L3: Meningitis.
- ▶ L4: Pertussis.
- ▶ L5: Pediatric tuberculosis.
- ▶ L6: Invasive fungal infection.
- ▶ L7: Antibiotic resistance in pediatric patients (ARPEC).
- ▶ L8: Congenital CMV infection (REDCMV).
- ▶ L9: Infection by group A *Streptococcus*.
- ▶ L10: Fungal infection in the oncology-hematology patient.
- ▶ L11: Infection in patients with sickle-cell anemia.
- ▶ L12: Bone and joint infection.

Group members

- Natalia Barreiro Cerdeira: Predoctoral.
- Carolina Fernández McPhee: Predoctoral.
- Felipe González Martínez: Predoctoral.
- María Isabel González Sánchez: Predoctoral.
- Belén Hernández Rupérez: Predoctoral.
- Teresa Hernández-Sampelayo Mato: Postdoctoral.
- María Luisa Navarro Gómez: Postdoctoral.
- Elena Rincón López: Predoctoral.
- Rosa María Rodríguez Fernández: Predoctoral.
- Jesús Saavedra Lozano: Postdoctoral.
- Mar Santos Sebastián: Predoctoral.
- M^a Carmen Suárez Arrabal: Predoctoral.

INFECTIONS IN PEDIATRIC PATIENTS

Research projects – Competitive calls

- Principal investigator: María Luisa Navarro Gómez
Title: Estudio de la coinfección por el virus de la hepatitis C en una cohorte de pacientes infectados por VIH por trasmisión vertical.
Funding body: Gilead Sciences, S.L.
Start date: 2014
End date: 2015

Clinical practice guidelines

Authors	Title	Publication
Moreno-Pérez D, Andrés Martín A, Tagarro García A, Escrivano Montaner A, Figuerola Mulet J, García García JJ, Moreno-Galdó A, Rodrigo Gonzalo de Lliria C, Saavedra Lozano J.	Community acquired pneumonia in children: Treatment of complicated cases and risk patients. Consensus statement by the Spanish Society of Paediatric Infectious Diseases (SEIP) and the Spanish Society of Paediatric Chest Diseases (SENP)	ANALES DE PEDIATRÍA

Publications

Total Impact Factor: 31.3

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Martínez FG; Gomez MLN; Lozano JS; Sebastián MMS; Fernández RR; Sánchez MG; Mansilla EC; Matos THS. *Emergence of invasive pneumococcal disease caused by non-vaccine serotypes in the era of the 7-valent conjugate vaccine*. ANALES DE PEDIATRÍA. 2014; 80(3) 173-180. IF: 0.833. Quartile: 4.

- Sainz T; Díaz L; Navarro ML; Rojo P; Blazquez D; Ramos JT; de Jose MI; Álvarez-Fuente M; Serrano-Villar S; Mellado MJ; Munoz-Fernández MA. *Cardiovascular biomarkers in vertically HIV-infected children without metabolic abnormalities*. ATHEROSCLEROSIS. 2014; 233(2) 410-414. IF: 3.994. Quartile: 1.
- Prieto LM; González-Tome MI; Munoz E; Fernández-Ibieta M; Soto B; Álvarez A; Navarro ML; Roa MA; Beceiro J; de Jose MI; Olabarrieta I; Lora D; Ramos JT. *Birth defects in a cohort of infants born to HIV-infected women in Spain, 2000-2009*. BMC INFECTIOUS DISEASES. 2014; 14. IF: 2.613. Quartile: 2.
- García-Navarro C; García I; Medin G; Ramos-Arnador JT; Navarro-Gomez M; Mellado-Pena MJ; Gomez MID; Cortes M; Crespo BZ; Munoz-Fernández MA; Gamero DB; González-Tome MI. *Psychosocial aspects in a cohort of vertically transmitted human immunodeficiency virus-infected adolescents*. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2014; 32(10) 631-637. IF: 2.172. Quartile: 3.
- Sainz T; Ortega-Hernandez A; Serrano-Villar S; Navarro ML; Rojo P; Ramos JT; Mellado MJ; Díaz L; Álvarez M; Estrada V; Gomez-Garre D; Munoz-Fernández MA. *Functionally Defective High-Density Lipoproteins Are Related to Heightened T-Cell Activation in Vertically HIV-Infected Adolescents*. JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2014; 66(3) 265-269. IF: 4.556. Quartile: 1.
- Sainz T; Álvarez-Fuente M; Navarro ML; Díaz L; Rojo P; Blazquez D; de Jose MI; Ramos JT; Serrano-Villar S; Martínez J; Medrano C; Munoz-Fernández MA; Mellado MJ. *Subclinical Atherosclerosis and Markers of Immune Activation in HIV-Infected Children and Adolescents: The CaroVIH Study*. JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2014; 65(1) 42-49. IF: 4.556. Quartile: 1.
- Rodríguez R; Ramilo O. *Respiratory syncytial virus: How, why and what to do*. JOURNAL OF INFECTION. 2014; 68: S115-S118. IF: 4.441. Quartile: 1.
- Jimenez-Montero B; Beceiro J; de Jose-Gomez MI; González-Tome MI; Gurbindo-Gutierrez D; Martínez-Perez J; Mellado-Pena MJ; Navarro-Gomez ML; Roa-Francia MA; Rojo-Conejo P; Saavedra-Lozano J; de Ory SJ. *Once-daily*

Antiretroviral Therapy in a Cohort of HIV-Infected Children and Adolescents. PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2014; 33(10) 1052-1054. IF: 2.723. Quartile: 1.

- Jimenez-Montero B; Baquero-Artigao F; Saavedra-Lozano J; Tagarro-García A; Blazquez-Gamero D; Cilleruelo-Ortega MJ; Ramos-Amador JT; Gale-Anso I; Marin N; Gomez-García R; Santiago-García B; Garrido J; López G. *Comparison of Mycobacterium lentiflavum and Mycobacterium avium-intracellular Complex Lymphadenitis.* PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2014; 33(1) 28-34. IF: 2.723. Quartile: 1.
- Santiago B; Baquero-Artigao F; Mejias A; Blazquez D; Jimenez MS; Mellado-Pena MJ. *Pediatric Drug-resistant Tuberculosis in Madrid.* PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2014; 33(4) 345-350. IF: 2.723. Quartile: 1.

	Number of documents	IF
Own publications	2	5.3
Joint publications	8	26.1
First-decile publications	0	0.0
First-quartile publications	7	25.7
Second-quartile publications	1	2.6
Third-quartile publications	1	2.2
Fourth-quartile publications	1	0.8
Nonindexed publications	0	-
Total publications	10	31.3

Immune homeostasis and regulation in diseases associated with the immune system (previously Immunology of HIV infection in pediatric patients)

Group directors: RAFAEL CORREA ROCHA (M^a DOLORES GURBINDO GUTIÉRREZ previously)

Type: Emerging

Research programs and lines

P1: Immunology of solid organ transplantation

- ▶ L1: Cellular immunotherapy in pediatric solid organ recipients.
- ▶ L2: Immune regulation and rejection in pediatric transplant recipients.

P2: Immune regulation in pediatric patients

- ▶ L1: Immune regulation in pediatric diseases associated with the immune system.
- ▶ L2: Immune regulation in maternal-fetal tolerance.

P3: Immune regulation in HIV infection

- ▶ L1: Immune regulation and homeostasis in HIV infection.



Group members

- **Rafael Correa Rocha:** Group director.
- **María Dolores Gurbindo Gutiérrez:** Senior researcher (previously Group director).
- **Jacobo López-Abente Muñoz:** Predoctoral.
- **Minia Campos Rodríguez:** Senior researcher.
- **Elena Seoane Reula:** Senior researcher.

Research projects – Competitive calls

- Principal investigator: Rafael Correa Rocha

Title: Efecto de la infección por VIH-1 en el fenotipo y actividad supresora de células Treg en pacientes adultos infectados. Correlación con parámetros virológicos y marcadores de activación.

Funding body: Instituto de Salud Carlos III

Start date: 2013

End date: 2015

- Principal investigator: María Dolores Gurbindo Gutiérrez

Title: Efecto de una intervención nutricional inmunomoduladora sobre la microbiota, translocación bacteriana, inflamación/activación inmune y respuesta a vacunas en la infección por el VIH en niños.

Funding body: Instituto de Salud Carlos III

Start date: 2014

End date: 2016

- Principal investigator: Rafael Correa Rocha

Title: Ensayo de inmunoterapia celular para prevenir el rechazo a trasplante en niños mediante el aislamiento y re-infusión de células Treg autólogas.

Funding body: Instituto de Salud Carlos III

Start date: 2015

End date: 2017

- Principal investigator: Rafael Correa Rocha

Title: Mecanismos inmunológicos implicados en la alergia a proteínas de leche en lactantes. Marcadores predictivos de evolución espontánea a tolerancia.

Funding body: SEICAP

Start date: 2014

End date: 2015

Theses

Doctoral student	Title	Director	University
Rafael Correa Rocha	Células Treg y homeostasis inmune en la infancia. Implicaciones en distintas alteraciones inmunes pediátricas	MªÁngeles Muñoz Fernández, Mª José Mellado Peña	Universidad Autónoma de Madrid

Publications

Total Impact Factor: 16.6

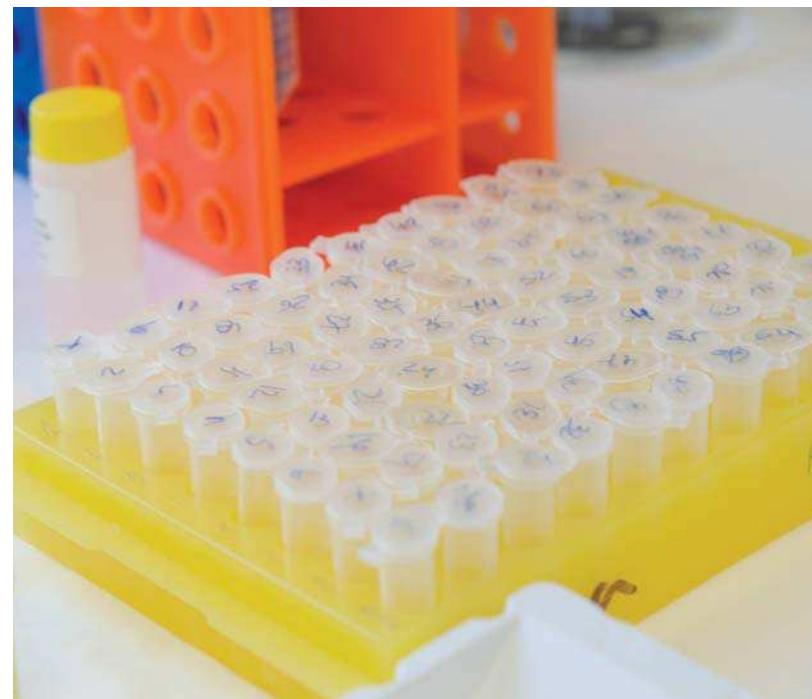
Publications in journals with impact factor indexed in the Journal Citation Reports:

- Perise-Barrios AJ; Correa-Rocha R; Álvarez S; Muñoz-Fernández MA; Pion M. *HIV-1 induces B-cell activation and class switch recombination via spleen tyrosine kinase and c-Jun N-terminal kinase pathways*. AIDS. 2014; 28(16) 2365-2374. IF: 5.554. Quartile: 1.
- Mendez-Lagares G; Jaramillo-Ruiz D; Pion M; Leal M; Muñoz-Fernández MA; Pacheco YM; Correa-Rocha R. *HIV Infection Dere-regulates the Balance Between Regulatory T Cells and IL-2-Producing CD4 T Cells by Decreasing the Expression of the IL-2 Receptor in Treg*. JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2014; 65(3) 278-282. IF: 4.556. Quartile: 1.
- Ferrando-Martínez S; Lorente R; Gurbindo D; De Jose MI; Leal M; Muñoz-Fernández MA; Correa-Rocha R. *Low Thymic Output, Peripheral Homeostasis Dere-gulation, and Hastened Regulatory T Cells Differentiation in Children with 22q11.2 Deletion Syndrome*. JOURNAL OF PEDIATRICS. 2014; 164(4) 882-889. IF: 3.79. Quartile: 1.

IMMUNE HOMEOSTASIS AND REGULATION IN DISEASES ASSOCIATED WITH THE IMMUNE SYSTEM (PREVIOUSLY IMMUNOLOGY OF HIV INFECTION IN PEDIATRIC PATIENTS)

- Jimenez-Montero B; Beceiro J; de Jose-Gomez MI; González-Tome MI; Gurbindo-Gutierrez D; Martínez-Perez J; Mellado-Pena MJ; Navarro-Gomez ML; Roa-Francia MA; Rojo-Conejo P; Saavedra-Lozano J; de Ory SJ. *Once-daily Antiretroviral Therapy in a Cohort of HIV-Infected Children and Adolescents*. PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2014; 33(10) 1052-1054. IF: 2.723. Quartile: 1.

	Number of documents	IF
Own publications	0	0.0
Joint publications	4	16.6
First-decile publications	2	9.3
First-quartile publications	4	16.6
Second-quartile publications	0	0.0
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	4	16.6



Pathogenesis of the immunoallergic response

Group director: **JOSÉ MANUEL ZUBELDIA ORTUÑO**

Type: In consolidation

Research programs and lines

P1: Mechanisms of the immunoallergic response and their regulation

- ▶ L1: Murine model of allergic bronchial asthma.
- ▶ L2: Murine model of anaphylaxis.
- ▶ L3: Regulation of the allergic response: CpG sequences.
- ▶ L4: Regulation of the allergic response: parasitosis

P2: Transgenesis and phenotyping

- ▶ L1: Phenotyping of lung and auditory functions in IGF-1 knockout mice.
- ▶ L2: Phenotyping of lung function and immunological alterations in DREAM knockout mice.

P3: Hyperoxia-induced disease

- ▶ L1: Pulmonary bronchydysplasia model in newborn rats.
- ▶ L2: Overexposure of immunological hyperoxia-induced alterations in transgenic mice.

P4: Characterization of noncommercial antigens

- ▶ L1: Foods.
- ▶ L2: Drugs.
- ▶ L3: Aeroallergens.

Group members

- **Alberto Álvarez Perea:** Predoctoral.
- **María Luisa Baeza Ochoa de Ocáriz:** Senior researcher.
- **Alicia Prieto García:** Predoctoral.
- **Pilar Tornero Molina:** Predoctoral.
- **José Manuel Zubeldia Ortúño:** Senior researcher

PATHOGENESIS OF THE IMMUNOALLERGIC RESPONSE

Publications

Total Impact Factor: 11.5

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Pedrosa M; Prieto-Garcia A; Sala-Cunill A. *Management of angioedema without urticaria in the emergency department.* ANNALS OF MEDICINE. 2014; 46(8) 607-618. IF: 3.886. Quartile: 1.
- Prieto-García A; Castells MC; Hansbro PM; Stevens RL. *Mast Cell-Restricted Tetramer-Forming Tryptases and Their Beneficial Roles in Hemostasis and Blood Coagulation.* IMMUNOLOGY AND ALLERGY CLINICS OF NORTH AMERICA. 2014; 34(2) 263. IF: 1.818. Quartile: 3.
- Álvarez-Perea A; Caralli ME; Zubeldia JM; Baeza ML. *Pork-Cat Syndrome as a Cause of Occupational Asthma.* JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2014; 24(3) 209-211. IF: 2.596. Quartile: 2.

- Zafra MP; Mazzeo C; Gamez C; Marco AR; de Zulueta A; Sanz V; Bilbao I; Ruiz-Cabello J; Zubeldia JM; del Pozo V. *Gene Silencing of SOCS3 by siRNA Intranasal Delivery Inhibits Asthma Phenotype in Mice.* PLOS ONE. 2014; 9(3). IF: 3.234. Quartile: 1.

	Number of documents	IF
Own publications	2	4.4
Joint publications	2	7.1
First-decile publications	0	0.0
First-quartile publications	2	7.1
Second-quartile publications	1	2.6
Third-quartile publications	1	1.8
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	4	11.5

Allergic diseases in pediatric patients

Group director: **ELENA ALONSO LEBRERO**

Type: Associated Clinical

Research lines

- ▶ L1: Allergic response to foods.
- ▶ L2: Allergic response to drugs.

Group members

- **Elena Alonso Lebrero:** Senior researcher.
- **Victoria Fuentes Aparicio:** Predoctoral.
- **Sonsoles Infante Herrero:** Predoctoral.
- **Lidia Zapatero Remón:** Postdoctoral.



Publications**Total Impact Factor: 4.2**

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Poza-Guedes P; Barrios Y; Fuentes V; Franco A; Sánchez-Machin I; Alonso E; Perez RG; Infante S; Zapatero L; Matheu V. *Downregulation of Angiogenesis Factors, VEGF and PDGF, after Rapid IgE Desensitization and Oral Immunotherapy in Children with Food Allergy.* BIOMED RESEARCH INTERNATIONAL. 2014. IF: 1.579. Quartile: 3.
- Callero A; Berroa F; Infante S; Fuentes-Aparicio V; Alonso-Lebrero E; Zapatero L. *Tolerance to Cephalosporins in Nonimmediate Hypersensitivity to Penicillins in Pediatric Patients.* JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2014; 24(2) 134-136. IF: 2.596. Quartile: 2.

	Number of documents	IF
Own publications	1	2.6
Joint publications	1	1.6
First-decile publications	0	0.0
First-quartile publications	0	0.0
Second-quartile publications	1	2.6
Third-quartile publications	1	1.6
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	2	4.2

AREA 6

Area coordinator:
Miguel Martín Jiménez

Translational oncology

The general research objective in the Area of Oncology in the IISGM is to generate reliable and scientifically relevant data on the individualized treatment of cancer. This objective is met through high-quality translational research enabling the selection of the antitumor treatment that provides the most options for cure with the least toxicity and 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.

Strategic axes

- ▶ A1: Promotion of alliances and collaborations in the area of oncology.
- ▶ A2: Consolidation of research lines in oncology.
- ▶ A3: Training in the molecular biology of cancer and new therapies.
- ▶ A4: Consolidation of infrastructure.

Strategic lines

Axis 1: Promotion of alliances and collaborations in the area of oncology

1. Promoting collaboration

- Intramural collaboration with laboratories and groups from our national center.
- National collaboration with groups from other centers through networks (eg, the Breast Cancer RETIC) and national cooperative groups (eg, GEICAM, TTD, and GECP).
- International collaboration with institutions from other countries (University of North Carolina, University of St Louis), international biotechnology companies (NanoString), and international cooperative groups (eg, TRIO, BIG, and EBCTCG).

2. Participation in multicenter trials of EMP

Axis 2: Consolidation of research lines in oncology

1. Strengthening of basic, translational, and clinical research lines

Strategic objectives:

- Consolidate the research potential of the hematopoietic stem cell group.
- Develop the research capacity of the hematologic malignancy group.
- Develop the molecular biology laboratory of the Medical Oncology Service.

(Continued on next page)

Strategic lines (cont.)

2. Development of research programs that enable the selection of antitumor treatment adjusted to the type of tumor and the characteristics of the patient

Strategic objectives:

- Identify the differential genomic characteristics of the tumor
- Identify molecular targets that can be inhibited by drugs
- Identify the genetic characteristics of patients that affect the response to and toxicity of antitumor treatment
- Identify circulating predictors of response to drug therapy (eg, circulating tumor cells, microRNAs).

3. Development of new antitumor drugs aimed at identifiable targets in the tumor in collaboration with the pharmaceutical industry

4. Development of cultures of human breast cancer cell lines that enable therapeutic hypotheses to be tested in vitro

5. Experimental models in carcinomatosis

6. Technical development of cytoreductive surgery and hyperthermic intraoperative intraperitoneal chemotherapy

7. Increased capacity for obtaining resources through the consolidation of new PIs

Strategic objectives:

- Apply for calls from the National Plan.
- Apply for local/regional public calls.
- Apply for calls from the private sector.

8. Increased scientific output

Strategic objectives:

- Increase the number of basic/translational publications.
- Increase the number of clinical/clinical trial publications.

Axis 3: Training

1. Increase in possibilities for postgraduate training

Strategic objectives:

- Promote preparation of doctoral theses among those members of the group who have not yet prepared one.
- Incorporate predoctoral fellows.
- Increase the interest of medical residents in preparing their doctoral thesis.

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Strategic lines (*cont.*)

2. Development of academic programs for young staff physicians and residents in order to provide them with an introduction to the field of translational research in oncology

Axis 4: Consolidation of infrastructures

1. Development of an oncology-based molecular biology laboratory in the Medical Oncology Service

- In collaboration with other laboratories of the HGUGM.
- In collaboration with other national institutions.
- In collaboration with international researchers/centers.

2. Development of a dedicated clinical research unit that is organized to enable efficient study of antitumor drugs from the earliest stages (Phase I) to the most advanced clinical stages of development (Phase III)

Structure of AREA 6

Translational oncology



- ▶ Translational medical oncology and personalized cancer therapy
- ▶ Interdisciplinary oncology and biotechnology
- ▶ Genetics and clinical aspects of hematologic malignancy and hematopoietic stem cell transplant
- ▶ Surgical oncology
- ▶ Hematology-oncology in pediatric patients
- ▶ Angiogenesis of brain tumors

Translational medical oncology and personalized cancer therapy

Group director: **MIGUEL MARTÍN JIMÉNEZ**

Type: Consolidated

Research lines

- ▶ L1: Adjuvant chemotherapy of breast cancer.
- ▶ L2: Prediction of the response of breast cancer to adjuvant therapy using monogenetic and polygenetic models.
- ▶ L3: Prognostic and predictive importance of the april protein and gene in breast cancer.
- ▶ L4: Prognostic and predictive value of circulating tumor cells in breast cancer.
- ▶ L5: Predictive value of the efficacy and toxicity of the polymorphisms of the enzymes involved in the metabolism of capecitabine in women with breast cancer.
- ▶ L6: Clinical, genetic, and molecular characterization of patients with hereditary cancer predisposition syndromes.
- ▶ L7: Role of miRNAs as biomarkers of early diagnosis in hereditary breast cancer. Expression profiles in tumors, blood, and serum.
- ▶ L8: Validation of a new concept of anticancer therapy based on dsRNA nanocomplexes. In vivo analysis of biomarkers and tumor vectorization systems.
- ▶ L9: Study of prognostic and predictive factors in the response to castration-resistant prostate carcinoma.
- ▶ L10: Study of molecular prognostic factors in infiltrating bladder cancer treated with radical cystectomy and adjuvant chemotherapy.
- ▶ L11: Study of new medical treatment schedules for metastatic colorectal cancer.
- ▶ L12: Intraperitoneal therapy for colorectal cancer and gastric cancer.
- ▶ L13: Study of germinal polymorphisms and their relationship with the toxicity of capecitabine and 5-fluorouracil in colorectal cancer.
- ▶ L14: Circulating tumor cells in rectal cancer with synchronous liver metastasis: response to different therapeutic strategies (chemotherapy, chemoradiotherapy, and surgery for rectal cancer and/or liver metastases) and clinical-developmental correlations.

- ▶ L15: Study of the pattern of tumor growth in patients with colorectal cancer.
- ▶ L16: Risk of early ovarian failure in premenopausal patients with epithelial breast cancer treated with chemotherapy based on docetaxel according to ovarian reserve.
- ▶ L17: Pharmacogenomics applied to aromatase inhibitors (anastrozole) in combination with pure antiestrogens (fulvestrant), impact on efficacy and toxicity profile.
- ▶ L18: Oncotromb1201 project (Study of risk genomic profiles in venous thromboembolism in patients with cancer undergoing treatment with chemotherapy in hospital). Translational study.
- ▶ L19: Clinical, genetic, and molecular characterization of patients with hereditary cancer predisposition syndromes (FIBHGM).
- ▶ L20: Project on clinical and histopathological characterization of familial melanoma in Spain (Fam-GEM-1) (Spanish Multidisciplinary Group on Melanoma).
- ▶ L21: Inflammatory microenvironment of human melanoma: tumor-stroma/tumor reciprocal interactions and clinical significance of polarization of tumor associated macrophages.
- ▶ L22: Search for genomic predictors of response to neoadjuvant chemotherapy with docetaxel and carboplatin in patients with triple-negative breast cancer.
- ▶ L23: Development of murine breast cancer tumorgrafts to study the effect of docetaxel (Taxotere) and carboplatin as single agents and in combination in terms of antitumor activity and development of metastasis.
- ▶ L24: Toxicity profile of taxane-based (neo)adjuvant chemotherapy regimens in localized or locally advanced (I-III) stages of breast cancer.
- ▶ L25: Triple-negative breast cancer: prediction of response to neoadjuvant docetaxel-carboplatin by means of characterization of TILs and immune signatures based on massive RNA sequencing.

Group members

- Rosa M^a Álvarez Álvarez: Predoctoral.
- Sandra María Andrés Ratón: Support technician.
- Jose Ángel Arranz Arija: Predoctoral.
- Carolina Ayllón García: Predoctoral.
- Monserrat Blanco Codesido: Postdoctoral.
- Alba Blanco Velilla: Data Management.
- Óscar Bueno Zamora: Predoctoral.
- Aitana Calvo Ferrández: Predoctoral.
- Mercedes Cavanagh Podesta: Predoctoral.
- María Cebollero Presmanes: Postdoctoral.
- Roberto Chinchón Palacios: Predoctoral.
- Ana Soledad Corcuera Sánchez: Data Management.
- María del Monte Millán: Data Management.
- Sonia Delgado Ordóñez: Predoctoral.
- Elena Durán Verdasco: Predoctoral.
- Isabel Echevarría Díaz-Guardamino: Predoctoral.
- Yolanda Escobar Álvarez: Predoctoral.
- Edward José Espinal Domínguez: Predoctoral.
- Magdalena Esteban Arranz: Predoctoral.
- Sara Fernández González: Data Management.
- Sandra Flórez Peñasco: Data Management.
- Fernando Galindo Barreales: Administration.
- María Iria Gallego Gallego: Predoctoral.
- M^a Pilar García Alfonso: Postdoctoral.
- Ramón García Gómez: Postdoctoral.
- Gonzalo García González: Predoctoral.
- Elsa García Laborda: Predoctoral.
- Milagros González Rivera: Postdoctoral.
- Ricardo González del Val Subirats: Predoctoral.
- Ana Herrero Heras: Predoctoral.
- Yolanda Jerez Gilarranz: Post-MIR FIBHGM.
- María Elena Lahoz León: Predoctoral.
- Santiago Lizárraga Bonelli: Predoctoral.
- Miriam Lobo de Mena: Predoctoral.
- Estela López Juárez: Data Management.



- Cristina López López: Predoctoral.
- Sara López-Tarruella Cobo: Postdoctoral.
- María Soledad Luque Molina: Predoctoral.
- Iván Márquez Rodas: Postdoctoral.
- Miguel Martín Jiménez: Senior researcher.
- Tatiana Massarrah Sánchez: Predoctoral.
- Beatriz Moya Ortega: Predoctoral.
- Andrés Muñoz Martín: Predoctoral.
- Inmaculada Ocaña Torres: Support technician.
- Francisco Javier Olcoz Monreal: Predoctoral.
- Laura Ortega Morán: Predoctoral.
- María Isabel Palomero Plaza: Predoctoral.
- Inés Pérez de la Fuente: Data Management.
- Ricardo Pérez Fernández: Predoctoral.
- Sara Pérez Ramírez: Predoctoral.
- Antonio Climent Picornell Company: Postdoctoral.
- Beatriz Puente Vázquez: Data Management.
- Rocío Ramos Medina: Postdoctoral.
- Patricia Rincón Olbés: Predoctoral.
- Ana Belén Ruiz Bolaños: Data Management.
- Ignacio Ruiz García: Data Management.
- María Pilar Sabin Domínguez: Predoctoral.
- Gabriela Torres Pérez-Solero: Predoctoral.
- Daniel Urosa Velasco: Data Management.

