Annual Scientific Report
2014
Report prepared by the Biomedical Research Foundation of Hospital Gregorio Marañón and the Health Research Institute of Hospital Gregorio Marañón.

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       Group director: Antonio Gil Núñez ............................................. 98

AREA 3: Neuroscience and Mental Health
Area coordinator: Celso Arango López .................................................. 101
   • Group type: Consolidated
     - Psychological and neurobiological bases of mental disorders.
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    *Group director: Francisco Grandas Pérez* .................................................. 115
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    *Group director: José Luis Muñoz Blanco* ................................................ 117
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    *Group director: Clara de Andrés Frutos* .................................................. 119

- **Group type: Associated Clinical**
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    *Group director: Mª Concepción Guisasola Zulueta* ....................................... 122

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Area coordinator: *Emilio Bouza Santiago* ...................................................... 124

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  - Clinical and epidemiological aspects of HIV and associated conditions
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- **Group type: Associated Clinical**
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    *Group director: Francisco Javier Hortal Iglesias* ........................................ 144

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Area coordinator: *Eduardo Fernández-Cruz Pérez* ........................................ 145

- **Group type: Consolidated**
  - Pathophysiology and clinical investigation of chronic inflammatory and immune diseases
    *Group director: Eduardo Fernández-Cruz Pérez* .......................................... 150
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    *Group director: Mª Ángeles Muñoz Fernández* ............................................ 153
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    *Group director: Paloma Sánchez-Mateos Rubio* ........................................... 160

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  *Group director: Luis Carreño Pérez* ............................................................ 162
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  *Group director: Mª Luisa Navarro Gómez* .................................................. 167

- **Group type: Emerging**
  - Immune homeostasis and regulation in diseases associated with the immune system (previously Inmunology of HIV infection in pediatric patients)
    *Group director: Rafael Correa Rocha (Mª Dolores Gurbindo Gutiérrez previously)* ............................................ 170

- **Group type: In the process of consolidation**
  - Pathogenesis of the immunoallergic response
    *Group director: José Manuel Zubeldia Ortuño* ........................................... 173

- **Group type: Associated Clinical**
  - Allergic diseases in pediatric patients
    *Group director: Elena Alonso Lebrero* ......................................................... 175

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Area coordinator: *Miguel Martín Jiménez* ...................................................... 177

- **Group type: Consolidated**
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  - Interdisciplinary oncology and biotechnology
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- **Group type: Associated Clinical**
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    *Group director: Elena Cela de Julián* ......................................................... 203
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    *Group director: Juan Carlos Martinez Montero* ............................................ 205
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Area coordinator: Rafael Bañares Cañizares ............................................... 207

- **Group type: Consolidated**
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    *Group director:* Rafael Bañares Cañizares ............................................... 213
  - Inflammation and vascular damage in chronic kidney disease, dialysis and kidney transplant. Renal pathophysiology
    *Group director:* José Luño Fernández .................................................. 218
  - Diseases of the critically ill child
    *Group director:* Jesús López-Herce Cid .................................................. 221
  - Biopathology of aging
    *Group director:* José Antonio Serra Rexach .................................. 225
  - Vascular pathophysiology and pharmacology
    *Group director:* Francisco Pérez Vizcaíno .................................. 227

- **Group type: In process of consolidation**
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    *Group director:* Manuel Sánchez Luna ............................................... 229
  - Pathophysiology and clinical aspects of COPD
    *Group director:* Luis Puente Maeztu ..................................... 232
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    *Group director:* María Sanjurjo Sáez ..................................... 235

- **Group type: Emerging**
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    *Group director:* Mª Begoña Quintana Villamandos .................................. 243
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- **Group type: Associated Clinical**
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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 PROMIIS 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 though 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 IISGM 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 IISGM.

We would like to finish on an optimistic note. We believe that the IISGM 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 IISGM

Ismael Buño Borde  
Scientific Subdirector, IISGM

Ricardo Herranz Quintana  
Manager, Hospital General Universitario Gregorio Marañón
Executive summary
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.
The distribution of IiSGM 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 IiSGM 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 IiSGM is accounted for by articles whose main authors belong to the Institute.
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.

IISGM 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

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

AREA 2: CARDIOVASCULAR DISEASE

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

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

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

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 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 IiSGM

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 IiSGM.
  - Ismael Buño Borde, Scientific Subdirector IiSGM.

- **Members:**
  - Miguel López-Bravo Bascán, General Management of Research, Training, and Infrastructure (until 23/04/2014) and Paloma Martín Martin (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-Dean of Universidad Complutense de Madrid (until 27/01/2014) and Carlos Pérez de Oteyza (since 23/04/2014).
  - Maria Sanjurjo Sáez, FIBHGM trustee.
  - Francisco Fernández-Avilés Díaz, FIBHGM trustee.
  - 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 IiSGM.
- Ismael Buño Borde, Scientific Subdirector IiSGM.
- 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.

RESEARCH COMMITTEE

- **Chair:** Rafael Bañares Cañizares.
- **Vice-Chair:** Javier de Miguel Diez.
- **Secretary:** Luis Alberto Menchén Viso.
ORGANIZATIONAL STRUCTURE OF IiSGM

- **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.

- **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.

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 Máquez, Miguel Relloso 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 Caño, 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 Martin-Arriscado Arroba.
- **Legal Affairs/Purchasing:** Miguel Ángel Conejo Martín.
- **Secretary:** Charo Calle Benito.
ORGANIZATION CHART

Governing Bodies
- CREC*
- AEEC**

GOVERNING COUNCIL

EXECUTIVE COMMITTEE

DIRECTOR

Advisory Bodies
- EXTERNAL SCIENTIFIC COMMITTEE
- RESEARCH COMMITTEE

Executive Management Body

Manager of FIBHGM

Management Body

Hospital Gregorio Marañón Biomedical Research Foundation

Scientific Area
- Operational/Management Area
- Research Unit

Innovation Support Unit
Training Manager
Quality Manager

Priority Research Areas
Research Infrastructure

*CREC: Clinical Research Ethics Committee
**AEEC: Animal Experimentation Ethics Committee
### STRUCTURE: AREAS AND RESEARCH GROUPS

#### AREA 1: Biomedical Engineering
**Coordinator:** Manuel Desco Menéndez

<table>
<thead>
<tr>
<th>Group</th>
<th>Group Director</th>
<th>Type of Group</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced technological applications and human health</td>
<td>Manuel Desco Menéndez</td>
<td>Consolidated</td>
<td>HGUGM-UCIII</td>
</tr>
</tbody>
</table>