TRANSLATIONAL MEDICAL ONCOLOGY AND PERSONALIZED CANCER THERAPY

Research projects – Competitive calls

- Principal investigator: Miguel Martín Jiménez
Title: Predictores genómicos de respuesta a la quimioterapia neoadyuvante docetaxel–carboplatino en pacientes con cáncer de mama triple negativo.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015
- Principal investigator: Miguel Martín Jiménez
Title: Merck Serono 2012
Funding body: Fundación Salud 2000
Start date: 2013
End date: 2016
- Principal investigator: Miguel Martín Jiménez
Title: Desarrollo de Tumografts murinos de cáncer de mama para estudiar el efecto de Docetaxel (Taxotere) y Carboplatino como agentes únicos y en combinación, a nivel de actividad antitumoral y desarrollo de metástasis.
Funding body: Fundación SEOM
Start date: 2015
End date: 2017

Clinical practice guidelines

Authors	Title	Publication
Aparicio J; Maroto P; del Muro XG; Sanchez-Munoz A; Guma J; Margeli M; Saenz A; Sagastibelza N; Castellano D; Arranz JA; Hervas D; Bastus R; Fernandez-Aramburu A; Sastre J; Terrasa J; Lopez-Brea M; Dorca J; Almenar D; Carles J; Hernandez A; Germa JR	Prognostic factors for relapse in stage I seminoma: a new nomogram derived from three consecutive, risk-adapted studies from the Spanish Germ Cell Cancer Group (SGCCG)	ANNALS OF ONCOLOGY
De las Penas R; Escobar Y; Henao F; Blasco A; Rodriguez CA	SEOM guidelines on hydroelectrolytic disorders	CLINICAL AND TRANSLATIONAL ONCOLOGY
Jorge Alonso Zafra, Ramón Aurel Ballesteros, Justo Callejo Olmos, Rafael Fábregas Xaudaró, Ana Lluch Hernández, Laura Marqués Soler, Miguel Martín Jiménez, Montserrat Muñoz Maateu y Antonio Requena Miranda.	Documento de recomendaciones para la preservación de la fertilidad en pacientes con cáncer de mama	SOCIEDAD ESPAÑOLA DE FERTILIDAD. EDITORIAL GLOSA, S.L.
Juan Jesús Cruz Hernández, Miguel Martín Jiménez, Andrés J. Muñoz Martín.	II Consenso SEOM sobre la Enfermedad Tromboembólica en pacientes con Cáncer	SOCIEDAD ESPAÑOLA DE ONCOLOGÍA MÉDICA (SEOM) EDITA: ESMON PUBLICIDAD, S.A.
Javier Sastre Valera, Guillem Argilés Martínez, Manuel Benavides Orgaz, Jaime Feliu Batlle, Pilar García Alfonso, Rocío García Carbonero, Cristina Grávalos Castro, Carmen Guillén Ponce, Carles Pericay Pijaua	Clinical management of regorafenib in the treatment of patients with advanced colorectal cancer	CLINICAL AND TRANSLATIONAL ONCOLOGY

(Continued on next page)

Authors	Title	Publication
Sara López-Tarruella	Compromiso por la Calidad de las Sociedades Científicas en España	MINISTERIO DE SANIDAD, SERVICIOS SOCIALES E IGUALDAD

Publications

Total Impact Factor: 163.2

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Ramos-Medina R; García-Segovia A; Gil J; Carbone J; de la Cruz AA; Seyfferth A; Alonso B; Alonso J; Leon JA; Alecsandru D; Melia E; de Albornoz EC; Ordonez D; Santillan I; Verdu V; de Morales JMGR; L. *Experience in IV Ig Therapy for Selected Women with Recurrent Reproductive Failure and NK Cell Expansion.* AMERICAN JOURNAL OF REPRODUCTIVE IMMUNOLOGY. 2014; 71(5) 458-466. IF: 2.438. Quartile: 2.
- García-Alfonso P; Grande E; Polo E; Afonso R; Reina JJ; Jorge M; Campos JM; Martinez V; Angeles C; Montagut C. *The role of antiangiogenic agents in the treatment of patients with advanced colorectal cancer according to K-RAS status.* ANGIOGENESIS. 2014; 17(4) 805-821. IF: 4.876. Quartile: 1.
- Aparicio J; Maroto P; del Muro XG; Sanchez-Munoz A; Guma J; Margeli M; Saenz A; Sagastibelza N; Castellano D; Arranz JA; Hervas D; Bastus R; Fernandez-Aramburo A; Sastre J; Terrasa J; Lopez-Brea M; Dorca J; Almenar D; Carles J; Hernandez A; Germa JR. *Prognostic factors for relapse in stage I seminoma: a new nomogram derived from three consecutive, risk-adapted studies from the Spanish Germ Cell Cancer Group (SGCCG).* ANNALS OF ONCOLOGY. 2014; 25(11) 2173-2178. IF: 7.04. Quartile: 1.
- Rodriguez PR; Serrano FP; Caicedo LPM; de Guzman MCR; Presmanes MC; Diez JD. *Pulmonary Veno-Occlusive Disease in a Female Gardener.* ARCHIVOS DE BRONCONEUMOLOGIA. 2014; 50(1) 40-41. IF: 1.823. Quartile: 3.
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- Castello A; Pollan M; Buijsse B; Ruiz A; Casas AM; Baena-Canada JM; Lope V; Antolin S; Ramos M; Munoz M; Lluch A; de Juan-Ferre A; Jara C; Jimeno MA; Rosado P; Diaz E; Guillem V; Carrasco E; Perez-Gomez B; Vioque J; Boeing H; Martin M. *Spanish Mediterranean diet and other dietary patterns and breast cancer risk: case-control EpiGEICAM study.* BRITISH JOURNAL OF CANCER. 2014; 111(7) 1454-1462. IF: 4.836. Quartile: 1.
- Prat A; Lluch A; Albanell J; Barry WT; Fan C; Chacon JL; Parker JS; Calvo L; Plazaola A; Arcusa A; Segui-Palmer MA; Burgues O; Ribelles N; Rodriguez-Lescure A; Guerrero A; Ruiz-Borrego M; Munarriz B; Lopez JA; Adamo B; Cheang MCU; Li Y; Hu Z; Gulley ML; V. *Predicting response and survival in chemotherapy-treated triple-negative breast cancer.* BRITISH JOURNAL OF CANCER. 2014; 111(8) 1532-1541. IF: 4.836. Quartile: 1.
- Romero A; Prat A; Garcia-Saenz JA; del Prado N; Pelayo A; Furio V; Roman JM; de la Hoya M; Diaz-Rubio E; Perou CM; Clades T; Martin M. *Assignment of tumor subtype by genomic testing and pathologic-based approximations: implications on patient's management and therapy selection.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(4) 386-394. IF: 2.077. Quartile: 3.
- Girones R; Aparicio J; Roure P; Germa-Lluch JR; del Muro XG; Vazquez-Estevez S; Saenz A; Sastre J; Arija JA; Gallardo E; Gonzalez-Billalabeitia E; Sanchez-Hernandez A; Terrasa J; Hernandez A; Santander C; Cillan E; Sagastibelza N; Almenar-Cubells D; Brea. *Synchronous versus metachronous brain metastasis from testicular germ cell tumors (TGCT): an analysis from the Spanish Germ Cell Cancer Group data base.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(11) 959-965. IF: 2.077. Quartile: 3.
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- Martorell PM; de las Heras BB; Perez-Fidalgo JA; Alvaro MH; Martin M; Albanell J; Hernandez AL. *Subcutaneous trastuzumab: drug development and current position.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(10) 859-864. IF: 2.077. Quartile: 3.
- De las Penas R; Escobar Y; Henao F; Blasco A; Rodriguez CA. *SEOM guidelines on hydroelectrolytic disorders.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(12) 1051-1059. IF: 2.077. Quartile: 3.
- Calvo FA; Sole CV; Rivera S; Meirino R; Lizarraga S; Infante MA; Boldo E; Ferrer C; Marsiglia H; Deutsch E. *The use of radiotherapy for early breast cancer in woman at different ages.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(8) 680-685. IF: 2.077. Quartile: 3.
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- Sole CV; Calvo FA; Serrano J; del Valle E; Rodriguez M; Munoz-Calero A; Turegano F; Garcia-Sabrido JL; Garcia-Alfons. *Post-chemoradiation intraoperative electron-beam radiation therapy boost in resected locally advanced rectal cancer: Long-term results focused on topographic pattern of locoregional relapse.* RADIOTHERAPY AND ONCOLOGY. 2014; 112(1) 52-58. IF: 4.363. Quartile: 1.
- Sole CV; Calvo FA; Lozano MA; Gonzalez-Bayon L; Gonzalez-Sansegundo C; Álvarez A; Lizarraga S; García-Sabrido JL. *External-beam radiation therapy after surgical resection and intraoperative electron-beam radiation therapy for oligorecurrent gynecological cancer.* STRAHLENTHERAPIE UND ONKOLOGIE. 2014; 190(2) 171-180. IF: 2.914. Quartile: 1.

- Calvo FA; Sole CV; Serrano J; del Valle E; Rodriguez M; Munoz-Calero A; Garcia-Sabrido JL; Garcia-Alfonso P. *Preoperative chemoradiation with or without induction oxaliplatin plus 5-fluorouracil in locally advanced rectal cancer.* STRAHLENTHERAPIE UND ONKOLOGIE. 2014; 190(2) 149-157. IF: 2.914. Quartile: 1.

	Number of documents	IF
Own publications	9	38.7
Joint publications	19	124.5
First-decile publications	7	104.0
First-quartile publications	15	136.5
Second-quartile publications	1	2.4
Third-quartile publications	11	23.1
Fourth-quartile publications	1	1.0
Nonindexed publications	0	-
Total publications	28	163.2

Interdisciplinary oncology and biotechnology

Group director: FELIPE ÁNGEL CALVO MANUEL

Type: Consolidated

Research programs and lines

P1: High-precision radiotherapy

- ▶ L1: Intraoperative radiotherapy.
- ▶ L2: Pediatric radiotherapy.
- ▶ L3: Radiosurgical virtual navigation and planning.

P2: Gastrointestinal cancer/sarcoma

- ▶ L1: Intensification of therapy.
- ▶ L2: Resistance to chemoradiotherapy.

P3: Chemoradiotherapy

- ▶ L1: Molecular imaging.
- ▶ L2: Pathologic response.
- ▶ L3: Molecular response.

P4: Interdisciplinary oncologic care

- ▶ L1: Palliative medicine.
- ▶ L2: Surgical pathology.
- ▶ L3: Radiologic imaging.

P5: Biological dosimetry

The interdisciplinary nature of oncology means that knowledge is generated from innovation in clinical practice. This group develops applied research by integrating various hospital departments (oncologic surgery, histopathology, palliative medicine, hospital radiophysics, and clinical oncology [radiotherapeutic and medical]).

The development of biotechnology transforms care work into components that enable across-the-board improvement. The group carries out research into the correlation between expression in cellular and molecular pathology and molecular/metabolic imaging and patterns of response to chemoradiotherapy in models of human cancer that are suitable for neoadjuvant treatment. The predictability of the tolerance of healthy tissue to radiation and cancer is evaluated using models of chromosomal and proteomic damage caused by inflammation. High-precision radiotherapy is the paradigm of quality in locoregional treatment of cancer with an ionizing radiation component: it promotes the multimodal therapeutic index by reducing the toxicity of healthy tissue (which can be temporarily displaced during surgery) and increases local control (high-precision radiotherapy).

In addition, the interdisciplinary oncology and biotechnology group is formed by experts in intraoperative radiotherapy as a modality for intensifying multidisciplinary radiosurgical approaches in the rescue treatment of oligorecurrent cancer and locally advanced cancer. It is also an alternative for optimization in cancer with a favorable prognosis (minimally efficacious therapy).

Of note, this group developed the first intraoperative electron radiotherapy planner (patent), which enables the group's activity to be expanded to areas such as virtual surgery and stereotactic navigation in large surgically exposed cavities. The clinical and pharmacologic support of patients with cancer who are not receiving active cancer treatment is investigated prospectively based on integrated care activity.

Group members

- **Héctor Alburquerque Carbuccia:** Predoctoral.
- **Juan Carlos Alonso Farto:** Postdoctoral.
- **Emilio Álvarez Fernández:** Postdoctoral
- **Ana Álvarez González:** Predoctoral.
- **Rafael Ayala Lázaro:** Predoctoral.
- **José Blanco Rodríguez:** Predoctoral.
- **Ana Calín Lorca:** Predoctoral.
- **Felipe Ángel Calvo Manuel:** Senior researcher.
- **Emilio del Valle Hernández:** Predoctoral.
- **María Jesús García Hernández:** Predoctoral.
- **Susana Gómez Cores:** Predoctoral.
- **Marina Gómez Espí:** Postdoctoral.
- **Federico González Aragoneses:** Postdoctoral.
- **Carmen González San Segundo:** Postdoctoral.
- **Rafael Herranz Crespo:** Predoctoral.
- **Rocío Jiménez Rojas:** Predoctoral.
- **Miguel Ángel López Bote:** Predoctoral.
- **Miguel Ángel Lozano Barriuso:** Predoctoral.
- **Mercedes Moreno Domene:** Predoctoral.
- **Mercedes Muñoz Fernández:** Predoctoral.
- **Carlos Navarro Vila:** Postdoctoral.
- **Juan Manuel Núñez Olarte:** Postdoctoral.
- **Maria Isabel Peligros Gómez:** Postdoctoral.
- **Rafael Peñalver Pascual:** Postdoctoral.
- **Maria Jesús Prieto Rodríguez:** Predoctoral.
- **Marcos Rodríguez Martín:** Predoctoral.
- **José Ramón Sendón del Río:** Predoctoral.



- **Francisco Javier Serrano Andreu:** Postdoctoral.
- **Fernando Sierra Díaz:** Predoctoral.
- **Claudio Vicente Solé Pesutic:** Postdoctoral.
- **Fernando Turégano Fuentes:** Postdoctoral.

Research projects – Competitive calls

- Principal investigator: Rafael Herranz Crespo
Title: Realizing the european network in biodosimetry.
Funding body: European Commission
Start date: 2012
End date: 2015
- Principal investigator: Felipe Ángel Calvo Manuel
Title: System for teleguidance, planning and pre-robotic automatization for intraoperative radiation therapy I.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014



Theses

Doctoral student	Title	Director	University
Virginia Morillo Macías	Valoración e impacto del tiempo quirúrgico tras el tratamiento neoadyuvante en cáncer rectal avanzado	Felipe A. Calvo Manuel	Universidad Complutense de Madrid
Fernando Rivas Navarro	Recidiva anastomótica post-neoadyuvancia en cáncer de recto: correlación clínico-patológica	Felipe A. Calvo Manuel	Universidad Complutense de Madrid
Luis Cabezón Gutiérrez	Monitorización del tratamiento neoadyuvante en el cáncer de recto localmente avanzado mediante 18F-Fdg PET: correlación predictiva y pronóstica de la respuesta	Felipe A. Calvo Manuel	Universidad Complutense de Madrid
Maria Dolores de la Mata Moya	Respuesta postneoadyuvancia en cancer recto: correlaciones entre patología molecular (VEGFR, EGFR) e imagen molecular (PET-TAC)	Felipe A. Calvo Manuel	Universidad Complutense de Madrid

Patents

- Title: Sistema de planificación para radioterapia intraoperatoria y procedimiento para llevar a cabo dicha planificación
Reference: PCT/ES2008/000240
Owner: GMV Aerospace and Defense S.A.
Inventors: Manuel Desco Menéndez, Javier Pascau González-Garzón, Felipe Calvo Manuel, Juan José Vaquero López, Manlio Fabio Valdivieso Cacique, Carlos Guillermo Illana Alejandro.

Publications

Total Impact Factor: 111.6

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Perin EC; Sanz-Ruiz R; Sanchez PL; Lasso J; Perez-Cano R; Alonso-Farto JC; Perez-David E; Fernandez-Santos ME; Serruys PW; Duckers HJ; Kastrup J; Chamu. *Adipose-derived regenerative cells in patients with ischemic cardiomyopathy: The PRECISE Trial.* AMERICAN HEART JOURNAL. 2014; 168(1) 88-95. IF: 4.463. Quartile: 1.
- Frago R; Ramirez E; Millan M; Kreisler E; del Valle E; Biondo S. *Current management of acute malignant large bowel obstruction: a systematic review.* AMERICAN JOURNAL OF SURGERY. 2014; 207(1) 127-138. IF: 2.291. Quartile: 2.
- Aviles-Izquierdo JA; Conde-Montero E; Barchino-Ortiz L; Lazaro-Ochaita P. *Dermoscopic features of dermatofibrosarcoma protuberans.* AUSTRALASIAN JOURNAL OF DERMATOLOGY. 2014; 55(2) 125-127. IF: 1.106. Quartile: 3.
- Garutti I; Puente-Maestu I; Laso J; Sevilla R; Ferrando A; Frias I; Reyes A; Ojeda E; Gonzalez-Aragoneses F. *Comparison of gas exchange after lung resection with a Boussignac CPAP or Venturi mask.* BRITISH JOURNAL OF ANAESTHESIA. 2014; 112(5) 929-935. IF: 4.853. Quartile: 1.
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- Torrecilla JL; Zapatero A; Herruzo I; Calvo FA; Cabeza MA; Palacios A; Guerrero A; Hervas A; Lara P; Martinez BL; Penalver ED; Nagore G; Sancho G; Mengual JL; Mira M; Mairino A; Samper P; Perez S; Castillo I; Cedres JCM; Ferrer E; Rodriguez S; Maldonado X. *Infrastructures, treatment modalities, and workload of radiation oncology departments in Spain with special attention to prostate cancer.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(5) 447-454. IF: 2.077. Quartile: 3.
- Calvo FA; Sole CV; Rivera S; Meirino R; Lizarraga S; Infante MA; Boldo E; Ferrer C; Marsiglia H; Deutsch E. *The use of radiotherapy for early breast cancer in woman at different ages.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(8) 680-685. IF: 2.077. Quartile: 3.
- Calvo FA; Rivas F; Sole CV; Gomez-Espi M; Herranz R; del Valle E; Rodriguez M; Alvarez E. *Post-chemoradiation anastomotic recurrence in locally advanced rectal cancer: no increased risk associated with distal margin.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(6) 573-580. IF: 2.077. Quartile: 3.
- Sole CV; Calvo FA; Cambeiro M; Polo A; Montero A; Hernanz R; Gonzalez C; Cuervo M; Perez D; Julian MS; Martinez-Monge R. *Intraoperative radiotherapy-containing multidisciplinary management of trunk-wall soft-tissue sarcomas.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(9) 834-842. IF: 2.077. Quartile: 3.

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- Sole CV; Calvo FA; Polo A; Cambeiro M; Alvarez A; Gonzalez C; Gonzalez J; Julian MS; Martinez-Monge R. *Anticipated Intraoperative Electron Beam Boost, External Beam Radiation Therapy, and Limb-Sparing Surgical Resection for Patients with Pediatric Soft-Tissue Sarcomas of the Extremity: A Multicentric Pooled Analysis of Long-Term Outcomes*. INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS. 2014; 90(1) 172-180. IF: 4.256. Quartile: 1.
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- Sole CV; Calvo FA; Serrano J; del Valle E; Rodriguez M; Munoz-Calero A; Turegano F; Garcia-Sabrido JL; Garcia-Alfons. *Post-chemoradiation intraoperative electron-beam radiation therapy boost in resected locally advanced rectal cancer: Long-term results focused on topographic pattern of locoregional relapse.* RADIOTHERAPY AND ONCOLOGY. 2014; 112(1) 52-58. IF: 4.363. Quartile: 1.
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- Calvo FA; Sole CV; Polo A; Cambeiro M; Montero A; Alvarez A; Cuervo M; Julian MS; Martinez-Monge R. *Limb-sparing management with surgical resection, external-beam and intraoperative electron-beam radiation therapy boost for patients with primary soft tissue sarcoma of the extremity. A multicentric pooled analysis of long-term outcomes.* STRAHLENTHERAPIE UND ONKOLOGIE. 2014; 190(10) 891-898. IF: 2.914. Quartile: 1.

- Calvo FA; Sole CV; Serrano J; del Valle E; Rodriguez M; Munoz-Calero A; García-Sabrido JL; García-Alfonso P. *Preoperative chemoradiation with or without induction oxaliplatin plus 5-fluorouracil in locally advanced rectal cancer.* STRAHLENTHERAPIE UND ONKOLOGIE. 2014; 190(2) 149-157. IF: 2.914. Quartile: 1.
- Sole CV; Calvo FA; Lozano MA; Gonzalez-Bayon L; Gonzalez-Sansegundo C; Álvarez A; Lizarraga S; García-Sabrido JL. *External-beam radiation therapy after surgical resection and intraoperative electron-beam radiation therapy for oligorecurrent gynecological cancer.* STRAHLENTHERAPIE UND ONKOLOGIE. 2014; 190(2) 171-180. IF: 2.914. Quartile: 1.
- Sole CV; Calvo FA; Ferrer C; Pascau J; Marsiglia H. *Bibliometrics of intraoperative radiotherapy Analysis of technology, practice and publication tendencies.* STRAHLENTHERAPIE UND ONKOLOGIE. 2014; 190(12) 1111-1116. IF: 2.914. Quartile: 1.
- De Leon-Luis J; Gamez F; Bravo C; Tenias JM; Arias A; Perez R; Maroto E; Aguaron A; Ortiz-Quintana L. *Second-trimester fetal aberrant right subclavian artery: original study, systematic review and meta-analysis of performance in detection of Down syndrome.* ULTRASOUND IN OBSTETRICS & GYNECOLOGY. 2014; 44(2) 147-153. IF: 3.853. Quartile: 1.

	Number of documents	IF
Own publications	24	57.3
Joint publications	18	54.2
First-decile publications	11	49.1
First-quartile publications	18	72.7
Second-quartile publications	7	19.0
Third-quartile publications	7	13.5
Fourth-quartile publications	10	6.3
Nonindexed publications	0	-
Total publications	42	111.6

Genetic and clinical aspects of hematologic neoplasm and hematopoietic progenitor transplant

Group directors: ISMAEL BUÑO BORDE and JOSÉ LUIS DÍEZ MARTÍN

Type: Consolidated

Research programs and lines

P1: Transplantation of hematopoietic progenitors

- ▶ L1: Nonconventional transplant of hematopoietic progenitors.
- ▶ L2: Genetic follow-up of chimerism and residual disease.
- ▶ L3: Polymorphisms, methylation and expression of immune system genes.
- ▶ L4: Hematopoietic transplant in patients with AIDS.
- ▶ L5: Electronic management of clinical information.

P2: Diagnosis and treatment of hematologic neoplasms

- ▶ L1: Stratified treatment of acute leukemia depending on the result of flow cytometry and genetic analysis.
- ▶ L2: Genetic markers in the diagnosis, prognosis, and treatment of hematologic neoplasms.

P3: Cell therapy in patients with hematologic disorders

- ▶ L1: Donor lymphocyte infusion in patients undergoing hematopoietic progenitor transplant.
- ▶ L2: Mesenchymal cell infusion for the treatment of refractory GVHD in patients undergoing transplantation.
- ▶ L3: Mesenchymal cell infusion for the treatment of hemorrhagic cystitis in transplant recipients.

The research team jointly led by Dr. José Luis Díez Martín and Dr. Ismael Buño Borde was created in 1997. Its initial objectives focused on management of hematopoietic stem cell transplantation and how genetics could help to improve it. With time, this research group has grown in size and matured, and its objectives have gradually extended and diversified to cover all blood diseases and their management using the most modern approaches available, both from a clinical viewpoint (eg, biologic therapy, therapy targeting specific molecules, nonconventional hematopoietic stem cell transplantation, and electronic management of information) and in terms of laboratory work (eg, genetics, genomics, flow cytometry, cell biology). The group's current activity focuses on 3 major translational research lines:

- 1) Hematopoietic stem cell transplantation. This line is aimed at developing and introducing new therapeutic strategies (eg, nonconventional stem cell transplants [dual and haploidentical], hematopoietic transplant in patients with AIDS-associated lymphoma), laboratory testing (genetic monitoring of chimerism and residual disease, massive sequencing for identification of polymorphisms in immune system genes, flow cytometry-based monitoring of immune reconstitution), and procedures for managing information (electronic management of clinical information) in order to improve the clinical management of the transplant recipient.
- 2) Diagnosis and treatment of hematologic malignancy. The objective of this line is to develop diagnostic approaches, mainly in the field of flow cytometry and genetics, and apply them to stratified risk-adapted management of hematologic malignancies.
- 3) Cell therapy in patients with hematologic disease. This line is based on the use of cells to treat different hematologic diseases. Our main interest is in the use of donor lymphocyte infusion to treat conditions such as relapse and graft rejection in patients undergoing hematopoietic stem cell transplantation, as well as in the infusion of mesenchymal cells for the treatment of refractory graft-versus-host disease or hemorrhagic cystitis in this type of patient.

Group members

- **Javier Anguita Velasco:** Postdoctoral.
- **Pascual Balsalobre López:** Postdoctoral.
- **Mariana Bastos Oreiro:** Predoctoral.
- **Elena Buces González:** Predoctoral.
- **Ismael Buño Borda:** Senior researcher.
- **María Chicano Lavilla:** Predoctoral.
- **José Luis Díez Martín:** Senior researcher.
- **Cristina Encinas Rodríguez:** Predoctoral.
- **Noemí Fernández Escalada:** Predoctoral.
- **Patricia Font López:** Predoctoral.
- **Ana María García García:** Data management.
- **Jorge Gayoso Cruz:** Predoctoral.
- **Mi Kwon:** Predoctoral.
- **Carolina Martínez Laperche:** Postdoctoral.
- **Francisco Javier Menárguez Palanca:** Postdoctoral.
- **Cristina Muñoz Martínez:** Data management.
- **Santiago Osorio Prendes:** Predoctoral.
- **David Serrano Simonneau:** Predoctoral.