#### AREA 2: Cardiovascular Diseases
**Coordinator:** Francisco Fernández-Avilés Díaz

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

#### AREA 3: Neuroscience and Mental Health
**Coordinator:** Celso Arango López

<table>
<thead>
<tr>
<th>Group</th>
<th>Group Director</th>
<th>Type of Group</th>
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<tbody>
<tr>
<td>Neurobiological and psychological bases of mental disorders, Disorders of neurodevelopment</td>
<td>Celso Arango López</td>
<td>Consolidated</td>
<td>HGUGM-UCM</td>
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<tr>
<td>Parkinson disease and movement disorders</td>
<td>Francisco Javier Grandas Pérez</td>
<td>Emerging</td>
<td>HGUGM</td>
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<tr>
<td>Clinical neurology</td>
<td>Vacant</td>
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<td>HGUGM</td>
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<tr>
<td>Clinical and etiological-pathogen aspects of neuromuscular diseases</td>
<td>José Luis Muñoz Blanco</td>
<td>Emerging</td>
<td>HGUGM</td>
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<tr>
<td>Neuroimmunology</td>
<td>Clara de Andrés Fruitos</td>
<td>Emerging</td>
<td>HGUGM</td>
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<tr>
<td>Biology of inflammation</td>
<td>María Concepción Guisasola Zulueta</td>
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#### AREA 4: Infectious Diseases and AIDS
**Coordinator:** Emilio Bouza Santiago

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<td>Infectious diseases</td>
<td>Emilio Bouza Santiago</td>
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<tr>
<td>Clinical and epidemiological aspects of HIV infection and associated conditions</td>
<td>Juan Berenguer Berenguer</td>
<td>Consolidated</td>
<td>HGUGM</td>
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<tr>
<td>Biological aggression after heart surgery</td>
<td>Francisco Javier Hortal Iglesias</td>
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#### AREA 5: Diseases of the Immune System
**Coordinator:** Eduardo Fernández-Cruz Pérez

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<tr>
<td>Pathophysiology and clinical research into chronic inflammatory and immunological diseases</td>
<td>Eduardo Fernández-Cruz Pérez</td>
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<td>HGUGM</td>
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<tr>
<td>Molecular biology of HIV</td>
<td>Mª Ángeles Muñoz Fernández</td>
<td>Consolidated</td>
<td>HGUGM</td>
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<tr>
<td>Autoimmune systemic diseases</td>
<td>Luis Carreño Pérez</td>
<td>Consolidated</td>
<td>HGUGM</td>
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<tr>
<td>Immuno-oncology</td>
<td>Paoloma Sánchez-Rubio Mateos</td>
<td>Consolidated</td>
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<tr>
<td>Pathogenesis of the immunoallergic response</td>
<td>José Manuel Zubeldia Ortuño</td>
<td>In process of consolidation</td>
<td>HGUGM</td>
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<tr>
<td>Immune regulation and homeostasis in diseases of the immune system (original group: Immunology of HIV infection in pediatric patients [Group Director: Dolores Gurbindo Gutiérrez])</td>
<td>Rafael Correa Rocha</td>
<td>Emerging</td>
<td>HGUGM</td>
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<tr>
<td>Infections in pediatric patients</td>
<td>María Luisa Navarro Gómez</td>
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<tr>
<td>Allergic diseases in pediatric patients</td>
<td>Elena Alonso Lebrero</td>
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UCM: Universidad Complutense de Madrid. HGUGM: Hospital General Universitario Gregorio Marañón. UCIII: Universidad Carlos III.
## EXECUTIVE SUMMARY

### AREA 6: Translational Oncology

**Coordinator:** Miguel Martín Jiménez

<table>
<thead>
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<th>Group</th>
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<tbody>
<tr>
<td>Interdisciplinary oncology and biotechnology</td>
<td>Felipe Ángel Calvo Manuel</td>
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<tr>
<td>Translational medical oncology and personalized cancer therapy</td>
<td>Miguel Martín Jiménez</td>
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<td>HGUGM-UCM</td>
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<tr>
<td>Genetics and clinical aspects of hematologic malignancies and hematopoietic stem cell transplantation</td>
<td>José Luis Diez Martín/Ismael Buho Borde</td>
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<tr>
<td>Surgical oncology</td>
<td>Luis González Bayón</td>
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<tr>
<td>Hematology-oncology in pediatric patients</td>
<td>Elena Cela de Julián</td>
<td>Associated clinical</td>
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<tr>
<td>Angiogenesis of brain tumors</td>
<td>Juan Carlos Martínez Montero</td>
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### AREA 7: Systemic Diseases and Organ Transplantation

**Coordinator:** Rafael Bañares Cañizares

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<thead>
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<th>Group</th>
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<tr>
<td>Vascular damage and inflammation in chronic kidney disease, dialysis, and kidney transplantation.</td>
<td>José Luño Fernández</td>
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<tr>
<td>Pathophysiology of the kidney</td>
<td>Rafael Bañares Cañizares</td>
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<tr>
<td>Pathophysiology and natural history of liver and digestive diseases</td>
<td>Jesús López-Heurte Cid</td>
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<tr>
<td>Disease in the critically ill child</td>
<td>Luis Puente Maestu</td>
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<tr>
<td>Regenerative medicine in plastic surgery</td>
<td>Rosa Pérez Cano</td>
<td>HGUGM</td>
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<tr>
<td>Biopathology of aging</td>
<td>José Antonio Serra Rexach</td>
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<tr>
<td>Pathophysiology of the neonate and developing child</td>
<td>Manuel Sánchez Luna</td>
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<tr>
<td>Hereditary diseases and pediatric endocrinology</td>
<td>Begoña Ezquieta Zubicaray</td>
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<td>Artificial circulation laboratory</td>
<td>Juan Francisco del Cañizo López</td>
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<tr>
<td>Evaluation of health services and clinical epidemiology</td>
<td>Rosa Plá Mestre</td>
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<td>Hospital pharmacy and pharmacogenomics</td>
<td>María Sanjurjo Sáez</td>
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<td>Clinical nutrition</td>
<td>Pilar García Peris</td>
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<tr>
<td>Vascular pathophysiology and pharmacology</td>
<td>Francisco Pérez Vizcaino</td>
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### NURSING RESEARCH GROUP

**Coordinator:** Ana García Pozo

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UCM: Universidad Complutense de Madrid. HGUGM: Hospital General Universitario Gregorio Marañón. UCIII: Universidad Carlos III.
## RESEARCHERS AND TECHNICAL STAFF WITH STABLE CONTRACTS

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<tr>
<td>José Luis Jiménez Fuentes</td>
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<td>Molecular biology of HIV</td>
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<td>Mª Jesús Serramía Lobera</td>
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<td>Molecular biology of HIV</td>
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<tr>
<td>José María Bellón Cano</td>
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<td>IISGM</td>
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<tr>
<td>Rafael Samaniego García</td>
<td>Research support (confocal microscopy)</td>
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<td>Amaya Rocío Puig Kröger</td>
<td>Diseases of the immune system</td>
<td>Immuno-oncology</td>
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<td>Marjorie Pion</td>
<td>Diseases of the immune system</td>
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## INSTITUTO DE SALUD CARLOS III

### Miguel Servet Contracts

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<td>Rafael Correa Rocha</td>
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<td>Immune regulation and homeostasis in diseases of the immune system</td>
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<td>Jesús Vicente Guinea Ortega</td>
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<tr>
<td>Luis Andrés López Fernández</td>
<td>Systemic diseases and organ transplantation</td>
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<tr>
<td>María Luisa Soto Montenegro</td>
<td>Biomedical engineering</td>
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<tr>
<td>María Guembe Ramírez</td>
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### Rio Hortega Contracts

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<tr>
<td>Elena Serrano Drozdowsky</td>
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<td>Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders</td>
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<tr>
<td>Teresa Mombiela Ramírez de Ganuza</td>
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<td>Natural history of heart disease</td>
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<td>Elena Reigadas Ramírez</td>
<td>Infectious diseases and AIDS</td>
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<td>Mª de las Candelas Pérez del Villar Moro</td>
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<td>María Goretti Morón Nozaleda</td>
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### Support Contracts

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<td>Mª Isabel Clemente Mayoral</td>
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<td>Laura Díaz Muñoz</td>
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## Sara Borrell Contracts

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<tr>
<td>Marta Rapado Castro</td>
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<td>Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders</td>
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<tr>
<td>Verónica Briz Sebastián</td>
<td>Diseases of the immune system</td>
<td>Molecular biology of HIV</td>
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<td>Sara Ferrando Martínez</td>
<td>Diseases of the immune system</td>
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## Predoctoral Contracts

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<td>Teresa Sánchez Gutiérrez</td>
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<tr>
<td>Marta Martínez Bonet</td>
<td>Diseases of the immune system&lt;br&gt;Molecular biology of HIV</td>
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<tr>
<td>Rafael González Cortés</td>
<td>Systemic diseases and organ transplantation&lt;br&gt;Diseases of the critically ill child</td>
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<tr>
<td>Mª Ángeles Espinosa Castro</td>
<td>Cardiovascular diseases&lt;br&gt;Natural history of heart diseases</td>
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<tr>
<td>Laura Judith Marcos Zambrano</td>
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<tr>
<td>Elisa Rodríguez Toscano</td>
<td>Neuroscience and mental health&lt;br&gt;Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders</td>
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## MINISTRY OF ECONOMY AND COMPETITIVENESS

### Ramón y Cajal Contracts

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<tr>
<td>Joost Janssen</td>
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<tr>
<td>Javier Vaquero Martín</td>
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IiSGM 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, IiSGM 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

<table>
<thead>
<tr>
<th>RESEARCH SUPPORT UNITS</th>
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<tr>
<td><strong>Patient platform</strong></td>
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<tr>
<td>Methodology and Biostatistics</td>
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<td>UCAICEC/SCREEN</td>
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<tr>
<td><strong>Organ platform</strong></td>
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<td>Cell production unit</td>
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<tr>
<td>Artificial organ laboratory</td>
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<tr>
<td>Biological sample storage–Biobank</td>
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<tr>
<td><strong>Animal model platform</strong></td>
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<td>Experimental operating room</td>
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<td>Animal facility</td>
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<td>Small animal imaging</td>
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<tr>
<td><strong>Cell platform</strong></td>
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<td>Flow cytometry and cell sorting</td>
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<td>Cell culture</td>
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<td>Confocal microscopy</td>
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<td><strong>Molecular platform</strong></td>
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<tr>
<td>Proteomics</td>
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<tr>
<td>Sequencing and genotyping</td>
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</table>
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 iISGM 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

Maria del Carmen de la Cruz Arguedas, Scientific Manager  
E-mail: ucaicec@fibhgm.org  
Tel: (+34) 91 426 92 32

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

José María Bellón Cano, Scientific Manager  
Tel: (+34) 91 586 64 54  
E-mail: josemaria.bellon@salud.madrid.org
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

Mª 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

Mª Eugenia Fernández Santos, Technical Manager
E-mail: mariuge@fihgkm.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

Mª Angeles Muñoz, Scientific Manager
Email: mmunoz.hgugm@salud.madrid.org

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.
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 IISGM 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 (MATACHANA, mod. 1006 E-2).
- Miniclave 21E sterilizer with liquid program (Matachana).
- Washer for cages (MATACHANA, mod. ACA200).
- Stretcher for animal transport.
- Scale for large animals.
- Scales for rodents.
- Vaporized hydrogen peroxide sterilizing unit.
EXECUTIVE SUMMARY

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
Fernando Asensio Rubio, Doctor in Veterinary Medicine,
Head of the Animal Facility
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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 microsurgery 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 insuffl ator (BCM).
- Pressure monitor (Jostra, Siemens).
- Closed general monitor for various signals (Datex; RGB).
- Portable x-ray machine (Philips).

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 tomodograph, 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).

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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.
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 (e.g., 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 10×/numerical aperture of 0.4.
    - HC PL-APO 20×/0.70 multi-immersion Lambda Blue.
    - HCX PL-APO 40×/1.25-0.75 oil immersion.
    - HCX PL-APO 63×/1.4-0.6 oil immersion.
    - PL-APO 63×/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 10×/numerical aperture of 0.30 (dry).
    - ACS APO 20×/0.60 for immersion in water, glycerol, and oil; corrected for 405 nm.
    - ACS APO 40×/1.30 oil immersion.
    - ACS APO 63×/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**
- 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.

- 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.

**Contact**
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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.

Contact

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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 entrepreneurism 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: Mª 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

EXECUTIVE SUMMARY

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 IiSGM.
4. Eight training sessions on innovation in IiSGM.
5. 26 contracts signed, 16 of which are with external organizations and 2 for licencing technology developed at the IiSGM.