Research projects – Competitive calls

- Principal investigator: Ana María García García
Title: Convocatoria Lifelong Learning Programm 2011.
Funding body: European Commission
Start date: 2011
End date: 2014
- Principal investigator: Ismael Buño Borde
Title: Definición de un índice pronóstico basado en el perfil genético de polimorfismos en citocinas para el manejo clínico anticipado de la EICH y otras complicaciones post-trasplante alogénico de progenitores hematopoyéticos. Banco de ADN del GETH.
Funding body: Fundación LAIR
Start date: 2012
End date: 2014
- Principal investigator: José Luis Díez Martín
Title: Evaluación de la reconstitución inmune después del trasplante haploidéntico de progenitores hemopoyéticos sin depleción T.
Funding body: F. Mutua Madrileña
Start date: 2012
End date: 2015
- Principal investigator: Ismael Buño Borde
Title: Análisis masivo de polimorfismos en genes de citocinas y quimocinas y de su asociación con el desarrollo de EICH post-trasplante hematopoyético alogénico. Banco de ADN del GETH.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Javier Anguita Velasco
Title: Estudio de la alorreactividad KIR en el trasplante haploidéntico: valoración integral para la elección del mejor donante.
Funding body: F. Mutua Madrileña
Start date: 2013
End date: 2016

- Principal investigator: Ismael Buño Borde
Title: Proyecto FIS 2014. Valor pronóstico de un perfil genómico de riesgo para el tratamiento personalizado de complicaciones en pacientes sometidos a trasplante alogénico de progenitores hematopoyéticos.
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017

Clinical practice guidelines

Authors	Title	Publication
Gómez-Casares M, Jiménez-Velasco A, Buño I, Colomer D, Martínez-López J	Estudios genéticos en la leucemia mieloide crónica: metodología e interpretación. En: Manual para el control y el tratamiento de los pacientes con leucemia mieloide crónica	GRUPO ESPAÑOL DE LEUCEMIA MIELOIDE CRÓNICA (GELMC) DE LA SOCIEDAD ESPAÑOLA DE HEMATOLOGÍA Y HEMOTERAPIA
Osorio S, García-Gutiérrez V	El seguimiento y la evaluación de la respuesta en el tratamiento de primera línea. En: Manual para el control y el tratamiento de los pacientes con leucemia mieloide crónica	GRUPO ESPAÑOL DE LEUCEMIA MIELOIDE CRÓNICA (GELMC) DE LA SOCIEDAD ESPAÑOLA DE HEMATOLOGÍA Y HEMOTERAPIA

Patents and intellectual property

- Title: Herramienta informática para la Gestión Electrónica de la Agenda de Transplante Hematopoyético «gesTHronica»
Reference: M-006478/2004
Owner: FIBHGM
Authors: Pascual Balsalobre, Ismael Buño, José Luis Díez

GENETIC AND CLINICAL ASPECTS OF HEMATOLOGIC NEOPLASM AND HEMATOPOIETIC PROGENITOR TRANSPLANT

Publications

Total Impact Factor: 71.0

Publications in journals with impact factor indexed in the Journal Citation Reports:

- García-Gutierrez V; Puerta JM; Maestro B; Montero LFC; Muriel A; Hurtado JRM; Perez-Encinas M; Romero MVM; Sunol PB; García RS; De Paz R; Sanchez MJR; Osorio S; Vazquez MIM; Lopez JM; Sastre JL; Portero MD; Bautista G; Nieto MSD; Giraldo P; Jambrina MJ; B. *Do chronic myeloid leukemia patients with late "warning" responses benefit from "watch and wait" or switching therapy to a second generation tyrosine kinase inhibitor?*. AMERICAN JOURNAL OF HEMATOLOGY. 2014; 89(11) E206-E211. IF: 3.798. Quartile: 1.
- Dietrich S; Boumendil A; Finel H; Avivi I; Volin L; Cornelissen J; Jarosinska RJ; Schmid C; Finke J; Stevens WBC; Schouten HC; Kaufmann M; Sebban C; Trneny M; Kobbe G; Fornecker LM; Schetelig J; Kanfer E; Heinicke T; Pfreundschuh M; Diez-Martin JL; Bordes. *Outcome and prognostic factors in patients with mantle-cell lymphoma relapsing after autologous stem-cell transplantation: a retrospective study of the European Group for Blood and Marrow Transplantation (EBMT)*. ANNALS OF ONCOLOGY. 2014; 25(5) 1053-1058. IF: 7.04. Quartile: 1.
- Kwon M; Bautista G; Balsalobre P; Sanchez-Ortega I; Serrano D; Anguita J; Buno I; Fores R; Regidor C; Marco JAG; Vilches C; de Pablo R; Fernandez MN; Gayoso J. *Haplo-Cord Transplantation Using CD34(+) Cells from a Third-Party Donor to Speed Engraftment in High-Risk Patients with Hematologic Disorders*. BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION. 2014; 20(12) 2015-2022. IF: 3.404. Quartile: 2.
- Logan AC; Vashi N; Faham M; Carlton V; Kong K; Buno I; Zheng JB; Moorhead M; Klinger M; Zhang B; Waqar A; Zehnder JL; Miklos DB. *Immuno-globulin and T Cell Receptor Gene High-Throughput Sequencing Quantifies Minimal Residual Disease in Acute Lymphoblastic Leukemia and Predicts Post-Transplantation Relapse and Survival*. BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION. 2014; 20(9) 1307-1313. IF: 3.404. Quartile: 2.
- Pascual C; Munoz C; Huerta AR; Rus GP; Ortega V; Corral J; Diez-Martin JL. *A new case of successful outcome of pregnancy in a carrier of homozygous type II (L99F) antithrombin deficiency*. BLOOD COAGULATION & FIBRINOLYSIS. 2014; 25(1) 74-76. IF: 1.403. Quartile: 4.
- Xhaard A; Rzepecki P; Valcarel D; Santarone S; Furst S; Serrano D; De Angelis G; Kruger W; Scheid C. *Optimization of health-care organization and perceived improvement of patient comfort by switching from intra-venous BU four-times-daily infusions to a once-daily administration scheme in adult hematopoietic stem cell recipients*. BONE MARROW TRANSPLANTATION. 2014; 49(4) 509-512. IF: 3.57. Quartile: 2.
- Kwon M; Martinez-Laperche C; Balsalobre P; Serrano D; Anguita J; Gayoso J; Diez-Martin JL; Buno I. *Early peripheral blood and T-cell chimerism dynamics after umbilical cord blood transplantation supported with haploid-identical cells*. BONE MARROW TRANSPLANTATION. 2014; 49(2) 212-218. IF: 3.57. Quartile: 2.
- Sanchez-García J; del Canizo C; Lorenzo I; Nomdedeu B; Luno E; de Paz R; Xicoy B; Valcarel D; Brunet S; Marco-Betes V; García-Pintos M; Osorio S; Tormo M; Bailen A; Cervero C; Ramos F; Diez-Campelo M; Such E; Arrizabalaga B; Azaceta G; Bargay J; Arilla M. *Multivariate time-dependent comparison of the impact of lenalidomide in lower-risk myelodysplastic syndromes with chromosome 5q deletion*. BRITISH JOURNAL OF HAEMATOLOGY. 2014; 166(2) 189-201. IF: 4.711. Quartile: 1.
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- Raya JM; Montes-Moreno S; Acevedo A; Ferrandez A; Fraga M; Garcia JF; Garcia M; Mayordomo-Aranda E; Menarguez J; Besses C; Calzada R; Rozman M. *Pathology reporting of bone marrow biopsy in myelofibrosis; application of the Delphi consensus process to the development of a standardised diagnostic report*. JOURNAL OF CLINICAL PATHOLOGY. 2014; 67(7) 620-625. IF: 2.915. Quartile: 2.

- Guillaumet-Adkins A; Richter J; Odero MD; Sandoval J; Agirre X; Catala A; Esteller M; Prosper F; Calasanz MJ; Buno I; Kwon M; Court F; Siebert R; Monk D. *Hypermethylation of the alternative AWT1 promoter in hematological malignancies is a highly specific marker for acute myeloid leukemias despite high expression levels.* JOURNAL OF HEMATOLOGY & ONCOLOGY. 2014; 7. IF: 4.812. Quartile: 1.
 - Martinez N; Almaraz C; Vaque JP; Varela I; Derdak S; Beltran S; Mollejo M; Campos-Martin Y; Agueda L; Rinaldi A; Kwee I; Gut M; Blanc J; Oscier D; Strefford JC; Martinez-Lopez J; Salar A; Sole F; Rodriguez-Peralto JL; Diez-Tascon C; Garcia JF; Fraga M; Se. *Whole-exome sequencing in splenic marginal zone lymphoma reveals mutations in genes involved in marginal zone differentiation.* LEUKEMIA. 2014; 28(6) 1334-1340. IF: 10.431. Quartile: 1.
 - Menezes J; Acquadro F; Wiseman M; Gomez-Lopez G; Salgado RN; Talavera-Casanas JG; Buno I; Cervera JV; Montes-Moreno S; Hernaandez-Rivas JM; Ayala R; Calasanz MJ; Larrayoz MJ; Brichs LF; Gonzalez-Vicent M; Pisano DG; Piris MA; Alvarez S; Cigudosa JC. *Exome sequencing reveals novel and recurrent mutations with clinical impact in blastic plasmacytoid dendritic cell neoplasm.* LEUKEMIA. 2014; 28(4) 823-829. IF: 10.431. Quartile: 1.
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 - Martin-Sanchez E; Odqvist L; Rodriguez-Pinilla SM; Sanchez-Beato M; Roncador G; Dominguez-Gonzalez B; Blanco-Aparicio C; Collazo AMG; Cantalapiedra EG; Fernandez JP; del Olmo SC; Pisonero H; Madureira R; Almaraz C; Mollejo M; Alves FJ; Menarguez J; Gonzal. *PIM Kinases as Potential Therapeutic Targets in a Subset of Peripheral T Cell Lymphoma Cases.* PLOS ONE. 2014; 9(11). IF: 3.234. Quartile: 1.
- Publications in journals not indexed in the Journal Citation Reports:*
- Kwon M; Gayoso J; Balsalobre P; Serrano D; Martínez-Laperche C; Buces E; Anguita J; Diez-Martín JL; *Trasplante de progenitores hematopoyéticos utilizando donantes alternativos.* ACTA CIENTÍFICA Y TECNOLÓGICA. 2014; 23:16-19.
 - Manso R; Sánchez-Beato M; Monsalvo S; Gómez S; Cereceda L; Llamas P; Rojo F; Mollejo M; Menárguez J; Alves J; García-Cosio M; Piris MA; Rodríguez-Pinilla SM. *The RHOA G17V gene mutation occurs frequently in peripheral T-cell lymphoma and is associated with a characteristic molecular signature.* BLOOD. 2014 May 1;123(18):2893-4.
 - Osorio S; García-Gutiérrez V; Jiménez-Velasco A; Gómez-Casares MT; Martínez-Laperche C; Díez-Martín JL; Buño I. *Chronic Myeloid Leukemia (CML): Is loss of Major Molecular Response (MMR) actually considered as treatment failure in the 2013 European LeukemiaNet (ELN) Recommendations?* BLOOD (E-LETTER). 2014; January 31.
 - Bosch-Vizcaya A; Rodríguez-Romanos R; Nieto Jb; De La Cámara R; Brunet S; Vallejo C; Osca G; Martínez-Laperche C; Buño I; Urbano-Ispizúa A; González M; Jiménez-Velasco A; Gallardo D. *Effect of mismatching for minor histocompatibility antigen UTA2-1 on clinical outcome after HLA-identical sibling donor allogeneic stem cell transplantation.* BONE MARROW TRANSPLANT. 2014.
 - Escudero-Vilaplana V; Osorio S y Sanjurjo-Sáez M. *Suspected itchy rash secondary to Lenalidomide.* FARM HOSP. 2014 Nov 3;38(6):495-6.
 - Álvarez-Perez S; Mellado E; Serrano D; Blanco JL; García ME; Kwon M; Muñoz P; Cuenca-Estrella M; Bouza E; and Pelaez T. *Polyphasic characterization of fungal isolates from a published case of invasive aspergillosis reveals misidentification of Aspergillus felis as Aspergillus viridinutans.* JOURNAL MEDICAL MICROBIOLOGY. 2014; 63(Pt 4):617-9.
 - Salgado RN; Menezes J; Calvente M; Suela J; Acquadro F; Martínez-Laperche C; Flores R; Trujillo M; Alvarez S; Cigudosa JC. *Myeloid neoplasms with der(1)t(1;19) may constitute a specific entity characterized by a cytogenetic*

GENETIC AND CLINICAL ASPECTS OF HEMATOLOGIC NEOPLASM AND HEMATOPOIETIC PROGENITOR TRANSPLANT

biomarker and gene mutations involved in DNA methylation. LEUK LYMPHOMA. 2014; Nov;55(11):2652-5.

- Burneo M; Pérez MD; Bernardos L; Osorio S y cols. *Linfoma no Hodgkin suprarrenal primario.* REV CUBANA DE CIRUGÍA. 2014; Vol 53; nº3.

	Number of documents	IF
Own publications	4	10.4
Joint publications	11	60.5
First-decile publications	4	34.1
First-quartile publications	8	50.6
Second-quartile publications	5	16.9
Third-quartile publications	1	2.1
Fourth-quartile publications	1	1.4
Nonindexed publications	8	-
Total publications	23	71.0



Surgical oncology

Group director: LUIS GONZÁLEZ BAYÓN

Type: Emerging

Research programs and lines

P1: 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.

P2: 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.

P3: 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

- **José Manuel Asencio Pascual:** Predoctoral.
- **José Luis García Sabrido:** Postdoctoral.
- **Luis González Bayón:** Senior researcher.
- **Luis Rodríguez-Bachiller Villaronga:** Predoctoral.
- **Wenceslao Vásquez Jiménez:** Postdoctoral.

Publications**Total Impact Factor: 24.3**

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Cebolla ES; Aguilar BDZ; del Campo JR; Dorrego MDP; Sabrido JLG. *Giant presacral myelolipoma.* CIRUGIA ESPAÑOLA. 2014; 92(9) 628-629. IF: 0.743. Quartile: 4.
- Calvo FA; Sole CV; Cambeiro M; Montero A; Polo A; Gonzalez C; Cuervo M; Julian MS; García-Sabrido JL; Martinez-Monge R. *Prognostic Value of External Beam Radiation Therapy in Patients Treated With Surgical Resection and Intraoperative Electron Beam Radiation Therapy for Locally Recurrent Soft Tissue Sarcoma: A Multicentric Long-Term Outcome Analysis.* INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS. 2014; 88(1) 143-150. IF: 4.256. Quartile: 1.
- Calvo FA; Morillo V; Santos M; Serrano J; Gomez-Espi M; Rodriguez M; del Vale E; Gracia-Sabrido JL; Ferrer C; Sole C. *Interval between neoadjuvant treatment and definitive surgery in locally advanced rectal cancer: impact on response and oncologic outcomes.* JOURNAL OF CANCER RESEARCH AND CLINICAL ONCOLOGY. 2014; 140(10) 1651-1660. IF: 3.081. Quartile: 2.
- Sole CV; Calvo FA; de Sierra PA; Herranz R; Gonzalez-Bayon L; Garcia-Sabrido JL. *Multidisciplinary therapy for patients with locally oligo-recurrent pelvic malignancies.* JOURNAL OF CANCER RESEARCH AND CLINICAL ONCOLOGY. 2014; 140(7) 1239-1248. IF: 3.081. Quartile: 2.
- Asencio JM; Sabrido JLG; Olmedilla L. *How to expand the safe limits in hepatic resections?* JOURNAL OF HEPATO-BILIARY-PANCREATIC SCIENCES. 2014; 21(6) 399-404. IF: 2.994. Quartile: 2.
- Sole CV; Calvo FA; Serrano J; del Valle E; Rodriguez M; Munoz-Calero A; Turegano F; García-Sabrido JL; García-Alfons. *Post-chemoradiation intraoperative electron-beam radiation therapy boost in resected locally advanced rectal cancer: Long-term results focused on topographic pattern of locoregional relapse.* RADIOTHERAPY AND ONCOLOGY. 2014; 112(1) 52-58. IF: 4.363. Quartile: 1.

- Calvo FA; Sole CV; Serrano J; del Valle E; Rodriguez M; Munoz-Calero A; García-Sabrido JL; García-Alfonso P. *Preoperative chemoradiation with or without induction oxaliplatin plus 5-fluorouracil in locally advanced rectal cancer.* STRAHLENTHERAPIE UND ONKOLOGIE. 2014; 190(2) 149-157. IF: 2.914. Quartile: 1.
- Sole CV; Calvo FA; Lozano MA; Gonzalez-Bayon L; Gonzalez-Sansegundo C; Álvarez A; Lizarraga S; García-Sabrido JL. *External-beam radiation therapy after surgical resection and intraoperative electron-beam radiation therapy for oligorecurrent gynecological cancer.* STRAHLENTHERAPIE UND ONKOLOGIE. 2014; 190(2) 171-180. IF: 2.914. Quartile: 1.

	Number of documents	IF
Own publications	4	9.7
Joint publications	4	14.6
First-decile publications	2	8.6
First-quartile publications	4	14.4
Second-quartile publications	3	9.2
Third-quartile publications	0	0.0
Fourth-quartile publications	1	0.7
Nonindexed publications	0	-
Total publications	8	24.3

Hematology-oncology in pediatric patients

Group director: **ELENA CELA DE JULIÁN**

Type: Associated Clinical

Research lines

- ▶ L1: Program for psychosocial care and quality of life in pediatric patients with hematologic malignancy.
- ▶ L2: Study of phosphorus and calcium metabolism in patients with sickle cell anemia.
- ▶ L3: Spanish Pediatric Hemoglobinopathy Registry.
- ▶ L4: Efficacy of the meningococcus B vaccine against sickle cell anemia.
- ▶ L5: Translational study of hepatoblastoma (FIS PI13/02340).
- ▶ L6: Multidisciplinary integrated follow-up of Fanconi aplastic anemia.
- ▶ L7: Bone marrow transplant in patients with hemoglobinopathy.
- ▶ L8: SIOP Wilms protocol.
- ▶ L9: Intramyocardial stem cells. THABY trial.
- ▶ L10: SIOP Neuroblastoma protocol.
- ▶ L11: SEHOP-PETHEMA infant leukemia.
- ▶ L12: Recurrent sarcoma in children.

Group members

- **Marta María Barrios López:** Predoctoral.
- **Cristina Beléndez Bieler:** Predoctoral.
- **Elena Cela de Julián:** Senior researcher.
- **Carmen Garrido Colino:** Postdoctoral.
- **Jorge Huerta Aragoneses:** Predoctoral.
- **Cristina Mata Fernández:** Postdoctoral.
- **Hilda Gabriela Medín Block:** Support technician.
- **Rosario Zamarro Arranz:** Support technician.

Publications**Total Impact Factor: 3.8**

Publications in journals with impact factor indexed in the Journal Citation Reports:

- García-Navarro C; García I; Medin G; Ramos-Arnador JT; Navarro-Gomez M; Mellado-Peña MJ; Gomez MID; Cortes M; Crespo BZ; Munoz-Fernandez MA; Gamero DB; Gonzalez-Tome MI. *Psychosocial aspects in a cohort of vertically transmitted human immunodeficiency virus-infected adolescents.* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2014; 32(10) 631-637. IF: 2.172. Quartile: 3.
- Marquinez-Alonso I; Escudero-Vilaplana V; Pernia S; Bieler CB; Fernandez-Llamazares CM; Sanjurjo-Saez M. *The treatment for primary immune thrombocytopenia with romiplostim in adult and paediatric patients: use experience at a Spanish university hospital.* JOURNAL OF CLINICAL PHARMACY AND THERAPEUTICS. 2014; 39(4) 376-382. IF: 1.668. Quartile: 3.

	Number of documents	IF
Own publications	0	0.0
Joint publications	2	3.8
First-decile publications	0	0.0
First-quartile publications	0	0.0
Second-quartile publications	0	0.0
Third-quartile publications	2	3.8
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	2	3.8

Angiogenesis in brain tumors

Group director: JUAN CARLOS MARTÍNEZ MONTERO

Type: Associated Clinical

Research programs and lines

P1: Angiogenesis in brain tumors

- ▶ L1: Alterations in the Delta ligand like4/Notch1 pathway in oligodendroglial tumors.
- ▶ L2: Alterations in the Delta ligand like4/Notch1 pathway in human tumors and reactive non-tumor-like lesions.

Group members

- **Lucía Hernández Pérez:** Predoctoral.
- **Juan Carlos Martínez Montero:** Senior researcher.
- **Socorro María Rodríguez Pinilla:** Predoctoral.
- **Emilio Salinero Paniagua:** Postdoctoral.
- **María del Val Toledo Alonso:** Predoctoral.
- **María Ángeles Vaz Fernández:** Predoctoral.

ANGIOGENESIS IN BRAIN TUMORS

Research projects – Competitive calls

- Principal investigator: Juan Carlos Martínez Montero
Title: Análisis de la metilación de promotores de los genes p16/INK4a, p14/ARF, MGMT y receptor de la progesterona, en meningiomas benignos recidivantes y no recidivantes. Identificación de alteraciones epigenéticas ligadas a la recurrencia tumoral.
Funding body: F. Mutua Madrileña
Start date: 2012
End date: 2015

Publications

Total Impact Factor: 3.2

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Vaz MA; Martinez JC; Devesa JM; Trill JD; Abraira V; Riquelme A; Carrato A. *Prognostic Value of Stem Cell Quantification in Stage II Colon Cancer.* PLOS ONE. 2014; 9(2). IF: 3.234. Quartile: 1.

	Number of documents	IF
Own publications	0	0.0
Joint publications	1	3.2
First-decile publications	0	0.0
First-quartile publications	1	3.2
Second-quartile publications	0	0.0
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	1	3.2

AREA 7

Area coordinator:
Rafael Bañares Cañizares

Systemic diseases and organ transplantation

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.

Strategic axes

- ▶ A1: Promotion of alliances and collaborations with groups of interest.
- ▶ A2: Consolidation of research lines in the area of systemic disease.
- ▶ A3: Training.
- ▶ A4: Infrastructure.

Strategic lines

Axis 1: Promotion of alliances and collaborations with groups of interest

1. Encouraging collaborations with other IISGM groups and HGUGM services

Strategic objectives:

- Strengthen collaboration with Area 2 of the IISGM.
- Strengthen collaboration with Area 6 of the IISGM.
- More active incorporation of the remaining multidisciplinary teams of HGUGM.
- Stabilize participation in the Palliative Care Unit: increased contact with primary care and the ESAD group.
- Collaborate with nononcological palliative care in the Nephrology Department and the Predialysis Unit.

2. Maintenance and development of collaborations with other research groups at regional, national, and international level

Strategic objectives:

- Increase participation in intramural and extramural cooperative studies.
- Expand collaboration on research between Europe and the USA.
- Maintain collaboration with Latin American countries.
- Evaluate the possibility of performing multicenter studies with similar groups in other hospitals and institutions in Madrid.
- Collaborate with prestigious international groups.
- Strengthen collaboration with other disciplines (eg, information technology and telecommunications engineering).
- Participate in multicenter projects in CIFRA, GEFRAM 4, and European projects.

3. Participation in decision-making committees in clinical research at regional, national, and international level

(Continued on next page)

Strategic lines (cont.)

Axis 2: Consolidation of research lines in the Area of Systemic Disease

1. Expressivity of monogenetic diseases in recessive and dominant models

Strategic objectives:

- Genotype patients from different areas of Spain.
- Investigate parameters associated with the biochemical background.
- Investigate relative expression in peripheral cells and tissues.

2. Promotion of geriatric oncology

3. Development and applicability of new technology in the care of the elderly

Strategic objectives:

- Complete development of new technology and evaluation of its applicability and usefulness in patients.

4. Consolidation of the group's basic research area in neonatal respiration

Strategic objectives:

- Stabilize the area for the study of lung function in small newborn animal models.

5. Development of phase I and II clinical trials with cilastatin as a nephroprotective agent in patients with cancer

6. Consolidation of clinical research in COPD and in respiratory sleep disorders

Strategic objectives:

- Develop research projects in COPD.
- Become involved in multicenter SAHS projects.

7. Diversification of and increase in funding sources

Strategic objectives:

- Scale application for funding calls in the National Plan.
- Apply for private funding through competitive calls.
- Obtain funding for controlled clinical trials.
- Obtain funding for human resources.
- Compete in new international competitive calls.

(Continued on next page)

Strategic lines (cont.)

8. Maintenance and consolidation of scientific output

Strategic objectives:

- Expand publications from basic science laboratories.
- Increase the number of publications in high-quality journals.
- Increase the impact factor in the Area of Systemic Diseases.

9. Development of a basic research area in nephroprotection

Axis 3: Training

1. Increase the possibilities for undergraduate and postgraduate training

Strategic objectives:

- Promote preparation of doctoral theses.
- Increase funding for predoctoral fellows.
- Develop training workshops for predoctoral fellows.

2. Development of a research line for teaching new technology in health education. Creation of an advanced medical simulation center for undergraduate and postgraduate teaching and research

3. Improve research curricula of young specialists

4. Consolidation of a training area in neonatal noninvasive lung function

Strategic objectives:

- Organize 2 yearly courses on noninvasive lung function in newborn animals.

(Continued on next page)

Strategic lines (cont.)

Axis 4: Infrastructure

1. Consolidation of physical spaces and research equipment

Strategic objectives:

- Create a physical space for research associated with the clinical activity of the pathophysiology and natural history of liver and digestive diseases group.
- Improve the capacity and quality of biological sample storage for the research activity of the pathophysiology and natural history of liver and digestive diseases group.
- Create a physical space for the kidney preservation laboratory.
- Obtain laboratory quality certification to enable the group to provide services in the Area with the aim of self-funding.
- Create a physical space for histology and molecular biology techniques.

2. Conversion of the Nephrology Clinical Laboratory to a Functional Test Laboratory

Strategic objectives:

- Obtain ISO certification for the Functional Test Laboratory.
- Improve GLP in the Functional Test Laboratory.

Structure of AREA 7

Systemic diseases and organ transplantation

- ▶ Pathophysiology and natural history of liver and digestive diseases
- ▶ Inflammation and vascular damage in chronic kidney disease, dialysis, and kidney transplant.
Renal pathophysiology
- ▶ Disease of the critically ill child
- ▶ Biopathology of aging
- ▶ Vascular pathophysiology and pharmacology
- ▶ Neonatal and developmental pathophysiology
- ▶ Pathophysiology and course of COPD
- ▶ Hospital pharmacy and pharmacogenomics
- ▶ Regenerative medicine in plastic surgery
- ▶ Anesthesia in chest surgery
- ▶ Regenerative medicine and systems development: cardiovascular and osteochondral
- ▶ Pediatric endocrinology and hereditary diseases
- ▶ Experimental kidney transplant
- ▶ Artificial circulation laboratory
- ▶ Evaluation of health services and clinical epidemiology
- ▶ Clinical nutrition
- ▶ Peritransplant evaluation of the liver
- ▶ Perianesthesia evaluation
- ▶ Pediatric endocrinology
- ▶ Regeneration and biomaterials in musculoskeletal disease
- ▶ Iron metabolism disorders
- ▶ Emergency medicine
- ▶ Pathophysiology, disease course, and therapeutic strategies in chronic respiratory insufficiency and sleep-associated respiratory disorders
- ▶ Anesthesia, toxins, and arrhythmias

Pathophysiology and natural history of liver and digestive diseases

Group director: RAFAEL BAÑARES CAÑIZARES

Type: Consolidated

Programs and research lines

P1: Complications of cirrhosis: natural history of liver cirrhosis

- ▶ L1: Pharmacological treatment of portal hypertension.
- ▶ L2: Hepatic encephalopathy: molecular bases and mechanisms.
- ▶ L3: Prognostic influence of measurement of the hepatic venous pressure gradient.
- ▶ L4: Pathophysiology of portal hypertension. Modulation of bacterial translocation.
- ▶ L5: Acute chronic liver failure: artificial liver support.
- ▶ L6: Cardiopulmonary manifestations of advanced cirrhosis.
- ▶ L7: Anticoagulation therapy in chronic liver disease.

P2: Liver transplant

- ▶ L1: De novo autoimmune hepatitis after liver transplant.
- ▶ L2: Fibrogenesis after liver transplant. Pharmacologic modulation.
- ▶ L3: De novo tumors after liver transplant. Influence of immunosuppressive treatment.
- ▶ L4: Post-transplant infection.

P3: Pathophysiology of the intestinal barrier and mucosal inflammation

- ▶ L1: Molecular mechanisms of mucosal inflammation in human and experimental inflammatory bowel disease (rat and mouse)
- ▶ L2: Dysfunction of the intestinal barrier in systemic processes: psychosocial stress, cerebral ischemia, sepsis, liver cirrhosis
- ▶ L3: Intestinal anti-inflammatory receptors as therapeutic targets in intestinal inflammation: PPAR γ , liver X receptor, cannabinoid receptors
- ▶ L4: Expression and biological functions of the NOGO protein in the intestinal epithelium

P4: Liver regeneration

- ▶ L1: Mechanisms of liver regeneration.

P5: Viral hepatitis

In recent years, the pathophysiology and natural history of liver and digestive diseases group has carried out its research work in digestive diseases both in the clinical setting and in the laboratory. The group's basic objective is to develop applied research into the major health problems caused by digestive diseases, in terms of both prevalence and severity. Thus, end-stage liver disease and inflammatory bowel disease are its most relevant targets.