Lastly, the website of the IiSGM 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 IiSGM 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/

Industrial property

<table>
<thead>
<tr>
<th>Name</th>
<th>Reference no. Description</th>
<th>Owner</th>
<th>Inventor(s)</th>
<th>IiSGM Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incubadora para imagen con radionización</td>
<td>PCT/ES2007/070214 (Family with 3 patents)</td>
<td>FIBHGM</td>
<td>Juan José Vaquero, Manuel Desco, Manuel Sánchez</td>
<td>Advanced technology applications and human health. Neonatal and developmental pathophysiology</td>
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<td>Uso de la Clastatinina para reducir la nefrotoxicidad en distintos compuestos</td>
<td>EP2143429 (Family with 21 patents)</td>
<td>FIBHGM</td>
<td>Alberto Tejedor, Alberto Lázaro, Sonia Camacho, Ana María Torres, José Antonio Lázaro, Manuela Castilla, María del Carmen de Lucas</td>
<td>Inflammation and vascular damage in chronic kidney disease, dialysis, and kidney transplant. Renal pathophysiology</td>
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<td>Procedimiento mejorado para evaluar el riesgo cardiovascular</td>
<td>P200901923 (Family with 2 patents)</td>
<td>FIBHGM</td>
<td>María Concepción Guisasiola, Elena Dulín</td>
<td>Biology of inflammation</td>
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<td>Aparato de adquisición de datos para tomografía computarizada por emisión de radiación gamma y su funcionamiento</td>
<td>P200702836</td>
<td>FIBHGM - UPM</td>
<td>Juan José Vaquero, Manuel Desco, Pedro Guerra, Andrés Santos, Giancarlo Sporelli</td>
<td>Advanced technology applications and human health</td>
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<tr>
<td>Procedimiento y Dispositivo para la detección y discriminación de eventos válidos en detectores de radiación gamma</td>
<td>P2012290029 (Family with 2 patents)</td>
<td>FIBHGM</td>
<td>Eduardo Lage, Gustavo Tapia, José Antonio Sánchez, Javier del Pino, Juan José Vaquero, Manuel Desco</td>
<td>Advanced technology applications and human health</td>
</tr>
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<td>Método para visualizar la información contenida en imágenes tridimensionales del corazón</td>
<td>P201000363 (Family with 4 patents)</td>
<td>FIBHGM - UPM</td>
<td>Esther Pérez, Ángel Arenal, Javier Bermejo, Francisco Fernández Avilés, Manuel Desco, Mª Jesús Ledesma, Andrés de Santos, José Luis Rubio</td>
<td>Natural history of heart disease. Advanced technology applications and human health. Neonatal and developmental pathophysiology</td>
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### EXECUTIVE SUMMARY

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<table>
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<th>Name</th>
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<th>iSWM Group</th>
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<tr>
<td><strong>Dendrimeros carboxilos catiónicos obtenidos mediante “click chemistry”, su preparación y sus usos</strong></td>
<td>P201130804</td>
<td>FIBHGM-UAH, Instituto Científico y Tecnológico de Navarra, S.A.</td>
<td>Francisco Javier de la Mata, Rafael Gómez, Eduardo Arnaiz, Sandra García, José Luis Copa, Juan Soliveri, José Manuel Hernández, Mª Ángeles Muñoz-Fernández, Verónica Briz, Mª Jesús Serramia, Conchita Tros</td>
<td>Molecular biology of HIV</td>
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<td><strong>Método de Diagnóstico de Insuficiencia Renal</strong></td>
<td>P201131506</td>
<td>FIBHGM - UAH - Fundación PUIGVERT</td>
<td>Ricardo Bosch, Arancha Ortega, Jordi Bover, Alberto Lázaro, Alberto Tejedor</td>
<td>Inflammation and vascular damage in chronic kidney disease, dialysis, and kidney transplant. Renal pathophysiology</td>
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<td><strong>Sistema de planificación para radioterapia intraoperatoria y procedimiento para llevar a cabo dicha planificación</strong></td>
<td>PCT/ES2008/000240 (Family with 2 patents)</td>
<td>GMV Aerospace and Defense S.A.-Desarrollada por la FIBHGM</td>
<td>Manuel Desco, Javier Pascau, Felipe Calvo, Juan José Vaquero, Manlio Fabio Valdivieso, Carlos Guillermo Illana</td>
<td>Advanced technology applications and human health. Radiotherapy-based oncology</td>
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<td><strong>Dendrimeros carbosilanos con un núcleo polifenólico y su uso como antivirales</strong></td>
<td>P201030450</td>
<td>UAH - HGUGM</td>
<td>Francisco Javier de la Mata, Rafael Gómez, Javier Sánchez-Nieves, Paula Ortega, Mª Ángeles Muñoz-Fernández, Louis Chonco, Mª Jesús Serramia</td>
<td>Molecular biology of HIV</td>
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<td><strong>Dendrimeros carbosilanos y su uso como antivirales</strong></td>
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<td>UAH - HGUGM</td>
<td>Francisco Javier de la Mata, Rafael Gómez, Mª Ángeles Muñoz-Fernández, Javier Sánchez-Nieves, Beatriz Rasines, Louis Chonco, Eduardo Arnaiz, Mª Jesús Serramia</td>
<td>Molecular biology of HIV</td>
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<th>IISGM Group</th>
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<td>Dispositivo de Sutura (Doble aguja)</td>
<td>U201330693</td>
<td>FIBHGM</td>
<td>Óscar Martínez, Luis Ortíz, Ignacio Cueto, Blanca González</td>
<td>Obstetrics and gynecology</td>
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<td>Dispositivo de Asistencia Ventricular</td>
<td>P201331422</td>
<td>FIBHGM</td>
<td>Juan Francisco del Cañizo, Manuel Ruiz</td>
<td>Artificial circulation laboratory</td>
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<td>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</td>
<td>P9501070 (Family with 15 patents)</td>
<td>SERMAS - HGUGM</td>
<td>Juan Francisco del Cañizo</td>
<td>Artificial circulation laboratory</td>
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<td>Mango ergonómico de cubierto</td>
<td>U201430605</td>
<td>FIBHGM</td>
<td>Irene de los Ríos, Mª Victoria Sevilla</td>
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**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 IISGM.
# 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

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## 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.

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### New Clinical Studies

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### Distribution of Clinical Trials Signed by Phase

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### Projects Obtained in 2014

#### Distribution of Clinical Studies Signed in 2014

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#### Distribution of Clinical Studies Signed in 2014 by Area of IISGM

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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.
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 (e.g., 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.

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

A fortnightly calendar was planned to mix seminars on basic research and seminars on clinical research.
The content of these seminars was complemented by the Practical Research Seminars, which are of a more informative nature, and with Guest Speaker Seminars.