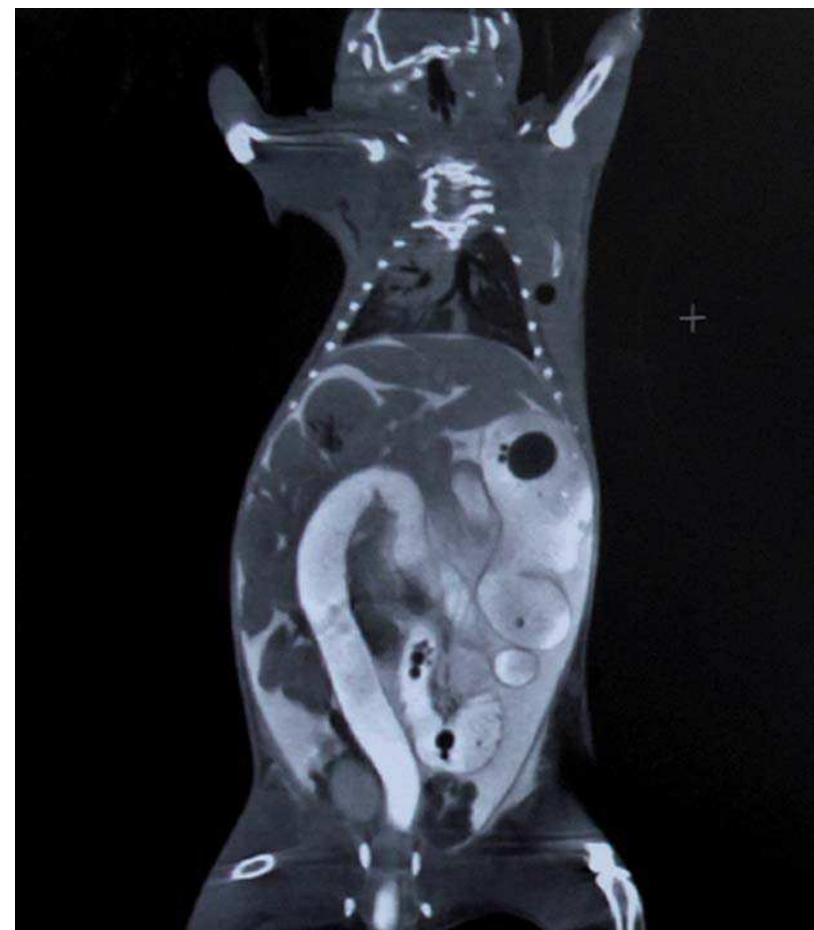
From an experimental perspective, the group has developed several animal models that enable issues arising in clinical practice to be addressed in the laboratory. Three publicly funded projects are currently under way to investigate the regulatory mechanisms of liver regeneration, to evaluate the proteins involved in regulation of intestinal permeability, and to assess the hemodynamic and biological effects of anticoagulants in cirrhosis. The group's involvement in CIBEREHD supports part of its activity and enables its continuous interaction with other units and national and international reference groups. The recent incorporation of postdoctoral researchers and a Ramón y Cajal researcher represents a considerable qualitative advance in this field.

In the clinical setting, the group's activity is centered mainly on research into the pathophysiology and clinical aspects of the complications of portal hypertension and of post-transplant outcome, as well as on the natural history of inflammatory bowel disease. Globally, the group works actively both in pathophysiology studies and in proof-of-concept studies such as clinical trials, which are usually independent, with relevant clinical variables. Of note, a new line has recently been opened to study the clinical application of artificial liver support systems.

From a training perspective, the group has supervised a considerable number of doctoral theses and is an attractive option for researchers in training.

Group members

- **Rafael Bañares Cañizares:** Senior researcher.
- **María de la Vega Catalina Rodríguez:** Predoctoral.
- **Gerardo Clemente Ricote:** Senior researcher.
- **Carolina Fernández Mena:** Predoctoral.
- **Ainhoa Fernández Yunquera:** Predoctoral.
- **Rita García Martínez:** Joan Rodés.
- **Cecilia González Asanza:** Postdoctoral.
- **Luis Ibáñez Samaniego:** Predoctoral.
- **Ignacio Marín Jiménez:** Predoctoral.
- **Ana María Matilla Peña:** Postdoctoral.
- **Pedro Menchén Fernández-Pacheco:** Postdoctoral.
- **Luis Alberto Menchén Viso:** Senior researcher.
- **Beatriz Merino Rodríguez:** Predoctoral.
- **José Miranda Bautista:** Predoctoral.
- **Óscar Nogales Rincón:** Predoctoral.
- **José Antonio Pajares Díaz:** Predoctoral.
- **Marta Puerto Cantero:** Postdoctoral.
- **Diego Rincón Rodríguez:** Postdoctoral.
- **Juan Antonio Rodríguez Feo:** Postdoctoral.
- **Magdalena Salcedo Plaza:** Postdoctoral.
- **Javier Vaquero Martín:** Ramón y Cajal.



Research projects – Competitive calls

- Principal investigator: Rafael Bañares Cañizares
Title: Estudio de la producción de trombopoyetina y los mecanismos implicados en la trombopenia de la cirrosis.
Funding body: F. Mutua Madrileña
Start date: 2012
End date: 2014
- Principal investigator: Cristina Alberta Ripoll Noiseux
Title: Estudio del efecto de la enoxaparina sobre la fibrosis, angiogénesis y hemodinámica hepática en pacientes con cirrosis y ratas con cirrosis por cci4.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Javier Vaquero Martín
Title: Papel y mecanismos de la interleucina (il)-6 en la encelopatía, daño y regeneración hepáticas.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015
- Principal investigator: Gerardo Clemente Ricote
Title: Herramienta inteligente para una gestión farmacoterapéutica eficiente y segura: proyecto Higea.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015
- Principal investigator: Luis Alberto Menchén Viso
Title: Disfunción de barrera, fibrosis y carcinogénesis asociadas a inflamación crónica en un modelo murino de enterocolitis: análisis mediante imagen y evaluación de un nuevo marcador molecular.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016

- Principal investigator: Rafael Bañares Cañizares
Title: Análisis del Entorno del Instituto de Investigación Sanitaria.
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2015

Theses

Doctoral student	Title	Director	University
Alejandra Ochoa Palominos	Mejoría de la capacidad predictiva de la elastografía transitoria para el diagnóstico de la hipertensión portal clínicamente significativa en pacientes con cirrosis compensada mediante árboles de decisión clínica	Rafael Bañares y Diego Rincón	Universidad Complutense de Madrid

Clinical practice guidelines

Authors	Title	Publication
Fernandez-Esparrach G; Calderon A; de la Pena J; Tasende JBD; Esteban JM; Gimeno-García AZ; de Tejada AH; Martinez-Ares D; Nicolas-Perez D; Nogales O; Ono A; Orive-Calzada A; Parra-Blanco A; Munoz SR; Hernandez ES; Sanchez-Yague A; Vazquez-Sequeiros E; Vila J; Roses LL	Endoscopic Submucosal Dissection Sociedad Espanola de Endoscopia Digestiva (SEED) clinical guideline	ENDOSCOPY

PATOPHYSIOLOGY AND NATURAL HISTORY OF LIVER AND DIGESTIVE DISEASES

Publications

Total impact factor: 94

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Molina-Infante J; Rivas MD; Hernandez-Alonso M; Vinagre-Rodriguez G; Mateos-Rodriguez JM; Duenas-Sadornil C; Perez-Gallardo B; Ferrando-Lamana L; Fernandez-Gonzalez N; Banares R; Zamorano, J. *Proton pump inhibitor-responsive oesophageal eosinophilia correlates with downregulation of eotaxin-3 and Th2 cytokines overexpression.* ALIMENTARY PHARMACOLOGY & THERAPEUTICS. 2014; 40(8) 955-965. IF: 5.727. Quartile: 1.
- Yotti R; Bermejo J; Benito Y; Sanz-Ruiz R; Ripoll C; Martinez-Legazpi P; del Villar CP; Elizaga J; Gonzalez-Mansilla A; Barrio. *Validation of Noninvasive Indices of Global Systolic Function in Patients With Normal and Abnormal Loading Conditions A Simultaneous Echocardiography Pressure-Volume Catheterization Study.* CIRCULATION-CARDIOVASCULAR IMAGING. 2014; 7(1) 164-172. IF: 5.316. Quartile: 1.
- Perez-Latorre L; Sanchez-Conde M; Rincon D; Miralles P; Aldamiz-Echevarria T; Carrero A; Tejerina F; Diez C. *Prediction of Liver Complications in Patients With Hepatitis C Virus-Related Cirrhosis With and Without HIV Coinfection: Comparison of Hepatic Venous Pressure Gradient and Transient Elastography.* CLINICAL INFECTIOUS DISEASES. 2014; 58(5) 713-718. IF: 8.886. Quartile: 1.
- Banares R; Catalina MV; Vaquero J. *Molecular Adsorbent Recirculating System and Bioartificial Devices for Liver Failure.* CLINICS IN LIVER DISEASE. 2014; 18(4) 945. IF: 3.66. Quartile: 2.
- Fortea JL; Banares R; Vaquero J. *Intracranial Pressure in Acute Liver Failure: To Bolt or Not to Bolt-That Is the Question**. CRITICAL CARE MEDICINE. 2014; 42(5) 1304-1305. IF: 6.312. Quartile: 1.
- Fernandez-Esparrach G; Calderon A; de la Pena J; Tasende JBD; Esteban JM; Gimeno-Garcia AZ; de Tejada AH; Martinez-Ares D; Nicolas-Perez D; Nogales O; Ono A; Orive-Calzada A; Parra-Blanco A; Munoz SR; Hernandez ES; Sanchez-Yague A; Vazquez-Sequeiros E; Vi. *Endoscopic Submucosal Dissection Sociedad Espanola de Endoscopia Digestiva (SEED) clinical guideline.* ENDOSCOPY. 2014; 46(4) 361-370. IF: 5.053. Quartile: 1.
- Klimova K; Suarez CP; Pelaez T; Plaza MS. *Cutaneous mucormycosis as a rare complication of a liver transplantation.* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2014; 32(8) 537-539. IF: 2.172. Quartile: 3.
- Miranda-Bautista J; Padilla-Suarez C; Bouza E; Munoz P; Menchen L; Marin-Jimenez I. *Listeria monocytogenes infection in inflammatory bowel disease patients: case series and review of the literature.* EUROPEAN JOURNAL OF GASTROENTEROLOGY & HEPATOLOGY. 2014; 26(11) 1247-1252. IF: 2.253. Quartile: 3.
- Catalina MV; Ibanez L; Banares R. *Acute on chronic liver failure: A new concept for a classic complication.* GASTROENTEROLOGIA Y HEPATOLOGIA. 2014; 37(4) 229-232. IF: 0.838. Quartile: 4.
- Marin-Jimenez I; Sanchez VG; Gisbert JP; Calle JLP; Lujan M; Abalos JG; Tabernero S; Julia B; Romero C; Cea-Calvo L; Garcia-Vicuna R; Vanaclocha F. *Immune-mediated inflammatory diseases in patients with inflammatory bowel disease. Baseline data from the Aquiles study.* GASTROENTEROLOGIA Y HEPATOLOGIA. 2014; 37(9) 495-502. IF: 0.838. Quartile: 4.
- Fontenla FD; Miranda-Bautista J; Alonso AH; Gorosarri MU; Perez JMJ; Labiano MS. *Telaprevir-induced cutaneous lesions.* GASTROENTEROLOGIA Y HEPATOLOGIA. 2014; 37(7) 411-420. IF: 0.838. Quartile: 4.
- Altamirano J; Miquel R; Katootizadeh A; Abraldes JG; Duarte-Rojo A; Louvet A; Augustin S; Mookerjee RP; Michelena J; Smyrk TC; Buob D; Leteurtre E; Rincon D; Ruiz P; Garcia-Pagan JC; Guerrero-Marquez C; Jones PD; Barratt AS; Arroyo V; Bruguera M; Banares. *A Histologic Scoring System for Prognosis of Patients With Alcoholic Hepatitis.* GASTROENTEROLOGY. 2014; 146(5) 1231. IF: 16.716. Quartile: 1.
- Canas-Ventura A; Marquez L; Ricart E; Domenech E; Gisbert JP; Garcia-Sanchez V; Marin-Jimenez I; Rodriguez-Moranta F; Gomollon F; Calvet X;

- Merino O; García-Planella E; Vazquez-Romero N; Esteve M; Iborra M; Gutierrez A; Vera M; Andreu M. *Risk of colectomy in patients with ulcerative colitis under thiopurine treatment.* JOURNAL OF CROHNS & COLITIS. 2014; 8(10) 1287-1293. IF: 6.234. Quartile: 1.
- Andreu M; Marquez L; Domenech E; Gisbert JP; García V; Marin-Jimenez I; Penalva M; Gomollon F; Calvet X; Merino O; García-Planella E; Vazquez-Romero N; Esteve M; Nos P; Gutierrez A; Vera I; Cabriada JL; Martin MD; Canas-Ventura A; Panes J. *Disease severity in familial cases of IBD.* JOURNAL OF CROHNS & COLITIS. 2014; 8(3) 234-239. IF: 6.234. Quartile: 1.
 - Briceno J; Cruz-Ramirez M; Prieto M; Navasa M; de Urbina JO; Orti R; Gomez-Bravo MA; Otero A; Varo E; Tome S; Clemente G; Banares R; Barcena R; Cuervas-Mons V; Solorzano G; Vinaixa C; Rubin A; Colmenero J; Valdivieso A; Ciria R; Hervas-Martinez C;. *Use of artificial intelligence as an innovative donor-recipient matching model for liver transplantation: Results from a multicenter Spanish study.* JOURNAL OF HEPATOLOGY. 2014; 61(5) 1020-1028. IF: 11.336. Quartile: 1.
 - Rincon D; Vaquero J; Hernando A; Galindo E; Ripoll C; Puerto M; Salcedo M; Frances R; Matilla A; Catalina MV; Clemen. *Oral probiotic VSL#3 attenuates the circulatory disturbances of patients with cirrhosis and ascites.* LIVER INTERNATIONAL. 2014; 34(10) 1504-1512. IF: 4.85. Quartile: 1.
 - Palominos AO; Fontenla FD; Asanza CG; Rodriguez BM; Rincon ON; Fernandez-Pacheco PM. *Gastric and duodenal Pseudomelanosis: report of two cases.* REVISTA ESPAÑOLA DE ENFERMEDADES DIGESTIVAS. 2014; 106(5) 346-347. IF: 1.414. Quartile: 4.
 - Banares R; Salcedo M. *Long-term Management After Liver Transplantation: Primary Care Physician Versus Transplant Hospital.* TRANSPLANTATION PROCEEDINGS. 2014; 46(9) 3095-3096. IF: 0.982. Quartile: 3.
 - Samaniego LI; Valderas MP; Yunquera AF; Rodriguez DR; Baena JAL; Pena AM; Rodriguez MVC; Ricote GC; Canizares RB; Plaza MS. *Management of Liver Transplantation Waiting List for Decompensated Cirrhosis in a Spanish Tertiary Hospital: Differences Between Hepatitis C Virus Recipients and Other Etiologies.* TRANSPLANTATION PROCEEDINGS. 2014; 46(9) 3084-3086. IF: 0.982. Quartile: 3.

- Ortega F; Puig JM; Paul-Ramos FJ; Salcedo M; Bravo JA; De la Cruz J; Lauzurica R; Miras M; Rodriguez-Goyanes G; Guinea G. *Evaluating the Impact of Gastrointestinal Episodes on the Health-Related Quality of Life of Solid Organ Transplant Recipients: Sensitivity to Change of the SIGIT-QoL Questionnaire: Mypaciente-2 Study.* TRANSPLANTATION PROCEEDINGS. 2014; 46(10) 3629-3636. IF: 0,982. Quartile: 3.
- Fernandez-Urien I; Carretero C; Borobio E; Borda A; Estevez E; Galter S; Gonzalez-Suarez B; Gonzalez B; Lujan M; Martinez JL; Martinez V; Menchen P; Navajas J; Pons V; Prieto C; Valle J. *Capsule endoscopy capture rate: Has 4 frames-per-second any impact over 2 frames-per-second?.* WORLD JOURNAL OF GASTROENTEROLOGY. 2014; 20(39) 14472-14478. IF: 2.369. Quartile: 3.

Publications in journals without impact factor indexed in the Journal Citation Reports:

- Flores V; Rodriguez-Sanchez B; Marin-Jimenez I; Bouza E; Menchen L; Munoz P. *Prospective Study of BK Virus Infection in Patients with Inflammatory Bowel Disease.* SCIENTIFIC WORLD JOURNAL. 2014.

	Number of documents	IF
Own publications	11	25.1
Joint publications	10	68.9
First-decile publications	6	53.0
First-quartile publications	10	76.7
Second-quartile publications	1	3.7
Third-quartile publications	6	9.7
Fourth-quartile publications	4	3.9
Nonindexed publications	1	-
Total publications	22	94.0

Inflammation and vascular damage in chronic kidney disease, dialysis, and kidney transplant. Renal pathophysiology

Group director: JOSÉ LUÑO FERNÁNDEZ

Type: Consolidated

Research lines

- ▶ L1: Prevention and treatment of chronic kidney disease.
- ▶ L2: Evaluation of antiproteinuric therapy in autoimmune diseases.
- ▶ L3: New dialysis techniques.
- ▶ L4: Kidney transplantation.
- ▶ L5: Study of toxic and nontoxic acute kidney failure.
- ▶ L6: Nephroprotection.
- ▶ L7: Therapeutic targets in acute kidney failure: cholesterol rafts.
- ▶ L8: Study of palliative care for uremic patients who are not candidates for dialysis (home-based).
- ▶ L9: Cardiovascular risk in kidney disease.
- ▶ L10: Hyperuricemia, vascular and renal damage.
- ▶ L11: Diabetic nephropathy.

Group members

- **Soraya Abad Estébanez:** Predoctoral.
- **Fernando Anaya Fernández-Lomana:** Senior researcher.
- **Soledad García de Vinuesa Rojas:** Senior researcher.
- **María Ángeles Goicoechea Diezhondino:** Senior researcher.
- **Blanca Humanes Sánchez:** Postdoctoral.
- **Juan Carlos Jado Rodríguez:** Predoctoral.
- **Alberto Lázaro Fernández:** Postdoctoral.
- **José Antonio Lázaro Manero**
- **Juan Manuel López Gómez:** Senior researcher.
- **José Luño Fernández:** Senior researcher.
- **Rosa Melero Martín:** Predoctoral.
- **Marina Mojena Sánchez:** Postdoctoral.
- **Ana María Pérez de José:** Postdoctoral.
- **Manuel Antonio Rengel Aranda:** Postdoctoral.
- **Patrocinio Rodríguez Benítez:** Predoctoral.
- **María Luisa Rodríguez Ferrero:** Predoctoral.
- **Alberto Tejedor Jorge:** Senior researcher.
- **María Almudena Vega Martínez:** Postdoctoral.
- **Úrsula Verdalles Guzmán:** Predoctoral.
- **Eduardo Verde Moreno:** Predoctoral.

Research projects – Competitive calls

- Principal investigator: Alberto Tejedor Jorge
Title: Aproximación experimental al desarrollo de estrategias de protección renal en la toxicidad por aguda por contrastes yodados y antibióticos nefrotóxicos.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Alberto Tejedor Jorge
Title: Utilización de modelos animales y celulares para caracterizar el fracaso renal agudo y multiorgánico.
Funding body: Comunidad de Madrid
Start date: 2012
End date: 2015
- Principal investigator: Alberto Lázaro Fernández
Title: Bloquear las balsas de colesterol del borde en cepillo del túbulo proximal previene el fallo renal asociado al paludismo y limita la propagación del fallo renal séptico.
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017

Theses

Doctoral student	Title	Director	University
Juan Carlos Jado Rodríguez	Cilastatina protege del fracaso renal agudo inducido por gentamicina sin comprometer su eficacia bactericida	Alberto Tejedor Jorge, Alberto Lázaro Fernández	Universidad Autónoma de Madrid

Clinical practice guidelines

Authors	Title	Publication
Gorostidi M; Santamaría R; Alcazar R; Fernandez-Fresnedo G; Galceran JM; Goicoechea M; Oliveras A; Portoles J; Rubio E; Segura J; Aranda P; de Francisco ALM; del Pino MD; Fernandez-Vega F; Gorriiz JL; Luno J; Marin R; Martinez I; Martinez-Castelao A; Orte LM; Quereda C; Rodriguez-Perez JC; Rodriguez M; Ruilope LM	Spanish Society of Nephrology document on KDIGO guidelines for the assessment and treatment of chronic kidney disease	NEFROLOGÍA

Patents

- Title: Uso de la cilastatina para reducir la nefrotoxicidad en distintos compuestos
Reference: PCT/ES2008/07013
Owner: FIBHGM
Inventors: Alberto Tejedor Jorge, Alberto Lázaro Fernández, Sonia Camaña Páez, Ana María Torres Redondo, José Antonio Lázaro Manero, Manuela Castilla Barba, María del Carmen de Lucas Collantes
- Title: Método de Diagnóstico de Insuficiencia Renal
Reference: P201131506
Owner: FIBHGM, UAH, Fundación PUIGVERT
Inventors: Ricardo Bosch Martínez, Arancha Ortega de Mues, Jordi Bover San Juan, Alberto Lázaro Fernández, Alberto Tejedor Jorge

INFLAMMATION AND VASCULAR DAMAGE IN CHRONIC KIDNEY DISEASE, DIALYSIS, AND KIDNEY TRANSPLANT. RENAL PATHOPHYSIOLOGY

Publications

Total impact factor: 18.3

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Bouza E; Rojas L; Guembe M; Marin M; Anaya F; Luno J; Lopez JM; Munoz P. *Predictive value of superficial cultures to anticipate tunneled hemodialysis catheter-related bloodstream infection.* DIAGNOSTIC MICROBIOLOGY AND INFECTIOUS DISEASE. 2014; 78(3) 316-319. IF: 2.457. Quartile: 3.
- Vega A; Abad S; Verdalles U; Aragoncillo I; Velazquez K; Quiroga B; Escudero V; Lopez-Gomez JM. *Dose equivalence between continuous erythropoietin receptor activator (CERA), Darbepoetin and Epoetin in patients with advanced chronic kidney disease.* HIPPOKRATIA. 2014; 18(4) 315-318. IF: 0.365. Quartile: 4.
- Vega A; de Vinuesa SG; Goicoechea M; Verdalles U; Martinez-Pueyo ML; Chacon A; Quiroga B; Luno J. *Evaluation of methods based on creatinine and cystatin C to estimate glomerular filtration rate in chronic kidney disease.* INTERNATIONAL UROLOGY AND NEPHROLOGY. 2014; 46(6) 1161-1167. IF: 1.519. Quartile: 3.
- Gonzalez-Del Vecchio M; Vena A; Valerio M; Marin M; Verde E; Munoz P; Bouza E. *Coxiella burnetii Infection in Hemodialysis and Other Vascular Grafts.* MEDICINE. 2014; 93(24) 342-349. IF: 5.723. Quartile: 1.
- Quiroga B; Villaverde M; Vega A; Abad S; Reque J; Lopez-Gomez JM. *Procalcitonin as an early predictor of acute infection in hemodialysis patients.* NEFROLOGIA. 2014; 34(3) 341-346. IF: 1.223. Quartile: 3.
- de Jose AP; Verdalles-Guzman U; Abad S; Vega A; Reque J; Panizo N; Rincon A; Yuste C; Arroyo D; Lopez-Gomez JM. *Metabolic syndrome is associated with cardiovascular events in haemodialysis.* NEFROLOGIA. 2014; 34(1) 69-75. IF: 1.223. Quartile: 3.
- Arroyo D; Panizo N; Abad S; Vega A; Perez-de Jose A; Lopez-Gomez JM. *The effect of replacing aluminium hydroxide with calcium acetate/magnesium carbonate on serum phosphorus control in haemodialysis patients.* NEFROLOGIA. 2014; 34(2) 199-204. IF: 1.223. Quartile: 3.
- Runkle I; Villabona C; Navarro A; Pose A; Formiga F; Tejedor A; Poch E. *Treatment of hyponatremia induced by the syndrome of inappropriate antidiuretic hormone secretion: a multidisciplinary algorithm.* NEFROLOGIA. 2014; 34(4) 439-450. IF: 1.223. Quartile: 3.
- Vega A; Quiroga B; Abad S; Ruiz C; Lopez-Gomez JM. *Study on overhydration in dialysis patients and its association with inflammation.* NEFROLOGIA. 2014; 34(5) 579-583. IF: 1.223. Quartile: 3.
- Gorostidi M; Santamaria R; Alcazar R; Fernandez-Fresnedo G; Galceran JM; Goicoechea M; Oliveras A; Portoles J; Rubio E; Segura J; Aranda P; de Francisco ALM; del Pino MD; Fernandez-Vega F; Gorriiz JL; Luno J; Marin R; Martinez I; Martinez-Castelao. *Spanish Society of Nephrology document on KDIGO guidelines for the assessment and treatment of chronic kidney disease.* NEFROLOGIA. 2014; 34(3) 302-316. IF: 1.223. Quartile: 3.
- Vega A; Ruiz C; Abad S; Quiroga B; Velazquez K; Yuste C; Aragoncillo I; Gomez JML. *Body composition affects the response to erythropoiesis-stimulating agents in patients with chronic kidney disease in dialysis.* RENAL FAILURE. 2014; 36(7) 1073-1077. IF: 0.944. Quartile: 4.

	Number of documents	IF
Own publications	7	7.7
Joint publications	4	10.6
First-decile publications	1	5.7
First-quartile publications	1	5.7
Second-quartile publications	0	0.0
Third-quartile publications	8	11.3
Fourth-quartile publications	2	1.3
Nonindexed publications	0	-
Total publications	11	18.3

Diseases of the critically ill child

Group director: JESÚS LÓPEZ-HERCE CID

Type: Consolidated

Research lines

- ▶ L1: Cardiorespiratory arrest in infancy: experimental and clinical approaches.
- ▶ L2: Treatment of acute kidney failure in the critically ill child.
- ▶ L3: Hemodynamic monitoring, tissue perfusion, and treatment of shock.
- ▶ L4: Nutrition and digestive disease in the critically ill child.
- ▶ L5: Monitoring of sedation and analgesia in the critically ill child.
- ▶ L6: Respiratory care in the critically ill child.

The diseases of the critically ill child research group of IISGM is formed by a team of pediatricians who care for and treat critically ill children.

The group develops experimental, academic, and clinical research lines with projects that bring together translational animal experimentation, clinical research, and application of the results in teaching. The basic research lines are cardiorespiratory arrest and cardiopulmonary resuscitation, invasive and noninvasive hemodynamic monitoring, nutrition in the critically ill child, kidney failure, renal replacement therapy, and monitoring of analgesia and sedation in critically ill children.

The group's basic objective is to collaborate with other pediatric groups and groups from specialized areas to perform multicenter studies. This group is a member of the only pediatric research network funded by the Instituto Carlos III—Red de Salud Materno-infantil y del Desarrollo (Red Samid [*Mother and Child and Developmental Health Network*])—and it coordinates the Red Iberoamericana de estudio de la parada cardiorrespiratoria en la infancia (RIBEPCI [*Latin American Network for the Study of Cardiorespiratory Arrest in Infancy*]).

Group members

- **Andrés Alcaraz Romero:** Postdoctoral.
- **Amaya Bustinza Arriortúa:** Predoctoral.
- **Ángel Carrillo Álvarez:** Postdoctoral.
- **Jimena del Castillo Peral:** Predoctoral.
- **Sarah Fernández Lafever:** Post-MIR FIBHGM.
- **Rafael González Cortés:** Trainee.
- **Jorge López González:** Río Hortega.
- **Jesús López-Herce Cid:** Senior researcher.
- **Santiago Mencía Bartolomé:** Postdoctoral.
- **Amelia Sánchez Galindo:**
- **César Sánchez Sánchez:** Postdoctoral.
- **María José Santiago Lozano:** Postdoctoral.
- **María José Solana García:** Río Hortega.
- **Blanca Toledo del Castillo:** Post-MIR FIBHGM.
- **Javier Urbano Villaescusa:** Juan Rodés.

Research projects – Competitive calls

- Principal investigator: Ángel Carrillo Álvarez
Title: Efecto de la dieta hiperproteica en el metabolismo proteico en lactantes críticamente enfermos.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Jesús López-Herce Cid
Title: Efecto de la frecuencia respiratoria durante la reanimación cardiopulmonar sobre la supervivencia, hemodinámica, oxigenación, ventilación y el daño celular en un modelo animal infantil de parada cardíaca.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015
- Principal investigator: María José Santiago Lozano
Title: Repercusión de las tecnonacional de investigaciones cardiovasculares de depuración extrarenal sobre la hemodinamia y la función renal en el niño: estudio clínico y experimental.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015
- Principal investigator: Javier Urbano Villaescusa
Title: Valor de la microcirculación y de la prueba de oclusión vascular como métodos no invasivos para la monitorización de la hemorragia aguda y la propuesta al tratamiento.
Funding body: F. Mutua Madrileña
Start date: 2014
End date: 2017

- Principal investigator: Javier Urbano Villaescusa
Title: Efectos de la resucitación mediante albúmina hipertónica o gelafundina sobre los parámetros hemodinámicos, de perfusión tisular y de función renal en niños críticamente enfermos.
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017

Theses

Doctoral student	Title	Director	University
Javier Urbano Villaescusa	Comparación de la eficacia de las soluciones coloides hipertónicas y la solución salina en el tratamiento del shock hipovolémico en un modelo animal infantil e influencia sobre la oxigenación tisular	Jesús López-Herce Cid	Universidad Autónoma de Madrid
María José Solana García	Eficacia y farmacocinética del omeprazol intravenoso para la profilaxis de la hemorragia digestiva y el reflujo gastroesofágico en niños críticos	Jesús López-Herce Cid	Universidad Autónoma de Madrid

Clinical practice guidelines

Authors	Title	Publication
López-Herce (coordinador)	Manual de experimentación animal en Pediatría y obstetricia	RedSAMID (en prensa por el Ministerio de Sanidad)

Patents

- Title: 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
Reference: P201330340
Owner: FIBHGM - SERGAS
Inventor: Jesús López-Herce, Santiago Mencía, Antonio Rodríguez
- Title: Simulador de hemofiltración (HEFISIM-1)
Reference: P201330340
Owner: FIBHGM - SERGAS
Inventor: Jesús López-Herce Cid, Santiago Mencía Bartolomé, Antonio Rodríguez Núñez

Publications

Total impact factor: 47.1

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Rodriguez MJ; Alcaraz A; Solana MJ; García A. *Neurological symptoms in hospitalised patients: do we assess hyponatraemia with sufficient care?* ACTA PAEDIATRICA. 2014; 103(1) E7-E10. IF: 1.674. Quartile: 2.
- Serrano M; Rodriguez J; Espejo A; del Olmo R; Llanos S; del Castillo J; Lopez-Herce J. *Relationship between previous severity of illness and outcome of in-hospital cardiac arrest.* ANALES DE PEDIATRIA. 2014; 81(1) 9-15. IF: 0.833. Quartile: 4.
- García IJ; Arriourtua AB; Torre JAC; Anton JG; Vicente JCD; Gonzalez CT. *A national multicentre study on nosocomial infections in PICU.* ANALES DE PEDIATRIA. 2014; 80(1) 28-33. IF: 0.833. Quartile: 4.
- Castano MJR; Romero AA; Ogando AR; Castro SV. *Use of peritoneal dialysis in newborns undergoing cardiac surgery with cardiopulmonary bypass.* ANALES DE PEDIATRIA. 2014; 80(5) 321-325. IF: 0.833. Quartile: 4.

- Fernandez SN; Santiago MJ; Lopez-Herce J; García M; Del Castillo J; Alcaraz AJ; Bellon JM. *Citrate Anticoagulation for CRRT in Children: Comparison with Heparin.* BIOMED RESEARCH INTERNATIONAL. 2014. IF: 1.579. Quartile: 3.
- Ballesteros Y; Lopez-Herce J; Gonzalez R; Solana MJ; del Castillo J; Urbano J; Botran M; García A; Lopez N; Bellon JM. *Relationship between hyperglycemia, hormone disturbances, and clinical evolution in severely hyperglycemic post surgery critically ill children: an observational study.* BMC ENDOCRINE DISORDERS. 2014; 14. IF: 1.71. Quartile: 4.
- Lopez-Herce J; del Castillo J; Matamoros M; Canadas S; Rodriguez-Calvo A; Cecchetti C; Rodriguez-Nunez A; Carrillo A. *Post return of spontaneous circulation factors associated with mortality in pediatric in-hospital cardiac arrest: a prospective multicenter multinational observational study.* CRITICAL CARE. 2014; 18(6). IF: 4.476. Quartile: 1.
- Manrique-Rodriguez S; Sanchez-Galindo AC; Lopez-Herce J; Calleja-Hernandez MA; Martinez-Martinez F; Iglesias-Peinado I; Carrillo-Alvarez A; Sanjurjo-Saez M; Fernand. *Implementing smart pump technology in a pediatric intensive care unit: A cost-effective approach.* INTERNATIONAL JOURNAL OF MEDICAL INFORMATICS. 2014; 83(2) 99-105. IF: 2.004. Quartile: 1.
- Manrique-Rodriguez S; Sanchez-Galindo AC; Lopez-Herce J; Calleja-Hernandez MA; Iglesias-Peinado I; Carrillo-Alvarez A; Saez MS; Fernandez-Llamazares CM. *Risks in the implementation and use of smart pumps in a pediatric intensive care unit: Application of the failure mode and effects analysis.* INTERNATIONAL JOURNAL OF TECHNOLOGY ASSESSMENT IN HEALTH CARE. 2014; 30(2) 210-217. IF: 1.308. Quartile: 3.
- Rey C; Sanchez-Arango D; Lopez-Herce J; Martinez-Camblor P; Garcia-Hernandez I; Prieto B; Pallavicini Z. *Vitamin D deficiency at pediatric intensive care admission.* JORNAL DE PEDIATRIA. 2014; 90(2) 135-142. IF: 1.194. Quartile: 3.
- Mencia S; Lopez M; Lopez-Herce J; Ferrero L; Rodriguez-Nunez A. *Simulating continuous renal replacement therapy: usefulness of a new simulator device.* JOURNAL OF ARTIFICIAL ORGANS. 2014; 17(1) 114-117. IF: 1.441. Quartile: 3.

DISEASES OF THE CRITICALLY ILL CHILD

- Gil-Anton J; Lopez-Bayon J; Lopez-Fernandez Y; Morteruel E; Perez-Estevez E; Lopez-Herce J. *Cardiac index monitoring by femoral arterial thermodilution after cardiac surgery in children*. JOURNAL OF CRITICAL CARE. 2014; 29(6). IF: 1.995. Quartile: 3.
- de Lorenzo-Pinto A; Sanchez-Galindo AC; Manrique-Rodriguez S; Fernandez-Llamazares CM; Fernandez-Lafever SN; San-Prudencio MG; Cortejoso L; *Prevention and treatment of intraluminal catheter thrombosis in children hospitalised in a paediatric intensive care unit*. JOURNAL OF PAEDIATRICS AND CHILD HEALTH. 2014; 50(1) 40-46. IF: 1.151. Quartile: 3.
- Polo JCG; Romero AJA; Gil-Esparza MAGR; Cid JLH; San Prudencio MG; Lafever SNF; Alvarez AC. *Morbimortality associated to acute kidney injury in patients admitted to pediatric intensive care units*. MEDICINA INTENSIVA. 2014; 38(7) 430-437. IF: 1.336. Quartile: 4.
- Alcaraz AJ; Gil-Ruiz MA; Castillo A; Lopez J; Romero C; Fernandez SN; Carrillo A. *Postoperative Neutrophil Gelatinase-Associated Lipocalin Predicts Acute Kidney Injury After Pediatric Cardiac Surgery*. PEDIATRIC CRITICAL CARE MEDICINE. 2014; 15(2) 121-130. IF: 2.338. Quartile: 1.
- Gonzalez R; Urbano J; Botran M; Lopez J; Solana MJ; Garcia A; Fernandez S; Lopez-Herce J. *Adrenaline, Terlipressin, and Corticoids Versus Adrenaline in the Treatment of Experimental Pediatric Asphyxial Cardiac Arrest*. PEDIATRIC CRITICAL CARE MEDICINE. 2014; 15(6) E280-E287. IF: 2.338. Quartile: 1.
- Perez DV; Jordan I; Esteban E; Garcia-Soler P; Murga V; Bonil V; Ortiz I; Flores C; Bustinta A; Cambra FJ. *Prognostic Factors in Pediatric Sepsis Study, From the Spanish Society of Pediatric Intensive Care*. PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2014; 33(2) 152-157. IF: 2.723. Quartile: 1.
- Gil-Esparza MAGR; Romero AJA; Otero AR; Villanueva NG; Moran ES; de la Blanca ARS; Romero JL; Cano JMB. *Prognostic relevance of early AKI according to pRIFLE criteria in children undergoing cardiac surgery*. PEDIATRIC NEPHROLOGY. 2014; 29(7) 1265-1272. IF: 2.856. Quartile: 1.
- Rodriguez-Nunez A; Lopez-Herce J; del Castillo J; Bellon JM. *Shockable rhythms and defibrillation during in-hospital pediatric cardiac arrest*. RESUSCITATION. 2014; 85(3) 387-391. IF: 4.167. Quartile: 1.
- del Castillo J; Lopez-Herce J; Canadas S; Matamoros M; Rodriguez-Nunez A; Rodriguez-Calvo A; Carrillo A. *Cardiac arrest and resuscitation in the pediatric intensive care unit: A prospective multicenter multinational study*. RESUSCITATION. 2014; 85(10) 1380-1386. IF: 4.167. Quartile: 1.
- Lopez-Herce J; del Castillo J; Canadas S; Rodriguez-Nunez A; Carrillo A. *In-hospital Pediatric Cardiac Arrest in Spain*. REVISTA ESPAÑOLA DE CARDIOLOGIA. 2014; 67(3) 189-195. IF: 3.792. Quartile: 2.
- Solana MJ; Colom H; Lopez-Herce J; Urbano J; Gonzalez R; Lopez J; Manzanares C; Carrillo A. *Population Pharmacokinetics of Omeprazole in Critically Ill Pediatric Patients*. THERAPEUTIC DRUG MONITORING. 2014; 36(4) 519-527. IF: 2.376. Quartile: 2.

	Number of documents	IF
Own publications	12	28.4
Joint publications	10	18.7
First-decile publications	2	8.3
First-quartile publications	8	25.1
Second-quartile publications	3	7.8
Third-quartile publications	6	8.7
Fourth-quartile publications	5	5.5
Nonindexed publications	0	-
Total publications	22	47.1

Biopathology of aging

Group director: JOSÉ ANTONIO SERRA REXACH

Type: Consolidated

Research programs and lines

P1: Collaborative care models for the management of elderly patients

- ▶ L1: Hip fracture.
- ▶ L2: Heart disease.
- ▶ L3: Cancer.
- ▶ L4: Prevention of acute confusional state.
- ▶ L5: Difficulty swallowing.

P2: Markers of risk of mortality on discharge from an acute care unit

P3: Physical activity in the elderly

- L1: High-intensity training for institutionalized elderly persons.
L2: Prevention of functional deterioration in hospitalized elderly persons.

P4: Development and applicability of new technology for the care of elderly persons

The biopathology of aging research group has been active in the field of aging for 15 years.

The group was included in the Red Temática de Investigación Cooperativa en Envejecimiento y Fragilidad (RETICEF [*Thematic Cooperative Research Network for Aging and Frailty*] (RD12/0043), which is part of the program of Subdirección General de Redes y Centros de Investigación Cooperativa of the Instituto de Salud Carlos III. This network has been funded by the Instituto de Salud Carlos III since 2006. Its general objective is to make an in-depth study of frailty. Its more specific objectives are to define an operative concept of frailty, analyze the prevalence of frailty, determine associations between frailty and chronic diseases (especially with respect to onset of disability), discover and evaluate preventive strategies, and evaluate pharmacological and nonpharmacological interventions. The network currently includes 14 research groups from clinical practice, basic science, and prevention in universities in 8 Spanish provinces.

Group members

- **Rosario Yassira Gracia de San Román:** Predoctoral.
- **Nuria Montero Fernández:** Predoctoral.
- **Javier Ortiz Alonso:** Senior researcher.
- **José Antonio Serra Rexach:** Senior researcher.
- **María Teresa Vidán Asteiz:** Senior researcher.

Research projects – Competitive calls

- Principal investigator: José Antonio Serra Rexach
Title: Integrated prevention and detection solutions tailored to the population and risk factors associated with falls.
(PROJECT NUMBER: 297225)
Funding body: European Commission
Start date: 2012
End date: 2015
- Principal investigator: José Antonio Serra Rexach
Title: Proyecto FIS 2012. Prevencion del deterioro funcional asociado a la hospitalizacion en ancianos mediante un programa de ejercicio fisico.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015
- Principal investigator: José Antonio Serra Rexach
Title: Retic de envejecimiento y fragilidad.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2014

Clinical practice guidelines

Authors	Title	Publication
Datino T; Rexach L; Vidan MT; Alonso A; Gandara A; Ruiz-García J; Fontecha B; Martínez-Selles M	Guidelines on the management of implantable cardioverter defibrillators at the end of life	REVISTA CLINICA ESPAÑOLA

Publications

Total impact factor: 5.9

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Castano MJR; Romero AA; Ogando AR; Castro SV. *Use of peritoneal dialysis in newborns undergoing cardiac surgery with cardiopulmonary bypass.* ANALES DE PEDIATRIA. 2014; 80(5) 321-325. IF: 0.833. Quartile: 4.
- Vidan MT; Sanchez E; Fernandez-Aviles F; Serra-Rexach JA; Ortiz J; Bueno H. *FRAIL-HF, a Study to Evaluate the Clinical Complexity of Heart Failure in Nondependent Older Patients: Rationale, Methods and Baseline Characteristics.* CLINICAL CARDIOLOGY. 2014; 37(12) 725-732. IF: 2.586. Quartile: 2.
- Robles MJ; Formiga F; Vidan MT. *Delirium prevention and treatment in elderly hip fracture.* MEDICINA CLINICA. 2014; 142(8) 365-369. IF: 1.417. Quartile: 2.
- Datino T; Rexach L; Vidan MT; Alonso A; Gandara A; Ruiz-García J; Fontecha B; Martínez-Selles M. *Guidelines on the management of implantable cardioverter defibrillators at the end of life.* REVISTA CLINICA ESPAÑOLA. 2014; 214(1) 31-37. IF: 1.063. Quartile: 3.

	Number of documents	IF
Own publications	3	4.8
Joint publications	1	1.1
First-decile publications	0	0.0
First-quartile publications	0	0.0
Second-quartile publications	2	4.0
Third-quartile publications	1	1.1
Fourth-quartile publications	1	0.8
Nonindexed publications	0	-
Total publications	4	5.9

Vascular pathophysiology and pharmacology

Group director: FRANCISCO PÉREZ VIZCAÍNO

Type: Consolidated

Research programs and lines

- ▶ L1: Vasoactive factors involved in the regulation of pulmonary vascular tone.
- ▶ L2: Vascular protection mechanisms of flavonoids.

Group members

- **Bianca Barreira Barba:** Support technician.
- **Ángel Cogolludo Torralba:** Senior researcher.
- **Virginia Chamorro Marín:** Postdoctoral.
- **Andrea Martínez Ramas:** Support technician.
- **Daniel Morales Cano:** Trainee.
- **Laura Moreno Gutiérrez:** Miguel Servet.
- **Rachele Pandolfi:** CIBER.
- **Francisco Pérez Vizcaíno:** Senior researcher.

Publications**Total impact factor: 36.3**

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Oliveras A; Roura-Ferrer M; Sole L; de la Cruz A; Prieto A; Etxebarria A; Manils J; Morales-Cano D; Condom E; Soler C; Cogolludo A; Valenzuela C; Villarroel A; Comes N; Felipe A. *Functional Assembly of Kv7.1/Kv7.5 Channels With Emerging Properties on Vascular Muscle Physiology.* ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY. 2014; 34(7) 1522. IF: 6. Quartile: 1.
- Quintela AM; Jimenez R; Piqueras L; Gomez-Guzman M; Haro J; Zarzuelo MJ; Cogolludo A; Sanz MJ; Toral M; Romero M; Pérez Vizcaíno F; Duarte J. *PPAR beta activation restores the high glucose-induced impairment of insulin signalling in endothelial cells.* BRITISH JOURNAL OF PHARMACOLOGY. 2014; 171(12) 3089-3102. IF: 4.842. Quartile: 1.
- Moral-Sanz J; Moreno L; Cogolludo A; Pérez Vizcaíno F. *Pulmonary Vascular Function in Insulin Resistance.* CURRENT VASCULAR PHARMACOLOGY. 2014; 12(3) 473-482. IF: 2.966. Quartile: 2.
- Duarte J; Franciscob V; Pérez Vizcaíno F. *Modulation of nitric oxide by flavonoids.* FOOD & FUNCTION. 2014; 5(8) 1653-1668. IF: 2.791. Quartile: 1.
- Gomez-Guzman M; Jimenez R; Romero M; Sanchez M; Zarzuelo MJ; Gomez-Morales M; O'Valle F; Lopez-Farre AJ; Algieri F; Galvez J; Pérez Vizcaíno F; Sabio JM; Duarte J. *Chronic Hydroxychloroquine Improves Endothelial Dysfunction and Protects Kidney in a Mouse Model of Systemic Lupus Erythematosus.* HYPERTENSION. 2014; 64(2) 330. IF: 6.48. Quartile: 1.
- Van der Sterren S; Kessels I; Pérez Vizcaíno F; Cogolludo AL; Villamor E. *PRENATAL EXPOSURE TO HYPEROXIA MODIFIES THE THROMBOXANE PROSTANOID RECEPTOR-MEDIATED RESPONSE TO H2O2 IN THE DUCTUS ARTERIOSUS OF THE CHICKEN EMBRYO.* JOURNAL OF PHYSIOLOGY AND PHARMACOLOGY. 2014; 65(2) 283-293. IF: 2.386. Quartile: 2.

- Perez A; Gonzalez-Manzano S; Jimenez R; Perez-Abud R; Haro JM; Osuna A; Santos-Buelga C; Duarte J; Pérez Vizcaíno F. *The flavonoid quercetin induces acute vasodilator effects in healthy volunteers: Correlation with beta-glucuronidase activity.* PHARMACOLOGICAL RESEARCH. 2014; 89. 11-18. IF: 4.408. Quartile: 1.
- Morales-Cano D; Menendez C; Moreno E; Moral-Sanz J; Barreira B; Galindo P; Pandolfi R; Jimenez R; Moreno L; Cogolludo A; Duarte J; Pérez Vizcaíno F. *The Flavonoid Quercetin Reverses Pulmonary Hypertension in Rats.* PLOS ONE. 2014; 9(12). IF: 3.234. Quartile: 1.
- Climent B; Moreno L; Martinez P; Contreras C; Sanchez A; Pérez Vizcaíno F; Garcia-Sacristan A; Rivera L; Prieto D. *Upregulation of SK3 and IK1 Channels Contributes to the Enhanced Endothelial Calcium Signaling and the Preserved Coronary Relaxation in Obese Zucker Rats.* PLOS ONE. 2014; 9(10). IF: 3.234. Quartile: 1.

	Number of documents	IF
Own publications	4	13.4
Joint publications	5	22.9
First-decile publications	3	17.3
First-quartile publications	7	31.0
Second-quartile publications	2	5.4
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	9	36.3

Neonatal and developmental pathophysiology

Group director: **MANUEL SÁNCHEZ LUNA**

Type: In process of consolidation

Research programs and lines

P1: Prevention and treatment of bronchopulmonary dysplasia

- ▶ L1: Noninvasive respiratory support.
- ▶ L2: Animal model of bronchopulmonary dysplasia induced by pronged exposure to oxygen.
- ▶ L3: Helium in neonatal respiratory support.
- ▶ L4: Nitric oxide in the prevention of bronchopulmonary dysplasia.
- ▶ L5: Congenital diaphragmatic hernia.
- ▶ L6: Expression of VEGF in the lungs of newborn rats exposed to nitrofen in utero.
- ▶ L7: Effect of tracheal ligation in utero on fetal lung development.

P2: Neonatal neuroprotection

- ▶ L1: Active hypothermia in the prevention of brain damage induced by hypoxic ischemic encephalopathy.

P3: Neonatal infection

- ▶ L1: Nosocomial infection.
- ▶ L2: Study of innate immunity in the extremely preterm newborn.
- ▶ L3: Development of autologous vaccines for the prevention of nosocomial infection

P4: Imaging in neonatology

- ▶ L1: Development of an incubator for neonatal imaging with nonionizing radiation.

P5: Neonatal nutrition

- ▶ L1: Cyclic parenteral nutrition.

Group members

- **María Arriaga Redondo:** Predoctoral.
- **Belén Bernardo Atienza:** Predoctoral.
- **Dorotea Blanco Bravo:** Predoctoral.
- **Sylvia Caballero Martín:** Predoctoral.
- **Evelyn Cano Jiménez:** Predoctoral.
- **Paz Chimenti Camacho:** Predoctoral.
- **María Luisa Franco Fernández:** Predoctoral.
- **Elena Maderuelo Rodríguez:** Predoctoral.
- **María Itziar Marsinyach Ros:** Predoctoral.
- **Nelia Navarro Patiño:** Predoctoral.
- **María Isabel Pescador Chamorro:** Predoctoral.
- **Cristina Ramos Navarro:** Postdoctoral.
- **Ana Rodríguez Sánchez de la Blanca:** Predoctoral.
- **María del Carmen Sánchez Gómez de Orgaz:** Predoctoral.
- **Manuel Sánchez Luna:** Senior researcher.
- **Esther Sanz López:** Predoctoral.
- **Sonia Villar Castro:** Predoctoral.
- **Elena Zamora Flores:** Predoctoral.
- **Gonzalo Zeballos Sarrato:** Predoctoral.
- **Susana Elena Zeballos Sarrato:** Predoctoral.

Research projects – Competitive calls

- Principal investigator: Manuel Sánchez Luna
Title: Proyecto FIS 2014. Ventilación mecánica de alta frecuencia con frecuencias elevadas de protección pulmonar en el síndrome de distrés respiratorio de lechones recién nacidos.
Funding body: Instituto de Salud Carlos III
Start date: 2015
End date: 2017

Theses

Doctoral student	Title	Director	University
Evelyn Cano Giménez	Estrés y ansiedad parental en la unidad de cuidados intensivos neonatal. El papel modulador de una intervención temprana	Manuel Sánchez Luna, Alfredo Gustavo Brito de la Nuez	Universidad de Murcia

Patents

- Title: Incubadora para Imagen con Radiación No Ionizante
Reference: PCT/ES2007/070214
Owner: FIBHGM
Inventors: Juan José Vaquero, Manuel Desco Menéndez, Manuel Sánchez Luna
- Title: Método para visualizar la información contenida en imágenes tridimensionales del corazón
Reference: P201000363; PCT/ES2011/000069; US20130069945
Owner: FIBHGM/UPM
Inventors: Esther Pérez David, Ángel Arenal Maíz, Javier Bermejo Thomas, Francisco Fernández Avilés, Manuel Desco Menéndez, MªJesús Ledesma Carballo, Andrés de Santos Lleó, José Luis Rubio Guivernau



Publications

Total impact factor: 16.6

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Castano MJR; Romero AA; Ogando AR; Castro SV. *Use of peritoneal dialysis in newborns undergoing cardiac surgery with cardiopulmonary bypass.* ANALES DE PEDIATRIA. 2014; 80(5) 321-325. IF: 0.833. Quartile: 4.
- Luna MS. *Current "limit of viability".* ANALES DE PEDIATRIA. 2014; 80(6) 346-347. IF: 0.833. Quartile: 4.
- Moreno L; Moral-Sanz J; Morales-Cano D; Barreira B; Moreno E; Ferrarini A; Pandolfi R; Ruperez FJ; Cortijo J; Sanchez-Luna M; Villamor E; Pérez Vizcaíno F; Cogolludo A. *Ceramide Mediates Acute Oxygen Sensing in Vascular Tissues.* ANTIOXIDANTS & REDOX SIGNALING. 2014; 20(1) 1-14. IF: 7.407. Quartile: 1.
- Diez-Domingo J; Perez-Yarza EG; Melero JA; Sanchez-Luna M; Aguilar MD; Blasco AJ; Alfaro N; Lazaro P. *Social, economic, and health impact of the respiratory syncytial virus: a systematic search.* BMC INFECTIOUS DISEASES. 2014; 14. IF: 2.613. Quartile: 2.

- Mukerji A; Belik J; Sanchez-Luna M. *Bringing back the old: time to reevaluate the high-frequency ventilation strategy.* JOURNAL OF PERINATOLOGY. 2014; 34(6) 464-467. IF: 2.072. Quartile: 2.
- Gil-Esparza MAGR; Romero AJA; Otero AR; Villanueva NG; Moran ES; de la Blanca ARS; Romero JL; Cano JMB. *Prognostic relevance of early AKI according to pRIFLE criteria in children undergoing cardiac surgery.* PEDIATRIC NEPHROLOGY. 2014; 29(7) 1265-1272. IF: 2.856. Quartile: 1.

	Number of documents	IF
Own publications	3	3.7
Joint publications	3	12.9
First-decile publications	1	7.4
First-quartile publications	2	10.3
Second-quartile publications	2	4.7
Third-quartile publications	0	0.0
Fourth-quartile publications	2	1.7
Nonindexed publications	0	-
Total publications	6	16.6

Pathophysiology and clinical aspects of COPD

Group director: LUIS PUENTE MAESTU

Type: In process of consolidation

Research programs and lines

P1: Clinical and therapeutic aspects of COPD

- ▶ L1: Clinical drug development and nonpharmacological therapeutic interventions.
- ▶ L2: Skeletal muscle in COPD.
- ▶ L3: Surgical risk in the patient with COPD in thoracic surgery.
- ▶ L4: Epidemiology of COPD and psychosocial aspects of the disease.

P2: Clinical and therapeutic aspects of ACOS

- ▶ L1: Prevalence and management of ACOS in clinical practice

P3: Pulmonary circulation

- ▶ L1: Pulmonary thromboembolism.
- ▶ L2: Pulmonary hypertension.

P4: Diagnostic and therapeutic bronchoscopy

- ▶ L1: Rapid bronchoscopy in the management of nosocomial pneumonia.
- ▶ L2: Effects of bronchial thermoplasty in asthma.

Group members

- **Miguel Javier de Miguel Díez:** Senior researcher.
- **Marta Fuentes Alonso:** Predoctoral.
- **Julia García de Pedro:** Postdoctoral.
- **Fernando Pedraza Serrano:** Predoctoral.
- **Luis Puente Maestu:** Senior researcher.
- **Rosa María Rojas Moreno-Tomé:** Predoctoral.
- **Leonor Sánchez García:** Predoctoral.
- **Gema Sánchez Muñoz:** Predoctoral.
- **Pilar Sanz Sanz:** Predoctoral.

Research projects – Competitive calls

- Principal investigator: Luis Puente Maestu
Title: Proyecto FIS 2012. Estudio aleatorio, controlado de eficacia y seguridad del uso de CPAP en el postoperatorio inmediato de resección pulmonar como profilaxis de complicaciones respiratorias.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015

Clinical practice guidelines

Authors	Title	Publication
Ortega Ruiz F, Díaz Lobato S, Galdiz Iturri JB, García Rio F, Güell Rous R, Morante Velez F, Puente Maestu L, Tàrrega Camarasa	Oxigenoterapia continua domiciliaria	ARCHIVOS DE BRONCONEUMOLOGÍA

Publications

Total impact factor: 36.5

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Rodriguez PR; Serrano FP; Caicedo LPM; de Guzman MCR; Presmanes MC; Diez JD. *Pulmonary Veno-Occlusive Disease in a Female Gardener*. ARCHIVOS DE BRONCONEUMOLOGIA. 2014; 50(1) 40-41. IF: 1.823. Quartile: 3.
- Ruiz FO; Lobato SD; Iturri JBG; Rio FG; Rouse RG; Velez FM; Maestu LP; Camarasa JT. *Continuous Home Oxygen Therapy*. ARCHIVOS DE BRONCONEUMOLOGIA. 2014; 50(5) 185-200. IF: 1.823. Quartile: 3.
- Beeh KM; Watz H; Puente-Maestu L; de Teresa L; Jarreta D; Caracta C; Gil EG; Magnussen H. *Aclidinium improves exercise endurance, dyspnea, lung*

hyperinflation, and physical activity in patients with COPD: a randomized, placebo-controlled, crossover trial. BMC PULMONARY MEDICINE. 2014; 14. IF: 2.404. Quartile: 3.