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<td>Estrategias para afrontar el H2020: Reglas básicas de participación.</td>
<td>Luis J. Fdez Vera</td>
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<td>Genomics of Breast Cancer: from the individuals to the population.</td>
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<td>Trajectories of brain change during development: Understanding the</td>
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<td>risk and resilience factors for emerging mental illness.</td>
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<td>Tolerancia del Sistema Inmune Innato: mecanismos, moléculas y</td>
<td>Eduardo López Collazo. IdiPAZ</td>
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<td>Herramienta REDCap.</td>
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<td>El Segmento Inicial del Axón y su implicación en patologías del</td>
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<td>CortexSTIM stimulator for direct cortical stimulation.</td>
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<td>Neurosurgery St Luke’s-Roosevelt Hospital, New York,</td>
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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.
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

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<th>Authors</th>
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<td>Kolh P; Windecker S; Alfonso F; Collet JP; Cramer 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 GQ; 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; Kolh 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; Ananyevu A; Badimon L; Bauserschs 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</td>
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<td>Gomez-Huelgas R; Perez-Jimenez F; Serrano-Rios M; Gonzalez-Santos P; Roman P; Camafort M; Conthe P; Garcia-Alegria J; Guijarro R; Lopez-Miranda J; Tirado-Miranda R; Valdivielso P</td>
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<td>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-Ortero 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</td>
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<td>Executive Summary of the Consensus Statement on monitoring HIV: Pregnancy, birth, and prevention of mother-to-child transmission</td>
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<td>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-Flori C; Lortholary O; Meis JF; Meletiadis J; Munoz P; Richardson M; Roilides E; Tortorano AM; Ullmann AJ; van Diepeningen A; Verweij P; Petrikkos G</td>
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<td>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; Mes JF; Ullmann AJ; Petrikkos G; Lass-Flori C</td>
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<td>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-Flori C; Lortholary O; Meletiadis J; Munoz P; Pagano L; Petrikkos G; Richardson MD; Roilides E; Skiada A; Tortorano AM; Ullmann AJ; Verweij PE; Cornely OA; Cuenca-Estrella M</td>
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<td>Iagnocco A; Porta F; Cuomo G; Delle Sedie A; Filippucci E; Grassi W; Sakkellariou G; Epis O; Adinolfi A; Ceccarelli F; De Lucia O; Di Geso L; Di Sabatino V; Gabba A; Gattameletta A; Gutierrez M; Massaro L; Massanelli M; Perricone C; Picerno V; Ravagnani V; Riente L; Scioscia C; Naredo E; Filippou G</td>
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<td>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; Gandjaakhr F; Keley G; Loeuille D; Moller I; Terslev L; Aegerter P; Aydin S; Baillant PV; Filippucci E; Mandl P; Pineda C; Roth J; Magni-Manzoni S; Tzaribachev N; Schmidt WA; Conaghan PG; D’Agostino MA</td>
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<td>Bruyn GAW; Hanova P; Iagnocco A; d’Agostino MA; Moller I; Terslev L; Backhaus M; Baillant PV; Filippucci E; Baudoin P; van Vugt R; Pineda C; Wakefield R; Garrido J; Pecha O; Naredo E</td>
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<td>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 B; Carles J; Hernandez A; Hervas D; Bastus R; Fernandez-Aramburu A; Sastre J; Terrasa J; Lopez-Brea M; Dorca J; Almenar B; Carles J; Hernandez A; Germa JR</td>
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<td>De las Penas R; Escobar Y; Henao F; Blasco A; Rodriguez CA</td>
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<td>Gómez-Casares M; Jiménez-Velasco A; Buño I; Colomer D, Martínez-López J</td>
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<td>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</td>
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<td>Gorostidi M; Santamaria R; Alcazar R; Fernandez-Fresneda G; Galceran JM; Goicoechea M; Oliveras A; Portoles J; Rubio E; Segura J; Aranda P; de Francisco ALM; del Pino MD; Fernandez-Vega F; Gorriz JL; Luno J; Marin R; Martinez I; Martinez-Castelao A; Orte LM; Quereda C; Rodriguez-Perez JC; Rodriguez M; Ruilope LM</td>
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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).

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<td>Determinantes moleculares de la modulación farmacológica de los canales cardíacos humanos que generan la corriente IK1</td>
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<td>Detección de beta-7-casomorfina en orina de niños con autismo</td>
<td>María José Parellada Redondo</td>
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<td>Pablo Ryan Murua</td>
<td>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 interféron y ribavirina</td>
<td>Juan Berenguer Berenguer</td>
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<td>Eleonora Bunow</td>
<td>Un modelo de intervención desde el servicio de microbiología en la alerta precoz de la sepsis</td>
<td>Emilio Bouza Santiago</td>
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<td>Marta Martínez Bonet</td>
<td>Nuevas estrategias frente a la infección por el VIH-1</td>
<td>Mª Ángeles Muñoz Fernández, Ricardo Madrid González</td>
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<td>Efecto de la infección por el VIH-1 sobre el fenotipo y la funcionalidad de las células Treg (Treg): Uso de los dendrimeros carboilán como protectores de las Treg frente a la infección por el VIH</td>
<td>Mª Ángeles Muñoz Fernández, Rafael Correa Rocha</td>
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<td>Rafael Correa Rocha</td>
<td>Células Treg y homeostasis inmune en la infancia: implicaciones en distintas alteraciones inmunes pediátricas</td>
<td>Mª Ángeles Muñoz Fernández, Mª José Mellado Peña</td>
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<td>Talía Sainz Costa</td>
<td>Arteriosclerosis carotidea en niños y adolescentes infectados por el VIH: factores fisiopatológicos implicados</td>
<td>Mª Ángeles Muñoz Fernández, Mª José Mellado Peña</td>
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<td>Sara Custodio Cabello</td>
<td>Utilidad de las células tumorales circulantes en la predicción de la respuesta al tratamiento en cáncer de mama metastásico</td>
<td>Miguel Martín Jiménez</td>
<td>Universidad Complutense de Madrid</td>
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<th>Student</th>
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<tr>
<td>Virginia Morillo Macías</td>
<td>Valoración e impacto del tiempo quirúrgico tras el tratamiento neoadyuvante en cáncer rectal avanzado</td>
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<td>Universidad Complutense de Madrid</td>
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<tr>
<td>Fernando Rivas Navarro</td>
<td>Recidiva anastomótica post-neoadyuvancia en cáncer de recto: correlación clínico-patológica</td>
<td>Felipe A. Calvo Manual</td>
<td>Universidad Complutense de Madrid</td>
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<td>Luis Cabezón Gutiérrez</td>
<td>Monitorización del tratamiento neoadyuvante en el cancer de recto localmente avanzado mediante 18F-Fdg PET. correlación predictiva y pronostica de la respuesta</td>
<td>Felipe A. Calvo Manual</td>
<td>Universidad Complutense de Madrid</td>
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<tr>
<td>Maria Dolores de la Mata Moya</td>
<td>Resposta postneoadyuvancia en cancer recto: correlaciones entre patología molecular (VEGFR, EGFR) e imagen molecular (PET-TAC)</td>
<td>Felipe A. Calvo Manual</td>
<td>Universidad Complutense de Madrid</td>
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<tr>
<td>Juan Carlos Jado Rodríguez</td>
<td>Cilastatina protege del fracaso renal agudo inducido por gentamicina sin comprometer su eficacia bactericida</td>
<td>Alberto Tejedor Jorge, Alberto Lázaro Fernández</td>
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<td>Javier Urbano Villaescusa</td>
<td>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</td>
<td>Jesús López-Herce Cid</td>
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<tr>
<td>María José Solana García</td>
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<td>Evelyn Cano Giménez</td>
<td>Estrés y ansiedad parental en la unidad de cuidados intensivos neonatal. El papel modulador de una intervención temprana</td>
<td>Manuel Sánchez Luna, Alfredo Gustavo Brito de la Nuez</td>
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<td>Joaquín Moya Angeler</td>
<td>Valoración por resonancia magnética de un modelo experimental para el estudio de la degeneración articular</td>
<td>Francisco Forriol Campos, Javier Vaquero Martín</td>
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<td>Guillermo Juan Rodríguez Bernal</td>
<td>Flujo sanguíneo cerebral en dispositivos de asistencia mecánica circulatoria. Estudio experimental en cerdos</td>
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<td>Mª Esther Durán García</td>
<td>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</td>
<td>Cecilia Martínez Fernández-Llamazares, Miguel Ángel Calleja-Hernández, Fernando Martínez Martínez</td>
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<td>Vicente Escudero Vilaplana</td>
<td>Utilización de agentes estimulantes de la eritropoyesis en el tratamiento de la anemia secundaria a enfermedad renal crónica</td>
<td>Ana Herranz Alonso, Juan Manuel López Gómez, Irene Iglesias Peinado</td>
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<td>Javier Muñoz González</td>
<td>ECMO en adultos con insuficiencia respiratoria aguda grave</td>
<td>Carlos Pérez de Oteyza</td>
<td>Universidad Complutense de Madrid</td>
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<td>Alejandro Ochoa Palominos</td>
<td>Mejora 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.</td>
<td>Rafael Bañares Cañizares, Diego Rincón Rodríguez</td>
<td>Universidad Complutense de Madrid</td>
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<td>Ana Mª García Pozo</td>
<td>Investigación en Enfermería en la Comunidad de Madrid: perfil investigador de las enfermeras y situación actual en los Hospitales del Servicio Madrileño de Salud</td>
<td>Ruth Gil Prieto/ Gregorio Garrido Canataro</td>
<td>Universidad Rey Juan Carlos</td>
<td>Enfermería</td>
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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]).

ISGM 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).
<table>
<thead>
<tr>
<th>Structure</th>
<th>Group</th>
<th>Group Director</th>
<th>Area</th>
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<td>Vascular pathophysiology and</td>
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<td>Mr Ángeles Muñoz Fernández</td>
<td>Diseases of the immune system</td>
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<tr>
<td>Plataforma de Biobancos</td>
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<td>Diseases of the immune system</td>
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<td>• Patients with HIV infection</td>
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<td>• Maternal-fetal medicine</td>
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<td>• Pediatrics HIV Biobank</td>
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<td>Red de terapia celular (TERCEL)</td>
<td>Natural history of heart disease</td>
<td>Francisco Fernández-Avilés</td>
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<td>Red SAMID (Red de salud materno infantil y del desarrollo)</td>
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<td>Genetics and clinical features of hematologic malignancy and hematopoietic cell transplantation</td>
<td>José Luis Díez/ Ismael Buño</td>
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<td>RTICC-Red temática de investigación cooperativa en cáncer</td>
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<td>Mª Luisa Navarro</td>
<td>Diseases of the immune system</td>
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<td>Biopathology of aging</td>
<td>José Antonio Serra</td>
<td>Systemic diseases and organ transplantation</td>
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<td>Plataforma de Unidades de Investigación Clínica y Ensayos Clínicos (SCREN)</td>
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<td>María de la Cruz Arguedas</td>
<td>Research support services</td>
<td>Participating unit</td>
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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
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 DESCO 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 IISGM. 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 Chavarrias Navas: Predoctoral.
- Rigoberto Chil Pérez: Trainee.
- Lorena Cussó Mula: Postdoctoral.
- Claudia De Molina Gomez: Trainee.
- Manuel Desco 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 MacíasGordaliza: 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.
- María Del Rosario Vázquez Alcázar: Management.
- Tom Vettenburg: Marie Curie.
- Mónica Abella García: Postdoctoral.
- Yasser Alemán Gómez: Predoctoral.
Research projects – Competitive calls

- Principal investigator: Mª 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. "Navigación 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.
<table>
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<tr>
<th>Doctoral student</th>
<th>Title</th>
<th>Director</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lorena Cussó Mula</td>
<td>Advantages and applications of quantitative molecular imaging</td>
<td>Manuel Desco Menéndez, José Carlos Antoraz Gallego</td>
<td>Universidad Carlos III de Madrid</td>
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<tr>
<td>María La Calle Aurioles</td>
<td>Estudio de las alteraciones hemodinámicas en fases tempranas de la enfermedad de alzheimer mediante imagen por resonancia magnética multimodal: estructural, perfusión y difusión</td>
<td>Manuel Desco Menéndez, María Luisa Vega González</td>
<td>Universidad Complutense de Madrid</td>
</tr>
<tr>
<td>José María Mateos Pérez</td>
<td>Contributions to the quantitative analysis of dynamic PET studies using clustering approaches</td>
<td>Juan José Vaquero López</td>
<td>Universidad Carlos III de Madrid</td>
</tr>
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**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 Gavala, 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  
  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 Tapia 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, Mª Jesús Ledesma Carballe, Andrés de Santos Lló, 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 Sisniega 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 Lló

• 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 López

• Title: MMWKS
  Reference: Registrado
  Owner: FIBHGM
  Authors: Manuel Desco Menéndez, Juan José Vaquero López

Publications

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

• Guzman-De-Villoria JA; Mateos-Pérez JM; Fernandez-Garcia 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.


• 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.