- Garutti I; Puente-Maestu L; Laso J; Sevilla R; Ferrando A; Frias I; Reyes A; Ojeda E; Gonzalez-Aragoneses F. *Comparison of gas exchange after lung resection with a Boussignac CPAP or Venturi mask*. BRITISH JOURNAL OF ANAESTHESIA. 2014; 112(5) 929-935. IF: 4.853. Quartile: 1.
- de Miguel-Diez J; Jimenez-García R; Hernandez-Barrera V; Maestu LP; Apalacio IJ; Ramos AO; de Andres AL; Carrasco-Garrido P. *Clustering of Unhealthy Lifestyle Behaviors is Associated with a Low Adherence to Recommended Preventive Practices Among COPD Patients in Spain*. COPD-JOURNAL OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE. 2014; 11(4) 459-467. IF: 2.673. Quartile: 2.
- de Miguel-Diez J; Jimenez-García R; Jimenez D; Monreal M; Guijarro R; Otero R; Hernandez-Barrera V; Trujillo-Santos J; de Andres AL; Carrasco-Garrido P. *Trends in hospital admissions for pulmonary embolism in Spain from 2002 to 2011*. EUROPEAN RESPIRATORY JOURNAL. 2014; 44(4) 942-950. IF: 7.636. Quartile: 1.
- de Miguel-Diez J; Jimenez-García R. *Considerations for new dual-acting bronchodilator treatments for chronic obstructive pulmonary disease*. EXPERT OPINION ON INVESTIGATIONAL DRUGS. 2014; 23(4) 453-456. IF: 5.528. Quartile: 1.
- Puente-Maestu L; Calle M; Ortega-Gonzalez A; Fuster A; Gonzalez C; Marquez-Martin E; Marcos-Rodriguez PJ; Calero C; Rodriguez-Hermosa JL; de Molina RM; Aburto M; Sobradillo P; Alcazar B; Tirado-Conde G. *Multicentric study on the beta-blocker use and relation with exacerbations in COPD*. RESPIRATORY MEDICINE. 2014; 108(5) 737-744. IF: 3.086. Quartile: 2.
- de Miguel-Diez J; Jimenez-García R; Hernandez-Barrera V; de Andres AL; Villa-Asensi JR; Plaza V; Carrasco-Garrido P. *National trends in hospital admissions for asthma exacerbations among pediatric and young adult population in Spain (2002-2010)*. RESPIRATORY MEDICINE. 2014; 108(7) 983-991. IF: 3.086. Quartile: 2.

- Jimenez-García R; Hernandez-Barrera V; Rodriguez-Rieiro C; Garrido PC; de Andres AL; Jimenez-Trujillo I; Esteban-Vasallo MD; Dominguez-Berjon MF; de Miguel-Diez J; Astray-Mochales J. *Comparison of self-report influenza vaccination coverage with data from a population based computerized vaccination registry and factors associated with discordance.* VACCINE. 2014; 32(35) 4386-4392. IF: 3.624. Quartile: 2.

	Number of documents	IF
Own publications	6	23.8
Joint publications	4	12.7
First-decile publications	3	18.0
First-quartile publications	3	18.0
Second-quartile publications	4	12.5
Third-quartile publications	3	6.1
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	10	36.5

Hospital pharmacy and pharmacogenomics

Group director: MARÍA SANJURJO SÁEZ

Type: In process of consolidation

Research programs and lines

P1: Drug therapy and safety

- ▶ L1: Pharmaceutical care and quality in drug therapy.
- ▶ L2: Innovation and safety in the medication use process.
- ▶ L3: Innovation, development, and professional competence.

P2: Pharmacogenetics and pharmacogenomics

- ▶ L4: Pharmacogenetics and pharmacogenomics.
- ▶ L5: Genetics in biomedicine.
- ▶ L6: Nanomedicine.

Group members

- María Aranzazu Ais Larisgoitia: Predoctoral.
- Paula Arrabal Durán: Predoctoral.
- Silvia Buendía Bravo: Predoctoral.
- Cristina Casado Reina: Predoctoral.
- Roberto Collado Borrell: Predoctoral.
- Ana de Lorenzo Pinto: Predoctoral.
- María Esther Durán García: Predoctoral.
- Vicente Escudero Vilaplana: Predoctoral.
- María Isabel García García: Support technician.
- Xandra García González: Predoctoral.

- Raquel García Sánchez: Predoctoral.
- Álvaro Giménez Manzorro: Predoctoral.
- Eva González-Haba Peña: Predoctoral.
- Ana Herranz Alonso: Postdoctoral.
- Sara Ibáñez García: Predoctoral.
- María Elena Lobato Matilla: Predoctoral.
- Luis Andrés López Fernández: Miguel Servet.
- Silvia Manrique Rodríguez: Postdoctoral.
- Cecilia Manzanares Secades: Postdoctoral.
- María Luisa Martín Barbero: Predoctoral.
- Cecilia Martínez Fernández-Llamazares: Postdoctoral.
- Beatriz Monje García: Predoctoral.
- Ana Mur Mur: Predoctoral.
- Cristina Ortega Navarro: Predoctoral.
- María Sagrario Pernia López: Predoctoral.
- José Luis Revuelta Herrero: Predoctoral.
- Almudena Ribed Sánchez: Predoctoral.
- Carmen Guadalupe Rodríguez González: Predoctoral.
- Rosa María Romero Jiménez: Postdoctoral.
- Cristina Ruiz Martínez: Predoctoral.
- María Norberta Sánchez Fresneda: Predoctoral.
- María Sanjurjo Sáez: Senior researcher.
- Camino Sarobe Gonzalez: Predoctoral.
- María Tovar Pozo: Predoctoral.

HOSPITAL PHARMACY AND PHARMACOGENOMICS

Research projects – Competitive calls

- Principal investigator: Luis Andrés López Fernández
Title: Validación de polimorfismos genéticos asociados a toxicidad al tratamiento basado en fluoropirimidinas en cáncer colorrectal.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015
- Principal investigator: María Sanjurjo Sáez
Título: E-Oncosalud: programa de tele-medicina aplicado al tratamiento ambulatorio del paciente onco-hematológico.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016

Theses

Doctoral student	Title	Director	University
Mª Esther Durán García	Impacto del desarrollo e implantación de una herramienta informática para la conciliación de la medicación al ingreso hospitalario dentro de la atención farmacéutica en una unidad de medicina interna	Cecilia Martínez Fernández-Llamazares, Miguel Ángel Calleja-Hernández, Fernando Martínez Martínez	Universidad de Granada
Vicente Escudero Vilaplana	Utilización de agentes estimulantes de la eritropoyesis en el tratamiento de la anemia secundaria a enfermedad renal crónica	Ana Herranz Alonso, Juan Manuel López Gómez, Irene Iglesias Peinado	Universidad Complutense de Madrid

Clinical practice guidelines

Authors	Title	Publication
Silvia Manrique-Rodríguez, Amelia C Sánchez-Galindo, Cecilia M Fernández-Llamazares, Jesús López-Herce, M Rodríguez-Gómez, L Echarri-Martínez, Ángel Carrillo-Alvarez, María Sanjurjo Sáez.	Preparation of intravenous drug administration guidelines for a pediatric intensive care unit	JOURNAL OF INFUSION NURSING

Patents and intellectual property

- Title: Biblioteca de fármacos para bombas de infusión inteligentes en las unidades de cuidados intensivos pediátricos.
Reference: M-8354-10
Owner: FIBHGM.
Authors: Amelia Sánchez Caridad, Silvia Manrique Rodríguez.

Publications

Total impact factor: 36.8

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Requena T; Ais A; Yebenes M; Casado MA; Rueda M. Persistence with oral antiviral therapy in previously untreated patients with chronic hepatitis B in Spain: the EUPTHEA study. EUROPEAN JOURNAL OF HOSPITAL PHARMACY-SCIENCE AND PRACTICE. 2014; 21(6) 344-349. IF: 0.433. Quartile: 4.
- Ribed A; Escudero-Vilaplana V; Gonzalez-Haba E; Sanjurjo M. Increased INR after gefitinib and acenocoumarol co-administration. EUROPEAN REVIEW FOR MEDICAL AND PHARMACOLOGICAL SCIENCES. 2014; 18(12) 1720-1722. IF: 1.213. Quartile: 4.

- Vega A; Abad S; Verdalles U; Aragoncillo I; Velazquez K; Quiroga B; Escudero V; Lopez-Gomez JM. *Dose equivalence between continuous erythropoietin receptor activator (CERA), Darbepoetin and Epoetin in patients with advanced chronic kidney disease.* HIPPOKRATIA. 2014; 18(4) 315-318. IF: 0.365. Quartile: 4.
- Fernandez-Rozadilla C; Cazier JB; Tomlinson I; Brea-Fernandez A; Lamas MJ; Baiget M; Lopez-Fernandez LA; Clofent J; Bujanda L; Gonzalez D; de Castro L; Hemminki K; Bessa X; Andreu M; Jover R; Xicola R; Llor X; Moreno V; Castells A; Castellvi-Bel S; Carrac. *A genome-wide association study on copy-number variation identifies a 11q11 loss as a candidate susceptibility variant for colorectal cancer.* HUMAN GENETICS. 2014; 133(5) 525-534. IF: 4.824. Quartile: 1.
- de Lorenzo-Pinto A; Bueno H; Herranz-Alonso A; Elizaga-Corrales J; Perez-Sanz C; Cuellar-Basterrechea B; Fernandez-Aviles F; Sanjurjo-Saez M. *Effectiveness of a pilot intervention to reduce abciximab-related bleeding in patients with acute coronary syndromes.* INTERNATIONAL JOURNAL OF CLINICAL PHARMACY. 2014; 36(4) 821-826. IF: 1.348. Quartile: 3.
- Manrique-Rodriguez S; Sanchez-Galindo AC; Lopez-Herce J; Calleja-Hernandez MA; Martinez-Martinez F; Iglesias-Peinado I; Carrillo-Álvarez A; Sanjurjo-Saez M; Fernand. *Implementing smart pump technology in a pediatric intensive care unit: A cost-effective approach.* INTERNATIONAL JOURNAL OF MEDICAL INFORMATICS. 2014; 83(2) 99-105. IF: 2.004. Quartile: 1.
- Manrique-Rodriguez S; Sanchez-Galindo AC; Lopez-Herce J; Calleja-Hernandez MA; Iglesias-Peinado I; Carrillo-Álvarez A; Saez MS; Fernandez-Llamazares CM. *RISKS IN THE IMPLEMENTATION AND USE OF SMART PUMPS IN A PEDIATRIC INTENSIVE CARE UNIT: APPLICATION OF THE FAILURE MODE AND EFFECTS ANALYSIS.* INTERNATIONAL JOURNAL OF TECHNOLOGY ASSESSMENT IN HEALTH CARE. 2014; 30(2) 210-217. IF: 1.308. Quartile: 3.
- Valerio M; Rodriguez-Gonzalez CG; Munoz P; Caliz B; Sanjurjo M; Bouza E. *Evaluation of antifungal use in a tertiary care institution: antifungal stewardship urgently needed.* JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2014; 69(7) 1993-1999. IF: 5.313. Quartile: 1.
- Marquinez-Alonso I; Escudero-Vilaplana V; Pernia S; Bieler CB; Fernandez-Llamazares CM; Sanjurjo-Saez M. *The treatment for primary immune thrombocytopenia with romiplostim in adult and paediatric patients: use experience at a Spanish university hospital.* JOURNAL OF CLINICAL PHARMACY AND THERAPEUTICS. 2014; 39(4) 376-382. IF: 1.668. Quartile: 3.
- de Lorenzo-Pinto A; Sanchez-Galindo AC; Manrique-Rodriguez S; Fernandez-Llamazares CM; Fernandez-Lafever SN; San-Prudencio MG; Cortejoso L; *Prevention and treatment of intraluminal catheter thrombosis in children hospitalised in a paediatric intensive care unit.* JOURNAL OF PAEDIATRICS AND CHILD HEALTH. 2014; 50(1) 40-46. IF: 1.151. Quartile: 3.
- Arango C; Giraldez M; Merchan-Naranjo J; Baeza I; Castro-Fornieles J; Alda JA; Martinez-Cantarero C; Moreno C; de Andres P; Cuerda C; de la Serna E; Correll CU; Fraguas D;. *Second-Generation Antipsychotic Use in Children and Adolescents: A Six-Month Prospective Cohort Study in Drug-Naïve Patients.* JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY. 2014; 53(11) 1179-1190. IF: 7.26. Quartile: 1.
- Arrabal-Duran P; Duran-García ME; Ribed-Sanchez A; Hidalgo-Collazos P; Sanjurjo-Saez M. *Pharmaceutical interventions in prescriptions for patients admitted with chronic renal failure.* NEFROLOGIA. 2014; 34(6) 710-715. IF: 1.223. Quartile: 3.
- Duran PA; Jimenez RMR; Compes CC; Álvarez MC; Lesmes IB; Pinto AD; Bravo SB; Soriano LF; Per. *HOME PARENTERAL NUTRITION; SATISFACTION OF PATIENTS AND THEIR CAREGIVERS WITH NUTRITION UNIT AND PHARMACY SERVICE.* NUTRICION HOSPITALARIA. 2014; 29(5) 1123-1131. IF: 1.04. Quartile: 4.
- Higuera I; García-Peris P; Camblor M; Breton I; Velasco C; Romero R; Frias L; Cuerda C. *Outcomes of a general hospital-based Home Parenteral Nutrition (HPN) program; report of our experience from a 26-year period.* NUTRICION HOSPITALARIA. 2014; 30(2) 359-365. IF: 1.04. Quartile: 4.
- Ribed A; Romero-Jimenez RM; Cuerda-Compes C; Higuera-Pulgar I; Carrascal-Fabian ML; Escudero-Vilaplana V; Arranz-Arija JA;. *NUTRITIONAL ASSESSMENT AND QUALITY OF LIFE OF ONCOLOGY OUTPATIENTS INITIATING TREATMENT WITH TYROSINE-KINASE INHIBITORS.* NUTRICION HOSPITALARIA. 2014; 30(5) 1092-1100. IF: 1.04. Quartile: 4.

- Perez-Granda MJ; Barrio JM; Munoz P; Hortal J; Rincon C; Rabandan PM; Pernia MS; Bouza E. *Ethanol Lock Therapy (E-Lock) in the Prevention of Catheter-Related Bloodstream Infections (CR-BSI) after Major Heart Surgery (MHS): A Randomized Clinical Trial.* PLOS ONE. 2014; 9(3). IF: 3.234. Quartile: 1.
- Solana MJ; Colom H; Lopez-Herce J; Urbano J; Gonzalez R; Lopez J; Manzanares C; Carrillo A. *Population Pharmacokinetics of Omeprazole in Critically Ill Pediatric Patients.* THERAPEUTIC DRUG MONITORING. 2014; 36(4) 519-527. IF: 2.376. Quartile: 2.

Publications in journals not indexed in the Journal Citation Reports:

- Escudero-Vilaplana V; Osorio S; Sanjurjo-Sáez M. *Suspected itchy rash secondary to Lenalidomide.* FARM HOSP. 2014 Nov 3;38(6):495-6.

	Number of documents	IF
Own publications	9	12.0
Joint publications	8	24.8
First-decile publications	2	12.6
First-quartile publications	5	22.6
Second-quartile publications	1	2.4
Third-quartile publications	5	6.7
Fourth-quartile publications	6	5.1
Nonindexed publications	1	-
Total publications	18	36.8

Regenerative medicine in plastic surgery

Group directors: ROSA M^a PÉREZ CANO and JOSÉ MARÍA LASSO VÁZQUEZ

Type: Emerging

Research programs and lines

P1: Regenerative medicine

- ▶ L1: Breast reconstruction with stem cells from adipose tissue.
- ▶ L2: Regeneration of peripheral nerves with stem cells.
- ▶ L3: Regeneration in other diseases.

P2: Gene therapy with viral delivery vehicles

- ▶ L1: VGEF in the axial nervous system.
- ▶ L2: Peripheral nervous system.
- ▶ L3: Vascular system.

P3: Hematopoietic chimerism methods

Group members

- Luis Javier Arenas Domingo: Predoctoral.
- Edgar Alfonso Cortina Acevedo: Predoctoral.
- José María Lasso Vázquez: Postdoctoral.
- Paola Nava Pérez: Predoctoral.
- Rosa Pérez Cano: Senior researcher.

Patents

- Title: Matriz artificial de gel de fibrina endotelizada superproductora de factores proangiogénicos.
Reference: P200501182; PCT/ES2006/070059
Owner: FIBHGM.
Inventors: José Mª Lasso Vázquez, Paola Nava Pérez.

Publications

Total impact factor: 5.4

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Perin EC; Sanz-Ruiz R; Sanchez PL; Lasso J; Perez-Cano R; Alonso-Farto JC; Perez-David E; Fernandez-Santos ME; Serruys PW; Duckers HJ; Kastrup J; Chamu. *Adipose-derived regenerative cells in patients with ischemic cardiomyopathy: The PRECISE Trial.* AMERICAN HEART JOURNAL. 2014; 168(1) 88-95. IF: 4.463. Quartile: 1.

- Lasso JM; Yordanov YP; Pinilla C; Shef A. *Invasive Basal Cell Carcinoma in a Xeroderma Pigmentosum Patient: Facing Secondary and Tertiary Aggressive Recurrences.* JOURNAL OF CRANIOFACIAL SURGERY. 2014; 25(4) E336-E338. IF: 0.678. Quartile: 4.
- Aluarez-Morujo RGO; Leal RG; Vazquez JML; Yurrita BS. *Malignant peripheral nerve sheath tumour of the infra-orbital nerve.* NEUROCIRUGIA. 2014; 25(5) 240-243. IF: 0.293. Quartile: 4.

	Number of documents	IF
Own publications	1	0.7
Joint publications	2	4.8
First-decile publications	0	0.0
First-quartile publications	1	4.5
Second-quartile publications	0	0.0
Third-quartile publications	0	0.0
Fourth-quartile publications	2	1.0
Nonindexed publications	0	-
Total publications	3	5.4

Anesthesia in chest surgery

Group director: IGNACIO GARUTTI MARTÍNEZ

Type: Emerging

Research programs and lines

P1: Anesthesia in chest surgery

- ▶ L1: Pathophysiology of one-lung ventilation.
- ▶ L2: Thoracic paravertebral block.
- ▶ L3: Postoperative management.
- ▶ L4: Experimental line: lung autotransplantation.

Group members

- **Patricia Cruz Pardos:** Postdoctoral.
- **Francisco Andrés de la Gala García:** Postdoctoral.
- **María Cruz García García:** Postdoctoral.
- **Ignacio Garutti Martínez:** Senior researcher.
- **Guillermo González Casaurrán:** Predoctoral.
- **Patricia Piñeiro Otero:** Predoctoral.
- **Carlos María Simón Adiego:** Postdoctoral.
- **Elena Vara Ruiz:** Postdoctoral.

ANESTHESIA IN CHEST SURGERY

Research projects – Competitive calls

- Principal investigator: Carlos María Simón Adiego
Title: Efecto de la administración de sevoflurano y de lidocaina durante la perfusión pulmonar ex vivo de un modelo experimental de trasplante pulmonar de donante en asistolia.
Funding body: F. Mutua Madrileña
Start date: 2015
End date: 2017
- Principal investigator: Carlos María Simón Adiego
Title: Efecto de la administración de sevoflurano y de lidocaína durante la perfusión pulmonar ex vivo en un modelo experimental de trasplante de donante en asistolia.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016

Publications

Total impact factor: 20.5

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Garutti I; Rancan L; Simon C; Cusati G; Sanchez-Pedrosa G; Moraga F; Olmedilla L; Lopez-Gil MT; Vara E. *Intravenous Lidocaine Decreases Tumor Necrosis Factor Alpha Expression Both Locally and Systemically in Pigs Undergoing Lung Resection Surgery.* ANESTHESIA AND ANALGESIA. 2014; 119(4) 815-828. IF: 3.472. Quartile: 1.
- Botto F; Alonso-Coello P; Chan MTV; Villar JC; Xavier D; Srinathan S; Guyatt G; Cruz P; Graham M; Wang CY; Berwanger O; Pearse RM; Biccard BM; Abraham V; Malaga G; Hillis GS; Rodseth RN; Cook D; Polanczyk CA; Szczeklik W; Sessler DI; Sheth T; Ackland GL; *Myocardial Injury after Noncardiac Surgery.* ANESTHESIOLOGY. 2014; 120(3) 564-578. IF: 5.879. Quartile: 1.

- Garutti I; Puente-Maestu L; Laso J; Sevilla R; Ferrando A; Frias I; Reyes A; Ojeda E; Gonzalez-Aragoneses F. *Comparison of gas exchange after lung resection with a Boussignac CPAP or Venturi mask.* BRITISH JOURNAL OF ANAESTHESIA. 2014; 112(5) 929-935. IF: 4.853. Quartile: 1.
- García-Marin A; Turegano-Fuentes F; Sanchez-Arteaga A; Franco-Herrera R; Simon-Adiego C; Sanz-Sanchez M. *Bullhorn and bullfighting injuries.* EUROPEAN JOURNAL OF TRAUMA AND EMERGENCY SURGERY. 2014; 40(6) 687-691. IF: 0.346. Quartile: 4.
- Monge ALV; Álvarez-Cagigas IT; Perez-Pena J; Olmedilla L; Jimeno C; Sanz J; Cano JMB; Garutti I. *Cardiac output monitoring with pulmonary versus transpulmonary thermodilution during liver transplantation: interchangeable methods?* MINERVA ANESTESIOLOGICA. 2014; 80(11) 1178-1187. IF: 2.134. Quartile: 2.
- Rancan L; Huerta L; Cusati G; Erquicia I; Isea J; Paredes SD; García C; Garutti I; Simon C; Vara E. *Sevoflurane Prevents Liver Inflammatory Response Induced by Lung Ischemia-Reperfusion.* TRANSPLANTATION. 2014; 98(11) 1151-1157. IF: 3.828. Quartile: 1.

	Number of documents	IF
Own publications	3	10.5
Joint publications	3	10.1
First-decile publications	3	14.6
First-quartile publications	4	18.0
Second-quartile publications	1	2.1
Third-quartile publications	0	0.0
Fourth-quartile publications	1	0.3
Nonindexed publications	0	-
Total publications	6	20.5

Regenerative medicine and systems development: cardiovascular and osteochondral

Group director: M^a BEGOÑA QUINTANA VILLAMANDOS

Type: Emerging

Research programs and lines

P1: Ventricular remodelling: natural history, pathophysiology, and treatment

- ▶ L1: Immunohistopathology and ultrastructure of ventricular remodeling.
- ▶ L2: Pathophysiology of ventricular remodeling.
- ▶ L3: New therapies in regression of ventricular remodeling.

P2: Growth plate transplant

- ▶ L1: Formation of a cryopreserved growth plate biobank.
- ▶ L2: Immunosuppressive therapy.
- ▶ L3: Mixed transplant of growth plate and bone graft.

P3: Development of the osteochondral system

- ▶ L1: Comparative anatomy in the osteochondral system. Evo-devo implications.
- ▶ L2: Study of experimental models.

P4: Vascular disease

- ▶ L1: Fetal origin of cardiovascular disease and nutrition.
- ▶ L2: Antioxidant and antihypertensive action of liver growth factor.
- ▶ L3: Applications of confocal microscopy to the study of vascular remodeling.
- ▶ L4: Serum biomarkers of cardiovascular disease.
- ▶ L5: High-altitude pulmonary hypertension.



Group members

- **Silvia Magdalena Arribas Rodríguez:** Postdoctoral.
- **Emilio Delgado Baeza:** Senior researcher.
- **María Jesús Delgado Martos:** Postdoctoral.
- **José Juan Gómez de Diego:** Predoctoral.
- **María del Carmen González García:** Postdoctoral.
- **Antonia Martos Rodríguez:** Predoctoral.
- **Begoña Quintana Villamandos:** Senior researcher.

Research projects – Competitive calls

- Principal investigator: Begoña Quintana Villamandos
Title: Regresión precoz del remodelado cardiovascular tras tratamiento con dronedarona en un modelo experimental de rata hipertensa.
Funding body: Instituto de Salud Carlos III
Start date: 2014
End date: 2016
Theses

Doctoral student	Title	Director	University
Guillermo Juan Rodríguez Bernal	Flujo sanguíneo cerebral en dispositivos de asistencia mecánica circulatoria. Estudio experimental en cerdos"	Begoña Quintana Villamandos	Universidad Autónoma de Madrid

- Arnalich-Montiel A; Gonzalez MC; Delgado-Baeza E; Delgado-Martos MJ; Condezo-Hoyos L; Martos-Rodriguez A; Rodriguez-Rodriguez P; Quintana-Villamandos B. *Short-Term Esmolol Improves Coronary Artery Remodeling in Spontaneously Hypertensive Rats through Increased Nitric Oxide Bioavailability and Superoxide Dismutase Activity*. BIOMED RESEARCH INTERNATIONAL. 2014. IF: 1.579. Quartile: 3.

	Number of documents	IF
Own publications	1	1.6
Joint publications	1	1.6
First-decile publications	0	0.0
First-quartile publications	0	0.0
Second-quartile publications	0	0.0
Third-quartile publications	2	3.2
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	2	3.2

Publications

Total impact factor: 3.2

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Siques P; de Pablo ALL; Brito J; Arribas SM; Flores K; Arriaza K; Naveas N; Gonzalez MC; Hoorntje A; Leon-Velarde F; Lopez MR. *Nitric Oxide and Superoxide Anion Balance in Rats Exposed to Chronic and Long Term Intermittent Hypoxia*. BIOMED RESEARCH INTERNATIONAL. 2014. IF: 1.579. Quartile: 3.

Pediatric endocrinology and hereditary diseases

Group director: BEGOÑA EZQUIETA ZUBICARAY

Type: Emerging

Research lines

- ▶ L1: Congenital suprarenal hyperplasia.
- ▶ L2: Neuro-cardio-facial-cutaneous syndromes and RASopathies.

Clinical practice guidelines

Authors	Title	Publication
Begoña Ezquieta	Tríptico Guía para pacientes forma clásica HSC	SOCIEDAD ESPAÑOLA DE ENDOCRINOLÓGÍA PEDIÁTRICA. ASOCIACIÓN DE FAMILIAS CON HSC

Group members

- **Consuelo Cansado Funes:** Predoctoral.
- **Begoña Ezquieta Zubicaray:** Senior researcher.

Experimental kidney transplant

Group director: ENRIQUE LLEDÓ GARCÍA

Type: Emerging

Research programs and lines

P1: Preservation of the kidney graft

- ▶ L1: Renal ischemia-reperfusion injury.
- ▶ L2: Hypothermic perfusion of the kidney graft.
- ▶ L3: Pharmacologic preconditioning and protection of the kidney graft.

P2: Reconstruction of the lower genitourinary tract

- ▶ L1: Application of cell therapy in reconstruction of the urethra.
- ▶ L2: Application of cell therapy in regeneration of cavernous tissue.
- ▶ L3: Application of cell therapy in reconstruction of the sphincter.

Group members

- **Gregorio Escribano Patiño:** Postdoctoral.
- **Carlos Hernández Fernández:** Postdoctoral.
- **Felipe Bernardo Herranz Amo:** Postdoctoral.
- **José Jara Rascón:** Postdoctoral.
- **Enrique Lledó García:** Group director.
- **Gabriel Ogaya Piniés:** Predoctoral.
- **David Subirá Ríos:** Predoctoral.

Clinical practice guidelines

Authors	Title	Publication
Lledo-García E; Riera L; Passas J; Paredes D; Morales JM; Sanchez-Escuredo A; Burgos-Revilla FJ; Belmonte AD; Oppenheimer F; Rodriguez-Ferrero ML; Sole M; Matesanz R; Valentin M; Pascual J	Spanish consensus document for acceptance and rejection of kidneys from expanded criteria donors	CLINICAL TRANSPLANTATION

Publications

Total impact factor: 5.7

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Gomez-Veiga F; Martinez-Breijo S; Solsona-Narbon E; Hernandez C; Ciudin A; Ribal MJ; Dickinson L; Moore C; Ahmed H; Antolin AR; Breda A; Gaya J; Portela-Pereira P; Emberton M. *Focal therapy for prostate cancer. Alternative treatment.* ACTAS UROLOGICAS ESPAÑOLAS. 2014; 38(7) 465-475. IF: 1.022. Quartile: 4.
- Pinies GO; Diez-Cordero JM; Chamizo JA; Jimenez GDP; García EL; Fernandez CH. *HAEMORRHAGE IN THE IMMEDIATE POST-OPERATIVE RENAL TRANSPLANT.* ARCHIVOS ESPANOLES DE UROLOGIA. 2014; 67(8) 729-730. IF: 0.309. Quartile: 4.
- Escudero RM; Amo FH; Chamizo JA; Fernandez CH. *Urethral bleeding after open radical prostatectomy treated with selective arterial embolization. A rare complication.* ARCHIVOS ESPANOLES DE UROLOGIA. 2014; 67(6) 582-585. IF: 0.309. Quartile: 4.
- Molina-Escudero R; Herranz-Amo F; Paez-Borda A; Hernandez-Fernandez C. *Post-operative predictive models for biochemical recurrence in patients with clinically localised prostate cancer treated with radical prostatectomy by monotherapy.* ARCHIVOS ESPANOLES DE UROLOGIA. 2014; 67(3) 259-267. IF: 0.309. Quartile: 4.