• Lacalle-Aurioles M; Mateos-Pérez JM; Guzman-De-Villoria JA; Olazaran J; Cruz-Orduna I; Aleman-Gomez 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.
• Martino ME; Fernandez-Lorente J; Romero-Vives M; Barcena R; Gaztelu JM. Brain oscillatory activity during sleep shows unknown dysfunctions in early encephalopathy. JOURNAL OF PHYSIOLOGY AND BIOCHEMISTRY. 2014; 70(3) 821–835. IF: 1.969. Quartile: 3.

• Blas JG; Abella M; Isaila F; Carretero J; Martinez-Monge R. Surfing the optimization space of a multiple-GPU parallel implementation of a X-ray tomography reconstruction algorithm. JOURNAL OF SYSTEMS AND SOFTWARE. 2014; 95. 166–175. IF: 1.352. Quartile: 2.

• Montesinos P; Abascal JFPJ; Cusso L; Vaquero JJ; Desco M. Application of the Compressed Sensing Technique to Self-Gated Cardiac Cine Sequences in Small Animals. MAGNETIC RESONANCE IN MEDICINE. 2014; 72(2) 369–380. IF: 3.571. Quartile: 1.

• Fernandez-De-Manuel L; Wollny G; Kybic J; Jimenez-Carretero D; Tellado JM; Ramon E; Desco M; Santos A; Pascau J; Ledesma-Carbayo MJ. Organ-focused mutual information for nonrigid multimodal registration of liver CT and Gd-EOB-DTPA-enhanced MRI. MEDICAL IMAGE ANALYSIS. 2014; 18(1) 22–35. IF: 3.654. Quartile: 1.

• Sisniega A; Abella M; Desco M; Vaquero JJ. Dual-exposure technique for extending the dynamic range of x-ray flat panel detectors. PHYSICS IN MEDICINE AND BIOLOGY. 2014; 59(2) 421–439. IF: 2.761. Quartile: 2.

• Abascal JFPJ; Montesinos P; Marinetto E; Pascau J; Desco M. Comparison of Total Variation with a Motion Estimation Based Compressed Sensing Approach for Self-Gated Cardiac Cine MRI in Small Animal Studies. PLOS ONE. 2014; 9(10). IF: 3.234. Quartile: 1.


• Hernández-Porras I; Fabbiano S; Schuhmacher AJ; Aicher A; Camanero M; Camara JA; Cusso L; Desco M; Heeschen C; Mulero F; Bustelo XR; Guerra C; Babacric M. K-Ras(V14I) recapitulates Noonan syndrome in mice. PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA. 2014; 111(46) 16395–16400. IF: 9.674. Quartile: 1.
• Janssen J; Aleman-Gomez Y; Schnack H; Balaban E; Pina-Camacho L; Alfarro-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.

• Arranz A; Dong D; Zhu SP; Savakis C; Tian J; Ripoll J. In-vivo Optical Tomography of Small Scattering Specimens: time-lapse 3D imaging of the head eversion process in Drosophila melanogaster. SCIENTIFIC REPORTS. 2014; 4. IF: 5.578. 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.

<table>
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<th>Category</th>
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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 (SABION 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.
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.)

<table>
<thead>
<tr>
<th>4. Maintenance and consolidation of scientific production</th>
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<tr>
<td><strong>Strategic objectives:</strong></td>
</tr>
<tr>
<td>• Increase the number of publications in preclinical research.</td>
</tr>
<tr>
<td>• Increase participation in intramural and extramural cooperative studies.</td>
</tr>
<tr>
<td>• Perform clinical trials.</td>
</tr>
<tr>
<td>• Increase the number of publications on translational research.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Diversification of funding sources by consolidating several principal investigators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic objectives:</strong></td>
</tr>
<tr>
<td>• Increase participation in national cooperative studies (networks, consortia) and international cooperative studies.</td>
</tr>
<tr>
<td>• Scale applications for competitive funding calls in the National Plan.</td>
</tr>
<tr>
<td>• Apply for private financing through competitive calls.</td>
</tr>
<tr>
<td>• Obtain private funding by converging the group lines with the different private funding bodies.</td>
</tr>
<tr>
<td>• Increase funding for predoctoral staff.</td>
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### Axis 2: Consolidation of training

<table>
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<th>1. Increase opportunities for postgraduate training</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic objective:</strong></td>
</tr>
<tr>
<td>• Promote preparation of doctoral theses</td>
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</table>

<table>
<thead>
<tr>
<th>2. Promote temporary training periods for researchers in prestigious laboratories</th>
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### Axis 3: Consolidation of infrastructure

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<th>1. Distribution and equipment of the Bioartificial Organ Laboratory</th>
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### Axis 4: R+D+i

<table>
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<tr>
<th>1. Development of a model for evaluating and identifying intellectual property products</th>
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<tbody>
<tr>
<td>2. Development of spin-off models with the hospital and the university</td>
</tr>
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</table>
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.
- Tomas Datino Romaniega: Postdoctoral.
- Leonel Diaz Gonzalez: Other.
- Felize Diez Del Hoyo: Other.
- Jaime Elizaga Corrales: Postdoctoral.
- Maria Ángeles Espinosa Castro: Predoctoral.
- Ana Maria Fernandez Baza: Administration.
- Lucía Fernandez Pena Data: Management.
- Mª Eugenia Fernandez Santos: Senior Researcher.
- Francisco Jesús Fernández-Aviles Diaz: Senior Researcher.
- Juan Fernández-Yañez 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 Saldivar: Other.
- Esteban González Torrecilla: Postdoctoral.
- Enrique Gutiérrez Ibañes: Predoctoral.
- Xin Li: Other.
- Juan Carlos Lopez García: Other.
- Maria José Lorenzo Hernández Data: Management.
- Gerard Alvaro Loughlin Ramirez: Other.
- Raquel Luna Lopez: Other.
- Irene Martin De Miguel: Other.
- Manuel Martinez Selles: Senior Researcher.
- Almudena Martinez Tellez: Administration.
- Pablo Martinez-Legazpi Aquilo: Other.
- José Antonio Mayorga Fernandez: Other.
- Irene Mendez Fernandez: Other.
- Batiste Andreu Martinez Climent: Postdoctoral.
- Maria 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 Juárez: Other.
- Pablo Ruiz Hernández: Other.
- Mª Teresa Sánchez Anegon: Other.
- Ricardo Sanz Ruiz: Postdoctoral.
- Fernando Sarnago Cebada: Postdoctoral.
- Javier Soriano Triguero: Postdoctoral.
- Iago Sousa Casasnovas: Other.
- Susana Suarez Sancho: Predoctoral.
- María Amalia Tamargo Delpón: Other.
- María 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.
- Mª 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 in 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 hipertension pulmonar asociada a cardiopatia 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:** Raquel Yotti Álvarez  
  **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 cardiaco bioartifical 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:** Francisco Jesús Fernández-Avilés Díaz  
  **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 intronica de KCNH2 en una familia con sindrome de QT largo. Estudio trasclacional de patogenicidad en cultivo monocapa de cardiomiocitos diferenciados a partir de celulas madre inducidas mediante tecnicas de mapeo  
  **Funding body:** Fundación Mutua Madrileña  
  **Start date:** 2014  
  **End date:** 2016
Clinical practice guidelines