- Patino GE; Alonso AH; Fernandez ER; Gil MJC; Fernandez CH. *Urethral stricture in women.* ARCHIVOS ESPANOLES DE UROLOGIA. 2014; 67(1) 129-137. IF: 0.309. Quartile: 4.
- Martin DR; Chamizo JA; Rascon JJ; Pinies GO; Pinero J; Amo FH; Fernandez CH; Garcia EL. *Recto-urethral fistula secondary to prostate cancer.* ARCHIVOS ESPANOLES DE UROLOGIA. 2014; 67(1) 92-103. IF: 0.309. Quartile: 4.
- del Pozo-Jimenez G; Rascon JJ; Chamizo JA; Blaha I; Fernandez CH; Garcia EL. *Anatomy and vascularization of the male urethra and penis.* ARCHIVOS ESPANOLES DE UROLOGIA. 2014; 67(1) 5-11. IF: 0.309. Quartile: 4.
- Lledo E. *Monograph of urethral surgery.* ARCHIVOS ESPANOLES DE UROLOGIA. 2014; 67(1) 2-4. IF: 0.309. Quartile: 4.
- Lledo-García E; Riera L; Passas J; Paredes D; Morales JM; Sanchez-Escuredo A; Burgos-Revilla FJ; Belmonte AD; Oppenheimer F; Rodriguez-Ferrero ML; Sole M; Matesanz R; Valentin M; Pascual J. *Spanish consensus document for acceptance and rejection of kidneys from expanded criteria donors.* CLINICAL TRANSPLANTATION. 2014; 28(10) 1155-1166. IF: 1.522. Quartile: 2.
- Alonso AH; Fernandez ER; Amo FH; Lopez EL; Chamizo JA; Martinez DR; Merino RD; Fernandez CH. *The need for re-TUR of the bladder in non-muscle invasive bladder cancer: risk factors of tumor persistence in re-TUR specimens.* MINERVA UROLOGICA E NEFROLOGICA. 2014; 66(4) 233-240. IF: 0.965. Quartile: 4.

	Number of documents	IF
Own publications	9	4.7
Joint publications	1	1.0
First-decile publications	0	0.0
First-quartile publications	0	0.0
Second-quartile publications	1	1.5
Third-quartile publications	0	0.0
Fourth-quartile publications	9	4.2
Nonindexed publications	0	-
Total publications	10	5.7

Artificial circulation laboratory

Group director: JUAN FRANCISCO DEL CAÑIZO LÓPEZ

Type: Emerging

Research programs and lines

P1: Mechanical circulatory support

- ▶ L1: Preservation of renal function.
- ▶ L2: Hemodiafiltration.

P2: Decellularization and recellularization of the liver

P3: Isolated hepatic perfusion

Group members

- **José María Barrio Gutiérrez:** Predoctoral.
- **Rosario Beneyto Cruz:** Specialist assistant.
- **Gregorio Pablo Cuerpo Caballero:** Postdoctoral.
- **Juan Francisco del Cañizo López:** Group director.
- **Benjamín Díaz-Zorita Aguilar:** Predoctoral.
- **María Dolores García-Cosío Carmena:** Postdoctoral.
- **Javier Otero Saiz:** Predoctoral.
- **Ramón Pérez-Caballero Martínez:** Postdoctoral.
- **Manuel Ruiz Fernández:** Postdoctoral.
- **Enrique Velasco Sánchez:** Predoctoral.
- **José Ángel Zamorano Serrano:** Other.

Research projects – Competitive calls

- Principal investigator: Juan Francisco del Cañizo López
Title: Obtención de matrices biológicas por celularización de hígado de cerdo para hígado posterior recelularización. Bases para el diseño de un biorreactor.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014
- Principal investigator: Manuel Ruiz Fernández
Title: Patrones doppler de llenado en asistencia circulatoria. Estudio experimental y su correlación.
Funding body: Instituto de Salud Carlos III
Start date: 2012
End date: 2014

Patents

- Title: Método y Aparato de Hemodiafiltración.
Reference: PCT/ES2007/070081; EP2140889; US2010187176
Owner: FIBHGM.
Inventor: Juan Francisco del Cañizo López.
- Title: Dispositivo de Asistencia Ventricular.
Reference: P201230211; P201331422
Owner: FIBHGM.
Inventor: Juan Francisco del Cañizo López, Manuel Ruiz Hernández.
- Title: Blood pump and application thereof.
Reference: P9501070; CL19960000890
Owner: SERMAS – HGUGM.
Inventor: Juan Francisco del Cañizo López.
- Title: Dispositivo para prevenir la neumonía asociada a la ventilación mecánica.
Reference: U201430814
Owner: FIBHGM.
Inventor: Juan Francisco del Cañizo López. Emilio Bouza Santiago. M^a Jesús Pérez.

Publications

Total impact factor: 21.4

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Diez-Villanueva P; Gutierrez-Ibanez E; Cuerpo-Caballero GP; Sanz-Ruiz R; Abeytua M; Soriano J; Sarnago F; Elizaga J. *Direct Injury to Right Coronary Artery in Patients Undergoing Tricuspid Annuloplasty.* ANNALS OF THORACIC SURGERY. 2014; 97(4) 1300-1305. IF: 3.849. Quartile: 1.
- Gil-Jaurena JM; Aroca A; Perez-Caballero R; Pita A. *Free Wall Rupture After Arterial Switch Operation.* ANNALS OF THORACIC SURGERY. 2014; 98(6) 2230-2231. IF: 3.849. Quartile: 1.
- Cebolla ES; Aguilar BDZ; del Campo JR; Dorrego MDP; Sabrido JLG. *Giant presacral myelolipoma.* CIRUGIA ESPAÑOLA. 2014; 92(9) 628-629. IF: 0.743. Quartile: 4.
- Beltran-Beck B; Romero B; Boadella M; Casal C; Bezos J; Mazariegos M; Martin M; Galindo RC; de la Lastra JMP; Villar M; Garrido JM; Sevilla IA; Asensio F; Sicilia J; Lyashchenko KP; Dominguez L; Juste RA; de la Fuente J; Gortazar C. *Tonsils of the Soft Palate Do Not Mediate the Response of Pigs to Oral Vaccination with Heat-Inactivated Mycobacterium bovis.* CLINICAL AND VACCINE IMMUNOLOGY. 2014; 21(8) 1128-1136. IF: 2.47. Quartile: 3.
- Perez-Granda MJ; Barrio JM; Munoz P; Hortal J; Rincon C; Bouza E. *Impact of four sequential measures on the prevention of ventilator-associated pneumonia in cardiac surgery patients.* CRITICAL CARE. 2014; 18(2). IF: 4.476. Quartile: 1.
- Caralt M; Velasco E; Lanas A; Baptista PM. *Liver bioengineering From the stage of liver decellularized matrix to the multiple cellular actors and biorreactor special effects.* ORGANOGENESIS. 2014; 10(2) 250-259. IF: 2.8. Quartile: 1.

- Perez-Granda MJ; Barrio JM; Munoz P; Hortal J; Rincon C; Rabadan PM; Pernia MS; Bouza E. *Ethanol Lock Therapy (E-Lock) in the Prevention of Catheter-Related Bloodstream Infections (CR-BSI) after Major Heart Surgery (MHS): A Randomized Clinical Trial.* PLOS ONE. 2014; 9(3). IF: 3.234. Quartile: 1.

	Number of documents	IF
Own publications	0	0.0
Joint publications	7	21.4
First-decile publications	2	7.7
First-quartile publications	5	18.2
Second-quartile publications	0	0.0
Third-quartile publications	1	2.5
Fourth-quartile publications	1	0.7
Nonindexed publications	0	-
Total publications	7	21.4

Evaluation of health services and clinical epidemiology

Group director: ROSA PLÁ MESTRE

Type: Emerging

Research lines

- ▶ L1: Evaluation of health care services and public health programs.
- ▶ L2: Patient safety and management of risks stemming from clinical practice.
- ▶ L3: Medication errors.
- ▶ L4: Prevention of health care-associated infection.

Group members

- **Alicia Díaz Redondo:** Predoctoral.
- **César Llorente Parrado:** Predoctoral.
- **Beatriz Nieto Pereda:** Predoctoral.
- **Marta Beatriz Grande Armesto:** Predoctoral.
- **Rosa Plá Mestre:** Predoctoral.
- **María de la Paz Rodríguez Pérez:** Senior researcher.
- **Concepción Sanchidrián de Blas:** Predoctoral.

Research projects – Competitive calls

- Principal investigator: Rosa Plá Mestre
Title: Calidad de vida y complicaciones según el tipo de parto.
Funding body: Instituto de Salud Carlos III
Start date: 2013
End date: 2015

Publications

Total impact factor: 2.5

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Castro-Monteiro E; Forjaz MJ; Ayala A; Rodriguez-Blazquez C; Fernandez-Mayoralas G; Diaz-Redondo A; Martinez-Martin P. *Change and predictors of quality of life in institutionalized older adults with dementia.* QUALITY OF LIFE RESEARCH. 2014; 23(9) 2595-2601. IF: 2.486. Quartile: 2.

	Number of documents	IF
Own publications	0	0.0
Joint publications	1	2.5
First-decile publications	0	0.0
First-quartile publications	0	0.0
Second-quartile publications	1	2.5
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	1	2.5

Clinical nutrition

Group director: PILAR GARCÍA PERIS

Type: Emerging

Research lines

- ▶ L1: Nutritional status of patients with peritoneal carcinomatosis undergoing cytoreductive surgery with hyperthermic intraperitoneal chemotherapy.
- ▶ L2: Nutritional intervention protocol with an enteral product formulated with partially hydrolyzed guar gum.
- ▶ L3: Quality of life in patients receiving home enteral nutrition.
- ▶ L4: Evaluation of nutritional status and micronutrients in patients receiving treatment with oral antineoplastic agents.
- ▶ L5: Diagnostic-therapeutic protocol for eosinophilic esophagitis.
- ▶ L6: Evaluation of cardiovascular risk in diabetic smokers and diabetic ex-smokers based on the UKPDS table.
- ▶ L7: Prospective study of catheter-related thrombosis.
- ▶ L8: Quality of care in home parenteral nutrition.
- ▶ L9: Evaluation of nutritional status in patients with advanced chronic liver disease.
- ▶ L10: Outcome of a series of HGUGM patients receiving home parenteral nutrition.
- ▶ L11: Nutrition and autism.
- ▶ L12: Evaluation of nutritional status in patients with renal insufficiency undergoing hemodialysis. Multicenter study.

Group members

- **Irene Bretón Lesmes:** Predoctoral.
- **Miguel Cambor Álvarez:** Predoctoral.
- **María Cristina de la Cuerda Compés:** Postdoctoral.
- **María Luisa Carrascal Fabián:** Trainee.
- **Laura Frías Soriano:** Predoctoral.
- **Pilar García Peris:** Senior researcher.
- **Isabel Higuera Pulgar:** Predoctoral.
- **Cristina Velasco Gimeno:** Predoctoral.

CLINICAL NUTRITION

Clinical practice guidelines		
Authors	Title	Publication
Arribas L; Frias L; Creus G; Parejo J; Urzola C; Ashbaugh R; Perez-Portabella C; Cuerda C	Document of standardization of enteral nutrition access in adults	NUTRICION HOSPITALARIA

Publications	Total impact factor: 22.4
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Publications in journals with impact factor indexed in the Journal Citation Reports:

- Cuerda C; Velasco C; Merchan-Naranjo J; García-Peris P; Arango C. *The effects of second-generation antipsychotics on food intake, resting energy expenditure and physical activity.* EUROPEAN JOURNAL OF CLINICAL NUTRITION. 2014; 68(2) 146-152. IF: 2.709. Quartile: 2.
- Arango C; Giraldez M; Merchan-Naranjo J; Baeza I; Castro-Fornieles J; Alda JA; Martinez-Cantarero C; Moreno C; de Andres P; Cuerda C; de la Serna E; Correll CU; Fraguas D;. *Second-Generation Antipsychotic Use in Children and Adolescents: A Six-Month Prospective Cohort Study in Drug-Naïve Patients.* JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY. 2014; 53(11) 1179-1190. IF: 7.26. Quartile: 1.
- García-Peris P; Velasco C; Soriano LF. *Role of the nutritional support team in the management of dysphagia.* NUTRICION HOSPITALARIA. 2014; 29: 13-21. IF: 1.04. Quartile: 4.
- Duran PA; Jimenez RMR; Compes CC; Álvarez MC; Lesmes IB; Pinto AD; Bravo SB; Soriano LF; Per. *Home parenteral nutrition; satisfaction of patients and their caregivers with nutrition unit and pharmacy service.* NUTRICION HOSPITALARIA. 2014; 29(5) 1123-1131. IF: 1.04. Quartile: 4.
- Wanden-Berghe C; Villares JMM; Compes CC; Carrero C; Burgos R; Candela CG; Casas NV; Faedo CM; Álvarez J; Martos EAS; Martin PM; Zugasti A; Olveira G; Luengos LM; Martin CC; Folgueras TM; Lazaro MAP; Pereira JL;

Orbaiz CG; de la Cruz AP; Apezetxea A; Sanc. *Home parenteral nutrition in spain 2011 and 2012; a report of the home and ambulatory artificial nutrition group nadya.* NUTRICION HOSPITALARIA. 2014; 29(6) 1360-1365. IF: 1.04. Quartile: 4.

- Wanden-Berghe C; Martin PM; Perez LML; Compes CC; Pelaez RB; Hernandez JA; Fernandez AC; de la Cruz AP; Candela CG; Garcia PL; Gonzalez LL; Olmos MAM; Martin CC; Llanos JPS; Lazaro MAP; Marin MG; Salvado JS; Rocamora JAI; Gaillemin BC; Caballero MCC; Vill. *Home enteral nutrition in Spain; NADYA registry 2011-2012.* NUTRICION HOSPITALARIA. 2014; 29(6) 1339-1344. IF: 1.04. Quartile: 4.
- Higuera I; García-Peris P; Camblor M; Breton I; Velasco C; Romero R; Frias L; Cuerda C. *Outcomes of a general hospital-based Home Parenteral Nutrition (HPN) program; report of our experience from a 26-year period.* NUTRICION HOSPITALARIA. 2014; 30(2) 359-365. IF: 1.04. Quartile: 4.
- Velasco C; García-Peris P. *Texture-modified foods; from grounding or dehydration to current products.* NUTRICION HOSPITALARIA. 2014; 29(3) 465-469. IF: 1.04. Quartile: 4.
- Mazure RA; Cancer E; Olmos MAM; De Castro ML; Abiles V; Abiles J; Breton I; Álvarez V; Pelaez N; Culebras JM. *Adherence and fidelity in patients treated with intragastric balloon.* NUTRICION HOSPITALARIA. 2014; 29(1) 50-56. IF: 1.04. Quartile: 4.
- Riobo P; Breton I. *Intake of trans fats; situation in spain.* NUTRICION HOSPITALARIA. 2014; 29(4) 704-711. IF: 1.04. Quartile: 4.
- Pelaez RB; Gurrutxaga HS; Lesmes IB. *Nutritional support in stroke patients.* NUTRICION HOSPITALARIA. 2014; 29: 57-66. IF: 1.04. Quartile: 4.
- Ribed A; Romero-Jimenez RM; Cuerda-Compes C; Higuera-Pulgar I; Carrascal-Fabian MI; Escudero-Vilaplana V; Arranz-Arija JA. *Nutritional assessment and quality of life of oncology outpatients initiating treatment with tyrosine-kinase inhibitors.* NUTRICION HOSPITALARIA. 2014; 30(5) 1092-1100. IF: 1.04. Quartile: 4.

- Lesmes IB; Pelaez RB; Cuerdal C; Cambor M; Velasco C; Higuera I; García-Peris P. *Nutritional support in chronic neurological diseases*. NUTRICION HOSPITALARIA. 2014; 29: 38-46. IF: 1.04. Quartile: 4.
- Arribas L; Frias L; Creus G; Parejo J; Urzola C; Ashbaugh R; Perez-Portabella C; Cuerda C. *Document of standardization of enteral nutrition access in adults*. NUTRICION HOSPITALARIA. 2014; 30(1) 1-14. IF: 1.04. Quartile: 4.

	Number of documents	IF
Own publications	9	11.0
Joint publications	5	11.4
First-decile publications	1	7.3
First-quartile publications	1	7.3
Second-quartile publications	1	2.7
Third-quartile publications	0	0.0
Fourth-quartile publications	12	12.5
Nonindexed publications	0	-
Total publications	14	22.4

Peritransplant evaluation of the liver

Group director: **JOSÉ MARÍA PÉREZ PEÑA**

Type: Associated Clinical

Research lines

- ▶ L1: Evaluation of early function of the liver graft.
- ▶ L2: Dysfunction of the autonomic nervous system and heart disease in patients with cirrhosis undergoing liver transplant.
- ▶ L3: Influence of anesthetic agents in major liver surgery.

The members of this group carry out their care work in Hospital Gregorio Marañón, with particular emphasis on the field of anesthesia and postoperative care in major abdominal surgery. They also form part of the anesthesia group for liver transplant and develop various research lines in this field and in major liver surgery through close collaboration with the Hepatology Department and Surgery Department.

The group's research activity in recent years has been developed along the following lines: the role of nitric oxide inhibitors in early graft function and hemodynamic alterations in patients with cirrhosis undergoing liver transplant, the prevalence of dysfunction of the autonomic nervous system in patients with cirrhosis undergoing liver transplant and the implications of this disease for perioperative morbidity and mortality and hemodynamic alterations, the existence and consequences of subclinical myocardial heart disease in the cirrhotic patient and cardiac dysfunction during transplant, methods for the early diagnosis of early graft dysfunction in liver transplant, and, finally, the influence of anesthetic agents in major liver surgery and liver transplant.

Group members

- **Patricia Duque González:** Postdoctoral.
- **Consolación Jiménez de la Fuente:** Postdoctoral.
- **Cristina Julia Lisbona Sáez:** Predoctoral.
- **Luis Enrique Olmedilla Arnal:** Postdoctoral.
- **José María Pérez Peña:** Senior researcher.
- **Manuel Luis Tisner Madrid:** Predoctoral.

Publications**Total impact factor: 13.5**

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Garutti I; Rancan L; Simon C; Cusati G; Sanchez-Pedrosa G; Moraga F; Olmedilla L; Lopez-Gil MT; Vara E. *Intravenous Lidocaine Decreases Tumor Necrosis Factor Alpha Expression Both Locally and Systemically in Pigs Undergoing Lung Resection Surgery.* ANESTHESIA AND ANALGESIA. 2014; 119(4) 815-828. IF: 3.472. Quartile: 1.
- Garutti I; Puente-Maestu L; Laso J; Sevilla R; Ferrando A; Frias I; Reyes A; Ojeda E; Gonzalez-Aragoneses F. *Comparison of gas exchange after lung resection with a Boussignac CPAP or Venturi mask.* BRITISH JOURNAL OF ANAESTHESIA. 2014; 112(5) 929-935. IF: 4.853. Quartile: 1.
- Asencio JM; Sabrido JLG; Olmedilla L. *How to expand the safe limits in hepatic resections?* JOURNAL OF HEPATO-BILIARY-PANCREATIC SCIENCES. 2014; 21(6) 399-404. IF: 2.994. Quartile: 2.

- Monge ALV; Álvarez-Cagigas IT; Perez-Pena J; Olmedilla L; Jimeno C; Sanz J; Cano JMB; Garutti I. *Cardiac output monitoring with pulmonary versus transpulmonary thermodilution during liver transplantation: interchangeable methods?.* MINERVA ANESTESIOLOGICA. 2014; 80(11) 1178-1187. IF: 2.134. Quartile: 2.

	Number of documents	IF
Own publications	1	3.0
Joint publications	3	10.5
First-decile publications	1	4.9
First-quartile publications	2	8.3
Second-quartile publications	2	5.1
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	4	13.5

Perianesthetic evaluation

Group director: CARMEN FERNÁNDEZ RIVEIRA

Type: Associated Clinical

Research lines

- ▶ L1: Perianesthetic evaluation.



Group members

- **Teresa del Castillo:** Predoctoral.
- **Susana Díaz Ruano:** Predoctoral.
- **Alejandro Fernández Fernández:** Predoctoral.
- **Carmen Fernández Riveira:** Senior researcher.
- **Mª José Membrillo Rubalcaba:** Predoctoral.
- **Mª Ángeles Miguel Guijarro:** Predoctoral.
- **Hugo David Orozco Galeano:** Predoctoral.
- **María Palencia Jorge:** Predoctoral.
- **Fidel Eduardo Reyes Osorio:** Predoctoral.
- **Bibiana Riaño Méndez:** Predoctoral.
- **Erika San Juan López:** Predoctoral.
- **Javier Sanz Fernández:** Postdoctoral.
- **Mª Teresa Torre Oñate:** Predoctoral.
- **Jesús Alberto Varela Cabo:** Predoctoral.

Publications**Total impact factor: 3.8**

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Iglesias PP; Ruano SD; Álvarez-García J. *Myocardial Injury After Noncardiac Surgery.* REVISTA ESPAÑOLA DE CARDIOLOGIA. 2014; 67(10) 794-796.
IF: 3.792. Quartile: 2.

	Number of documents	IF
Own publications	0	0.0
Joint publications	1	3.8
First-decile publications	0	0.0
First-quartile publications	0	0.0
Second-quartile publications	1	3.8
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	1	3.8

Pediatric endocrinology

Group director: M^a DOLORES RODRÍGUEZ ARNAO

Type: Associated Clinical

Research lines

- ▶ L1: Pediatric endocrinology. Hypothyroidism.
- ▶ L2: Gene therapy: polymorphisms and mutations.
- ▶ L3: Hormone therapy.

Group members

- **Virginia Montero García:** Predoctoral.
- **Isabel Morillas Cantero:** Predoctoral.
- **María Dolores Rodríguez Arnao:** Senior researcher.
- **Amparo Rodríguez Sánchez:** Predoctoral.
- **Belén Roldán:** Predoctoral.

Clinical practice guidelines

Authors	Title	Publication
Arnao MDR; Sanchez AR; García-Rey C; Diez FJA; Estrada RC; Cuartero BG; Merillas MA; Lopez-Siguero JP	The DATA study: a new growth database. Description of the epidemiology, diagnosis and therapeutic attitude in a group of Spanish children with short stature	JOURNAL OF PEDIATRIC ENDOCRINOLOGY & METABOLISM

Publications

Total impact factor: 5.2

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Arnao MDR; Sanchez AR; García-Rey C; Diez FJA; Estrada RC; Cuartero BG; Merillas MA; Lopez-Siguero JP. *The DATA study: a new growth database. Description of the epidemiology, diagnosis and therapeutic attitude in a group of Spanish children with short stature.* JOURNAL OF PEDIATRIC ENDOCRINOLOGY & METABOLISM. 2014; 27(11-12) 1201-1208. IF: 0.995. Quartile: 4.

- Stevens A; Clayton P; Tato L; Yoo HW; Rodriguez-Arnau MD; Skorodok J; Ambler GR; Zignani M; Zieschang J; Della Corte G; Destenaves B; Champigneulle A; Raelson J; Chatelain P. *Pharmacogenomics of insulin-like growth factor-I generation during GH treatment in children with GH deficiency or Turner syndrome.* PHARMACOGENOMICS JOURNAL. 2014; 14(1) 54-62. IF: 4.229. Quartile: 1.

	Number of documents	IF
Own publications	1	1.0
Joint publications	1	4.2
First-decile publications	0	0.0
First-quartile publications	1	4.2
Second-quartile publications	0	0.0
Third-quartile publications	0	0.0
Fourth-quartile publications	1	1.0
Nonindexed publications	0	-
Total publications	2	5.2

Regeneration and biomaterials in musculoskeletal diseases

Group director: FRANCISCO JAVIER VAQUERO MARTÍN

Type: Associated Clinical

Research programs

- ▶ P1: Biomaterials in orthopedic surgery.
- ▶ P2: Stromal stem cells in the locomotor apparatus.
- ▶ P3: Biomarkers in inflammation/arthrosis.

Group members

- Francisco Chana Rodríguez: Postdoctoral
- Francisco Forriol Campos: Postdoctoral
- Rafael Laguna Aranda: Predoctoral
- José Antonio Matas Díaz: Predoctoral
- Francisco Javier Narbona Cárcel: Postdoctoral
- Ángel Oteo Álvaro: Predoctoral
- José Manuel Rojo Manaute: Postdoctoral
- Rubén Pérez Mañanes: Postdoctoral
- Pablo Sanz Ruiz: Postdoctoral
- Francisco Javier Vaquero Martín: Senior researcher

Theses

Doctoral student	Title	Director	University
Joaquin Moya Angeler	Valoración por resonancia magnética de un modelo experimental para el estudio de la degeneración articular	Francisco Forriol Campos, Javier Vaquero Martín	Universidad Complutense de Madrid

Publications

Total impact factor: 10.5

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Narbona-Carceles J; Vaquero J; Suarez-Sancho S; Forriol F; Fernandez-Santos ME. *Bone marrow mesenchymal stem cell aspirates from alternative sources: Is the knee as good as the iliac crest?*. INJURY-INTERNATIONAL JOURNAL OF THE CARE OF THE INJURED. 2014; 45. S42-S47. IF: 2.137. Quartile: 1.
- Sanz-Ruiz P; Paz E; Abenojar J; del Real JC; Vaquero J; Forriol F. *Effects of Vancomycin, Cefazolin and Test Conditions on the Wear Behavior of Bone Cement*. JOURNAL OF ARTHROPLASTY. 2014; 29(1) 16-22. IF: 2.666. Quartile: 1.
- Vaquero J; Longo UG; Forriol F; Martinelli N; Vethencourt R; Denaro V. *Reliability, validity and responsiveness of the Spanish version of the Knee Injury and Osteoarthritis Outcome Score (KOOS) in patients with chondral lesion of the knee*. KNEE SURGERY SPORTS TRAUMATOLOGY ARTHROSCOPY. 2014; 22(1) 104-108. IF: 3.053. Quartile: 1.

- Marco P; Zamorano JL; Chana F; Llau JV. *New clinical perspectives in the management of oral direct anticoagulant agents*. MEDICINA CLINICA. 2014; 142(4) 171-178. IF: 1.417. Quartile: 2.
- Capa-Grasa A; Rojo-Manaute JM; Rodriguez FC; Martin JV. *Ultra minimally invasive sonographically guided carpal tunnel release: An external pilot study*. ORTHOPAEDICS & TRAUMATOLOGY-SURGERY & RESEARCH. 2014; 100(3) 287-292. IF: 1.256. Quartile: 3.

	Number of documents	IF
Own publications	4	9.1
Joint publications	1	1.4
First-decile publications	1	3.1
First-quartile publications	3	7.9
Second-quartile publications	1	1.4
Third-quartile publications	1	1.3
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	5	10.5

Iron metabolism disorders

Group director: ALEJANDRO DEL CASTILLO RUEDA

Type: Associated Clinical

Research programs and lines

- ▶ P1: Study of genes involved in hyperferritinemia and hemochromatosis.
- ▶ P2: Study of iron metabolism based on the serum hepcidin assay.
- ▶ P3: Case registry.

- ▶ L1: Genetic hemochromatosis.
- ▶ L2: Hereditary hyperferritinemia cataract syndrome.
- ▶ L3: Hepcidin and iron metabolism.
- ▶ L4: Non-transfusion-related secondary hemochromatosis.
- ▶ L5: Iron disorders: iron deficit and overload.

Group members

- **Alejandro del Castillo Rueda:** Senior researcher
- **Nadiya Matskiv:** Predoctoral
- **Ana López Aparicio:** Predoctoral
- **Alejandro García-Espóna Pancorbo:** Predoctoral
- **Miguel Ángel Sánchez Pablo:** Predoctoral
- **Marta Clavero Olmos:** Predoctoral

Publications**Total Impact Factor: 7**

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Moreno-Carralero MI; Munoz-Munoz JA; Cuadrado-Grande N; Lopez-Rodriguez R; Hernandez-Alfaro MJ; del-Castillo-Rueda A; Enriquez-de-Salamanca R; Mendez M; Moran-Jimenez MJ. *A novel mutation in the SLC40A1 gene associated with reduced iron export in vitro.* AMERICAN JOURNAL OF HEMATOLOGY. 2014; 89(7) 689-694. IF: 3.798. Quartile: 1.
- Lillo-Triguero I; Del Castillo A; Moran-Jimenez MJ; Guzman-De Villoria JA; Guillem A; Peraita-Adrados R. *Brain iron accumulation in dysmetabolic iron overload syndrome with restless legs syndrome.* SLEEP MEDICINE. 2014; 15(8) 1004-1005. IF: 3.154. Quartile: 2.

	Number of documents	IF
Own publications	1	3.8
Joint publications	1	3.2
First-decile publications	0	0.0
First-quartile publications	1	3.8
Second-quartile publications	1	3.2
Third-quartile publications	0	0.0
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	2	7.0

Emergency medicine

Group director: JAVIER MUÑOZ GONZÁLEZ

Type: Associated Clinical

Research programs and lines

P1: Pathogenic mechanisms in the critically ill patient

- ▶ L1: Deep vein thrombosis in the critically ill patient
- ▶ L2: Extracorporeal membrane oxygenation in adults
- ▶ L3: Severe sepsis and septic shock

Group members

- **Braulio de la Calle Reviriego:** Predoctoral.
- **Pablo García Olivares:** Predoctoral.
- **José Eugenio Guerrero Sanz:** Postdoctoral.
- **Javier Muñoz González:** Senior researcher.
- **Patricia Santa Teresa Zamarro:** Postdoctoral.
- **Juan Carlos Sotillo Díaz:** Postdoctoral.
- **María Jesús Tomey Soria:** Predoctoral.

Theses

Doctoral student	Title	Director	University
Javier Muñoz González	ECMO en adultos con insuficiencia respiratoria aguda grave	Carlos Pérez de Oteyza	Universidad Complutense de Madrid

Publications

Total impact factor: 9.9

Publications in journals with impact factor indexed in the Journal Citation Reports:

- García-Olivares P; Guerrero JE; Galdos P; Carriero D; Murillo F; Rivera A. *PROF-ETEV study: prophylaxis of venous thromboembolic disease in critical care units in Spain.* INTENSIVE CARE MEDICINE. 2014; 40(11) 1698-1708. IF: 7.214. Quartile: 1.
- García-Olivares P; Guerrero JE; Tomey MJ; Hernangómez AM; Stanescu DO. *Prevention of venous thromboembolic disease in the critical patient: An assessment of clinical practice in the Community of Madrid.* MEDICINA INTENSIVA. 2014; 38(6) 347-355. IF: 1.336. Quartile: 4.

- Sotillo-Díaz JC; Bermejo-López E; García-Olivares P; Peral-Gutiérrez JA; Sancho-González M; Guerrero-Sanz JE. *Role of plasma procalcitonin in the diagnosis of ventilator-associated pneumonia: Systematic review and metaanalysis.* MEDICINA INTENSIVA. 2014; 38(6) 337-346. IF: 1.336. Quartile: 4.

	Number of documents	IF
Own publications	3	9.9
Joint publications	0	0.0
First-decile publications	0	0.0
First-quartile publications	1	7.2
Second-quartile publications	0	0.0
Third-quartile publications	0	0.0
Fourth-quartile publications	2	2.7
Nonindexed publications	0	-
Total publications	3	9.9

Pathophysiology, disease course, and therapeutic strategies in chronic respiratory insufficiency and sleep-related respiratory disorders

Group director: PILAR DE LUCAS RAMOS

Type: Associated Clinical

Research programs and lines

P1: COPD: natural history and comorbidity

- ▶ L1: Study of the multidimensional course of COPD.
- ▶ L2: Systemic consequences of COPD.

P2: NIMV in the treatment of chronic respiratory insufficiency

- ▶ L1: NIMV compared with CPAP in patients with OHS.
- ▶ L2: Study of long-term outcome in patients with chronic respiratory insufficiency treated with home mechanical ventilation.

P3: Sleep apnea syndrome: role of comorbid conditions

- ▶ L1: Prevalence and incidence of cardiovascular disease in patients with SAHS.
- ▶ L2: Prevalence of COPD and disease severity in patients with SAHS.

Group members

- M^a Pilar De Lucas Ramos: Senior researcher.
- Soledad López Martín: Predoctoral.
- José Miguel Rodríguez González-Moro: Postdoctoral.

Publications**Total impact factor: 14.3**

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Chiner E; Barreiro E; de Lucas P. *SEPAR Year of the Chronic Patient and Domiciliary Respiratory Care. Points for Reflection.* ARCHIVOS DE BRONCO-NEUMOLOGIA. 2014; 50(5) 159-160. IF: 1.823. Quartile: 3.
- de Torres JP; Marin JM; Martinez-Gonzalez C; de Lucas-Ramos P; Mir-Viladrich I; Cosio B; Peces-Barba G; Calle-Rubio M; Solanes-García I; Balbin RA; de Diego-Damia A; Feu-Collado N; Michavila IA; Irigaray R; Balcells E; Casanovas AL; Iturri JBG; Royo MM; S. *Clinical Application of the COPD Assessment Test Longitudinal Data From the COPD History Assessment in Spain (CHAIN) Cohort.* CHEST. 2014; 146(1) 111-122. IF: 7.483. Quartile: 1.
- Verde Z; Santiago C; Gonzalez-Moro JMR; Ramos PD; Martin SL; Bandres F; Lucia A; Gomez-Gallego F. *Are Serotonergic System Genes Associated to Smoking Cessation Therapy Success in Addition to CYP2A6?* PHARMACOSYCHIATRY. 2014; 47(1) 33. IF: 1.851. Quartile: 3.

- Casanova C; Marin JM; Martinez-Gonzalez C; de Lucas-Ramos P; Mir-Viladrich I; Cosio B; Peces-Barba G; Calle-Rubio M; Solanes-García I; Aguero R; de Diego-Damia A; Feu-Collado N; Alfageme I; Irigaray R; Balcells E; Llunell A; Galdiz JB; Marin M; Soler-Cata. *New GOLD classification: longitudinal data on group assignment.* RESPIRATORY RESEARCH. 2014; 15. IF: 3.093. Quartile: 2.

	Number of documents	IF
Own publications	1	1.8
Joint publications	3	12.4
First-decile publications	1	7.5
First-quartile publications	1	7.5
Second-quartile publications	1	3.1
Third-quartile publications	2	3.7
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	4	14.3

Anesthesia, toxins, and arrhythmias

Group director: MATILDE ZABALLOS GARCÍA

Type: Associated Clinical

Research lines

- ▶ L1: Anesthetic agents and cardiac electrophysiology.

Group members

- **Jesús Almendral Garrote:** Senior researcher.
- **María José Anadón Baselga:** Postdoctoral.
- **Carlos de Diego Rus:** Predoctoral.
- **Brezo Belén del Blanco Narciso:** Predoctoral.
- **M^a Concepción Jimeno:** Predoctoral.
- **Óscar Quintela Jorge:** Predoctoral.
- **Matilde Zaballos García:** Senior researcher.

Research projects – Competitive calls

- Principal investigator: Matilde Zaballos García

Title: Estudio de la eficacia del tratamiento con bicarbonato sódico versus intralipid en un modelo experimental porcino de toxicidad cardiaca inducida por bupivacaina. Comparación en los efectos electrofisiológicos y en la inducibilidad de arritmias ventriculares.

Funding body: Instituto de Salud Carlos III

Start date: 2012

End date: 2014

Publications

Total impact factor: 23.2

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Narciso BBD; Fernandez CJ; Garrote JA; Baselga MJA; Garcia MZ. *Effects of Remifentanil on the Cardiac Conduction System. Our Experience in the Study of Remifentanil Electrophysiological Properties.* CURRENT PHARMACEUTICAL DESIGN. 2014; 20(34) 5489-5496. IF: 3.452. Quartile: 1.
- Atienza F; Almendral J; Ormaetxe JM; Moya A; Martinez-Alday JD; Hernandez-Madrid A; Castellanos E; Arribas F; Arias MA; Tercedor L; Peinado R; Arcocha MF; Ortiz M; Martinez-Alzamora N; Arenal A; Fernandez-Aviles. *Comparison of Radiofrequency Catheter Ablation of Drivers and Circumferential Pulmonary Vein Isolation in Atrial Fibrillation A Noninferiority Randomized Multicenter RADAR-AF Trial.* JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY. 2014; 64(23) 2455-2467. IF: 16.503. Quartile: 1.

- Monge ALV; Álvarez-Cagigas IT; Perez-Pena J; Olmedilla L; Jimeno C; Sanz J; Cano JMB; Garutti I. *Cardiac output monitoring with pulmonary versus transpulmonary thermodilution during liver transplantation: interchangeable methods?* MINERVA ANESTESIOLOGICA. 2014; 80(11) 1178-1187. IF: 2.134. Quartile: 2.
- Gonzalez-Torrecilla E; Almendral J; Arenal A; Fernandez-Aviles F. *Accessory Bypass with Long "HV Interval": What Is the Mechanism?* PACE-PACING AND CLINICAL ELECTROPHYSIOLOGY. 2014; 37(4) 512-515. IF: 1.129. Quartile: 3.

	Number of documents	IF
Own publications	1	3.5
Joint publications	3	19.8
First-decile publications	1	16.5
First-quartile publications	2	20.0
Second-quartile publications	1	2.1
Third-quartile publications	1	1.1
Fourth-quartile publications	0	0.0
Nonindexed publications	0	-
Total publications	4	23.2

NURSING GROUP

Area coordinator:
Ana M^a García Pozo



Research in nursing

Group director: ANA M^a GARCÍA POZO

Research lines

- ▶ L1: Evidence-based nursing care: implementation and evaluation of results in clinical practice and patient quality of life.
- ▶ L2: Advanced role in clinical care.

Research on the care provided by the nursing group is beginning to generate a large number of major, mainly collaborative projects. Some of these projects are funded with other nursing groups from other hospitals in the Comunidad de Madrid and the Universidad Complutense de Madrid (UCM).

These projects are integrated in the research line of health services and care.

The group is composed of nurses from all professional areas (care, teaching, and management), and a large number are lecturers at UCM.

Its organizational structure is unique in the Madrid health area, in that it provides support and advice and promotes research in nursing through the Unidad de Apoyo a la Investigación de Enfermería (UAIE [*Nursing Research Support Unit*]).

The group has a strong certified research training plan for nurses and nursing trainees. Similarly, the group runs a large number of research activities to promote research, such as one-day courses, prizes for research, and access to documentary and research resources.

Group members

- **Julita Fernández Arranz:** Predoctoral
- **Mónica Blanco Daza:** Predoctoral
- **Elena Calderari Fernández:** Predoctoral
- **Laura Collados Gómez:** Predoctoral
- **Raquel Fernández Blanco:** Predoctoral
- **Adela Harto Castaño:** Predoctoral
- **Julia de las Pozas Abril:** Predoctoral
- **María Isabel Durango Limárquez:** Predoctoral
- **Ana María García Pozo:** Predoctoral
- **Concepción González Lluva:** Predoctoral
- **Luis Guerra Sánchez:** Predoctoral
- **Gloria Guerrero Márquez:** Predoctoral
- **Esther Guijarro Jiménez:** Predoctoral
- **Carmen Lobo Rodríguez:** Predoctoral
- **Raquel López Sánchez:** Predoctoral
- **Milagros Martín Fernández:** Predoctoral
- **Teresa Martínez Castellanos:** Predoctoral
- **Margarita Medina Torres:** Predoctoral
- **María Nieves Moro Tejedor:** Predoctoral
- **Cristina Pascual Fernández:** Postdoctoral
- **María de las Mercedes Peña Granger:** Predoctoral
- **David Peña Otero:** Predoctoral
- **Cristina Rincón Sanz:** Predoctoral
- **María Consuelo Soto Lucía:** Predoctoral
- **Mª José Toraño Olivera:** Predoctoral
- **Fernando Trujillo Gallego:** Predoctoral
- **Paz Vaquero Lozano:** Predoctoral



Research projects – Competitive calls

- Principal investigator: Luis Guerra Sánchez
Title: Impacto en la calidad de vida en los pacientes con insuficiencia cardíaca de una intervención enfermera de mejora nutricional.
Funding body: ISCIII
Start date: 2012
End date: 2014
- Principal investigator: Ana María García Pozo
Title: Estudio de la relación de la autopercepción profesional de las enfermeras de la Comunidad de Madrid con los resultados de indicadores de calidad de cuidados.
Funding body: ISCIII
Start date: 2013
End date: 2015
- Principal investigator: Laura Collados Gómez
Title: Eficacia de leche materna extraída oral o sacarosa oral para la analgesia en neonatos pretérmino sometidos a venopunción.
Funding body: ISCIII
Start date: 2013
End date: 2015
- Principal investigator: Carmen Lobo Rodríguez
Title: Efectividad de una intervención precoz en el diagnóstico y tratamiento de la hiponatremia para la prevención de caídas en pacientes hospitalizados.
Funding body: F. Mutua Madrileña
Start date: 2014
End date: 2017

Theses

Doctoral student	Title	Director	University
Ana Mª García Pozo	Investigación en Enfermería en la Comunidad de Madrid: perfil investigador de las enfermeras y situación actual en los Hospitales del Servicio Madrileño de Salud	Ruth Gil Prieto/ Gregorio Garrido Canatarero	Universidad Rey Juan Carlos

Publications

Total impact factor: 8.6

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Perez-Granda MJ; Barrio JM; Munoz P; Hortal J; Rincon C; Bouza E. *Impact of four sequential measures on the prevention of ventilator-associated pneumonia in cardiac surgery patients.* CRITICAL CARE. 2014; 18(2). IF: 4.476. Quartile: 1.
- Pérez-Granda MJ; Guembe MR; Rincón C; Muñoz P; Bouza E. *A prevalence survey of intravascular catheter use in a general hospital.* JOURNAL OF VASCULAR ACCESS. 2014; Nov-Dec;15(6):524-8. IF: 0.846. Quartile: 4.
- Perez-Granda MJ; Barrio JM; Munoz P; Hortal J; Rincon C; Rabadian PM; Pernia MS; Bouza E. *Ethanol Lock Therapy (E-Lock) in the Prevention of Catheter-Related Bloodstream Infections (CR-BSI) after Major Heart Surgery (MHS): A Randomized Clinical Trial.* PLOS ONE. 2014; 9(3). IF: 3.234. Quartile: 1.

Publications in journals without impact factor indexed in the Journal Citation Reports:

- Pascual-Fernández MC. *Providing information to patient's families on the end of life process in the intensive care unit. Nursing evaluation.* ENFERM CLIN. 2014; May-Jun; 24(3):168-74.
- Pozas-Abril J; Toraño Olivera MJ; Latorre-Marco I. *Evaluation of immediate post-operative pain in heart surgery using the Behavioural Pain Scale.* ENFERM INTENSIVA. 2014; Jan-Mar; 25(1):24-9.
- García-Pozo A. *Propuesta de gestión de los recursos humanos enfermeros en el ámbito de un hospital universitario de tercer nivel.* METAS ENFER. 2014; 17(10): 6-10.
- García-Pozo A. *El desarrollo profesional ¿una cuestión solo de dinero?* METAS ENFERM. 2014; Apr; 17(4): 3-3.
- Lobo-Rodríguez MC. *Plan de cuidados individualizado de un paciente recién diagnosticado de Esclerosis múltiple.* REDUCA (ENFERMERÍA, FISIOTERAPIA Y PODOLOGÍA). SERIE TRABAJOS ADAPTACIÓN AL GRADO. 2014; 6 (2): 253-286.
- Pascual-Fernández MC, Ignacio-Cerro MC, Jiménez-Carrascosa MA. *Triage evaluation making in a pediatric emergency department of a tertiary hospital.* REV ENFERM. 2014 Mar; 37(3):30-5.

• Guerrero-Márquez G; Martínez-Serrano A; Míguez-Navarro C. *Sondaje naso/orogástrico en el paciente pediátrico. Revisión de métodos de comprobación de la ubicación.* REV ENFERM. 2014; Sep 37(9): 575-580.

• García-Pozo A; Medina-Torres M; Moro-Tejedor MN; Palmar A; Solís M ; Calderari E. *Recursos de apoyo a la investigación en enfermería en los hospitales del Servicio Madrileño de Salud.* TESELA [REV TESELA]. 2014; 15.

	Number of documents	IF
Own publications	0	0.0
Joint publications	3	8.6
First-decile publications	0	0.0
First-quartile publications	2	7.7
Second-quartile publications	0	0.0
Third-quartile publications	0	0.0
Fourth-quartile publications	1	0.8
Nonindexed publications	8	-
Total publications	11	8.6

4

Other research activities



- ▶ Publications from groups under the process of integration
- ▶ Publications generated together with Research Support Units

Publications from groups in the process of integration

Publications

Total impact factor: 105.9

Publications in journals with impact factor indexed in the Journal Citation Reports:

- Delgado IL; Ayora JR; Britez OA; Lopez IG; Guirado TM; Yurrita BS. *Salvage surgery for locoregional recurrences of advanced pharyngolaryngeal squamous cell carcinoma after organ preservation failure.* ACTA OTORHINOLARYNGOLOGICA ITALICA. 2014; 34(6) 382-388. IF: 1.64. Quartile: 2. Otorhinolaryngology.
- Martinez PAS; Trevino LJ; Mesa EMD; Gonzalez MPGP; Gonzalez PM; Al-Hababi S; Szerman N; Garcia JB; Ruiz P. *Dual diagnosis in anxiety disorders: pharmacologic treatment recommendations.* ADICCIONES. 2014; 26(3) 254-274. IF: 1.154. Quartile: 4. Psychiatry.
- de Moreta GS; Cardoso-Lopez I; Poletti-Serafini D. *Centripetal endoscopic sinus surgery in chronic rhinosinusitis: A 6-year experience.* AMERICAN JOURNAL OF RHINOLOGY & ALLERGY. 2014; 28(4) 349-352. IF: 1.81. Quartile: 2.
- Capin AM; Navarro CM; Lopez RL; Pardillo RM. *Usefulness of capnography for monitoring sedoanalgesia: Influence of oxygen on the parameters monitored.* ANALES DE PEDIATRIA. 2014; 80(1) 41-46. IF: 0.833. Quartile: 4. Pediatric emergencies.
- Sanguos CL; del Castillo BT; Blanco VP; Campos-Dominguez M. *Pityriasis lichenoides et varioliformis acuta.* ANALES DE PEDIATRIA. 2014; 81(3) 192-193. IF: 0.833. Quartile: 4. Pediatrics.
- Ortiz-Gomez JR; Palacio-Abizanda FJ; Fornet-Ruiz I. *\Analgesic techniques for labour: alternatives in case of epidural failure.* ANALES DEL SISTEMA SANITARIO DE NAVARRA. 2014; 37(3) 411-427. IF: 0.436. Quartile: 4. Anesthesiology.
- Garcia-Noblejas A; Chamorro CM; Matilla BN; Rodriguez CD; Gonzalez-Lopez TJ; Navarrete RO; Sanchez MJR; Barranco PM; Blanco JJS; Nicolas C; Perez R; Gonzalez BS; Lopez AMR; Domingo-Domenech E; Panizo C; Macia S; Fernandez-Fonseca E; Cannata-Ortiz J; Arran. *Bendamustine as salvage treatment for patients with relapsed or refractory mantle cell lymphoma patients: a retrospective study of the Spanish experience.* ANNALS OF HEMATOLOGY. 2014; 93(9) 1551-1558. IF: 2.634. Quartile: 2. Hematology.
- Navarro-Gil P; Gonzalez-Velez AE; Ayala A; Martin-Garcia S; Martinez-Martin P; Forjaz MJ. *Which factors are associated with mortality in institutionalized older adults with dementia?.* ARCHIVES OF GERONTOLOGY AND GERIATRICS. 2014; 59(3) 522-527. IF: 1.853. Quartile: 3. Preventive medicine.
- Fraccalvieri D; Moreno EK; Lorente BF; Garcia AT; Calero AM; Vallejo FM; Biondo S. *Predictors of wound infection in elective colorectal surgery. Multicenter observational case-control study.* CIRUGIA ESPAÑOLA. 2014; 92(7) 478-484. IF: 0.743. Quartile: 4. General surgery.
- Sesmilo G; Resmini E; Bernabeu I; Aller J; Soto A; Mora M; Pico A; Fajardo C; Torres E; Alvarez-Escola C; Garcia R; Blanco C; Camara R; Gatzambide S; Salinas I; Del Pozo C; Castells I; Villabona C; Biagetti B; Webb SM. *Escape and lipodystrophy in acromegaly during pegvisomant therapy, a retrospective multicentre Spanish study.* CLINICAL ENDOCRINOLOGY. 2014; 81(6) 883-890. IF: 3.457. Quartile: 2. Endocrinology.
- Bennett TA; Montesinos P; Moscardo F; Martinez-Cuadron D; Martinez J; Sierra J; Garcia R; De Oteyza JP; Fernandez P; Serrano J; Fernandez A; Herrera P; Gonzalez A; Bethancourt C; Rodriguez-Macias G; Alonso A; Vera JA; Navas B; Lavilla E; Lopez JA; Jimenez. *Pharmacological Profiles of Acute Myeloid Leukemia Treatments in Patient Samples by Automated Flow Cytometry: A Bridge to Individualized Medicine.* CLINICAL LYMPHOMA MYELOMA & LEUKEMIA. 2014; 14(4) 305-318. IF: 2.02. Quartile: 3.

- de Pablos AL; García-Nieto V; Lopez-Menchero JC; Ramos-Trujillo E; Gonzalez-Acosta H; Claverie-Martin F. *Severe manifestation of Bartter syndrome Type IV caused by a novel insertion mutation in the BSND gene.* CLINICAL NEPHROLOGY. 2014; 81(5) 363-368. IF: 1.129. Quartile: 4. Nephrology.
- Valentin A; Alarcon G; Barrington SF; Seoane JJG; Martin-Miguel MC; Selway RP; Koutroumanidis M. *Interictal estimation of intracranial seizure onset in temporal lobe epilepsy.* CLINICAL NEUROPHYSIOLOGY. 2014; 125(2) 231-238. IF: 3.097. Quartile: 2. Neurophysiology.
- Crespo-Leiro MG; Delgado-Jimenez J; Lopez L; Alonso-Pulpon L; Gonzalez-Vilchez F; Almenar-Bonet L; Rabago G; Perez-Villa F; Martin MJP; del Prado JMA; Sousa-Casasnovas I; Manito-Lorite N; Diaz-Molina B; Pasqual-Figal D; Lage-Galle E; Blasco-Peiro T; De la. *The falling incidence of hematologic cancer after heart transplantation.* CLINICAL TRANSPLANTATION. 2014; 28(10) 1142-1147. IF: 1.522. Quartile: 2. Oncology.
- Garcia-Gutierrez S; Quintana JM; Unzurrunzaga A; Esteban C; Gonzalez N; Barrio I; Pulido E; Bare ML; Andueza Lillo JA. *Development of a severity scale for acute exacerbation of chronic obstructive pulmonary disease in hospital emergency departments.* EMERGENCIAS. 2014; 26(4) 251-258. IF: 2.895. Quartile: 1. Emergency medicine.
- Rojo-Marcos G; Rubio-Munoz JM; Ramirez-Olivencia G; Garcia-Bujalance S; Elcuaz-Romano R; Diaz-Menendez M; Calderon M; Garcia-Bermejo I; Ruiz-Giardin JM; Merino-Fernandez FJ; Torrus-Tendero D; Delgado-Iribarren A; Ribell-Bachs M; Arevalo-Serrano J; Cuadros. *Comparison of Imported Plasmodium ovale curtisi and P. ovale wallikeri Infections among Patients in Spain, 2005-2011.* EMERGING INFECTIOUS DISEASES. 2014; 20(3) 409-416. IF: 6.751. Quartile: 1. Microbiology.
- Moreno B; Bellido D; Sajoux I; Goday A; Saavedra D; Crujeiras AB; Casanueva FF. *Comparison of a very low-calorie-ketogenic diet with a standard low-calorie diet in the treatment of obesity.* ENDOCRINE. 2014; 47(3) 793-805. IF: 3.878. Quartile: 2. Nutrition and endocrinology.
- Rodriguez-Dominguez M; Sanbonmatsu S; Salinas J; Alonso R; Gutierrez J; Galan JC. *Microbiological diagnosis of infections due to Chlamydia spp. and related species.* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2014; 32(6) 380-385. IF: 2.172. Quartile: 3. Microbiology and infectious diseases.
- Matin RNH; Martin-Gorgojo A; Travassos AR; Buder-Bakhaya K; Clayton H; Nosbaum A. *Residents' corner December 2014. Residents' editorial choice: What's new this month?.* EUROPEAN JOURNAL OF DERMATOLOGY. 2014; 24(6) 718-719. IF: 1.99. Quartile: 2. Dermatology.
- Merino PS; Rojas PL; De Liano PSG; Fukumitsu HM; Yanez JM. *Bilateral superior oblique palsy: etiology and therapeutic options.* EUROPEAN JOURNAL OF OPHTHALMOLOGY. 2014; 24(2) 147-152. IF: 1.068. Quartile: 4. Ophthalmology.
- Rodriguez-Rodriguez E; Ortega RM; Gonzalez-Rodriguez LG; Penas-Ruiz C; Rodriguez-Rodriguez P. *Dietary total antioxidant capacity and current asthma in Spanish schoolchildren: a case control-control study.* EUROPEAN JOURNAL OF PEDIATRICS. 2014; 173(4) 517-523. IF: 1.89. Quartile: 2. Pediatrics.
- Fernandes VS; Ribeiro ASF; Martinez-Saenz A; Blaha I; Serrano-Marguello D; Recio P; Martinez AC; Bustamante S; Vazquez-Alba D; Carballido J; Garcia-Sacristan A; Hernandez M. *Underlying mechanisms involved in progesterone-induced relaxation to the pig bladder neck.* EUROPEAN JOURNAL OF PHARMACOLOGY. 2014; 723: 246-252. IF: 2.532. Quartile: 2. Urology.
- Vera G; Lopez-Perez AE; Martinez-Villaluenga M; Cabezos PA; Abalo R. *X-ray analysis of the effect of the 5-HT3 receptor antagonist granisetron on gastrointestinal motility in rats repeatedly treated with the antitumoral drug cisplatin.* EXPERIMENTAL BRAIN RESEARCH. 2014; 232(8) 2601-2612. IF: 2.036. Quartile: 3. Anesthesiology.
- Cebolla VM; Ascanio ADC; de Leon PDR; Barrientos RR; Castillo MJT. *Health inequalities in self-perceived health among older adults in Spain.* GACETA SANITARIA. 2014; 28(6) 511-521. IF: 1.186. Quartile: 3.

PUBLICATIONS FROM GROUPS IN THE PROCESS OF INTEGRATIONS

- Stacey SN; Sulem P; Gudbjartsson DF; Jonasdottir A; Thorleifsson G; Gudjonsson SA; Masson G; Gudmundsson J; Sigurgeirsson B; Benediktsdottir KR; Thorisdottir K; Ragnarsson R; Fuentelsaz V; Corredera C; Grasa M; Planell D; Sanmartin O; Rudnai P; Gurzau E. *Germline sequence variants in TGM3 and RGS22 confer risk of basal cell carcinoma.* HUMAN MOLECULAR GENETICS. 2014; 23(11) 3045-3053. IF: 6.393. Quartile: 1. Dermatology.
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Total impact factor: 65.7

Patient platform

Support unit: project design and statistical analysis

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Patient platform

Cell production unit

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Animal platform

Animal facility

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Cell platform

Confocal microscopy

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The collaborating entities are the follows:



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