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<td>Datino T; Rexach L; Vidan MT; Alonso A; Gandara A; Ruiz-García J; Fontecha B; Martínez-Selles M</td>
<td>Guidelines on the management of implantable cardioverter defibrillators at the end of life</td>
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| Kolh 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; Schaüer P; Uva MS; Stefanini GG; Taggart DP; Torracca L; Valgimigli M; Windecker S; Wittkowski 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; Kolh P; Lancellotti P; Linhart A; Nihoyannopoulos P; Piepoli MF; Ponikowski P; Sirnes PA; Tamargo JL; Tendera M; Toribicki A; Windecker S; Uva MS; Achenbach S; Pepper J; Ananywu A; Badimon L; Bauersachs J; Baumbach A; Beygui F; Bonaros N; De Carlo M; Deaton C; Dobrev D; Dunning J; Eeckhout E; Gießen S; Hasdai D; Kirchhof P; Luckraz H; Mahrholdt H; Montalescot G; Paparella D; Rastan AJ; Sanmartín 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 |
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, Mª Jesús 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 Guillen, Omer Berenfeld

- Title: Dispositivo de localización de arritmias cardiacas
  Reference: P201431597
  Owner: FIBHGM - UPV
  Inventors: Andreu Martínez, Felipe Atienza Fernández, Ángel Arenal, Francisco Fernández Avilés y María S. Guillem

Publications

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


- 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; Sanchez 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; 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.


- Bermejo J; Benito Y; Alhama M; Yotti R; Martinez-Legazpi P; del Villar CP; Perez-David E; Gonzalez-Mansilla A; Santa-Marta C; Barrio A; Fernandez-Aviles F. Intraventricular vortex properties in nons ischemic dilated cardiomyopathy. AMERICAN JOURNAL OF PHYSIOLOGY-HEART AND CIRCULATORY PHYSIOLOGY. 2014; 306(5) H718-H729. IF: 3.838. Quartile: 1.

- Diez-Villanueva P; Gutierrez-Ibanes E; Cuerdo-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.

- Lindau ST; Abramsohn EM; Bueno H; D’Onofrio G; Lichtman JH; Lorenze NP; Sanghani RM; Spatz ES; Spertus JA; Strait K; Wroblewski K; Zhou SF; Krumholz HM. Sexual Activity and Counseling in the First Month After Acute Myocardial Infarction Among Younger Adults in the United States and Spain A Prospective, Observational Study. CIRCULATION. 2014; 130(25) 2302. IF: 14.43. Quartile: 1.

- Kloppe A; Proclemer A; Arenal A; Lunati M; Ferrer JBM; Hersi A; Gulaj M; Wijffels MCEF; Santi E; Manotta L; Mangoni L; Gasparini M. Efficacy of Long Detection Interval Implantable Cardioverter-Defibrillator Settings in Secondary Prevention Population Data From the Avoid Delivering Therapies

- 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; Martínez-Legazpi P; del Villar CP; Elizaga J; González-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.

- Sarmiento E; Arraya M; Jaramillo M; Diez P; Fernandez-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.

- Vidan MT; Sánchez 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.

- Lopez-Gil M; Salgado R; Merino JL; Datino T; Figueroa J; Arenal A; Mejia E; Salguero R; Fontenla A; Arribas F. Cavo-tricuspid isthmus radiofrequency ablation using a novel remote navigation catheter system in patients with typical atrial flutter. EUROPACE. 2014; 16(4) 558-562. IF: 3.67. Quartile: 2.

- Schoenenberger AW; Werner N; Bramlage P; Martínez-Selles M; Maggi S; Bauernschmitt R; Thoennes M; Kurucova J; Michel JP; Ungar A. Comprehensive geriatric assessment in patients undergoing transcatheter aortic valve implantation-rationale and design of the European CGA-TAVI registry. EUROPEAN GERIATRIC MEDICINE. 2014; 5(1) 8-13. IF: 0.733. Quartile: 4.

- Mont L; Bisbal F; Hernández-Madrid A; Pérez-Castellano N; Vinolas X; Arenal A; Arribas F; Fernandez-Lozano I; Bodegas A; Cobos A; Matia R; Pérez-Villacastín J; Guerra JM; Avila P; Lopez-Gil M; Castro V; Arana JI; Brugada J. Catheter ablation vs. antiarrhythmic drug treatment of persistent atrial fibrillation: a multicentre, randomized, controlled trial (SARA study). EUROPEAN HEART JOURNAL. 2014; 35(8) 501-507. IF: 15.203. Quartile: 1.

- Guembe M GuilleM MS; Climent AM; Pedron-Torrejilla J; Liberos A; Millet J; Fernandez-Aviles F; Atienza F; Berenfeld O. Body surface localization of left and right atrial high-frequency rotors in atrial fibrillation patients: A clinical-computational study. HEART RHYTHM. 2014; 11(9) 1584-1591. IF: 5.076. Quartile: 1.

- Arenal A; Pérez-David E; Avila P; Fernandez-Portales J; Crisostomo V; Baez C; Jimenez-Candil J; Rubio-Guivernau JL; Ledesma-Carbayo MJ; Loughlin G; Bern. Noninvasive identification of epicardial ventricular tachycardia substrate by magnetic resonance based signal intensity mapping. HEART RHYTHM. 2014; 11(8) 1456-1464. IF: 5.076. Quartile: 1.

- 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.

- Barge-Caballero E; Almenar-Bonet L; Villa-Arranz A; Pérez-Villa F; Segovia-Cubero J; Delgado-Jimenez J; Gonzalez-Vilchez F; Manito-Lorite N; De-La-Fuente-Galan L; Brossa-Loidi V; Lambert-Rodriguez JL; Pascual-Figal D; Lage-Galle E; Arizon-Del-Prado JM; Sa. Impact of short-term mechanical circulatory support with extracorporeal devices on postoperative outcomes after emergency heart transplantation: Data from a multi-institutional Spanish cohort. INTERNATIONAL JOURNAL OF CARDIOLOGY. 2014; 176(1) 86-93. IF: 4.036. Quartile: 1.

- Martinez-Selles M; Munoz P; Arnaiz A; Moreno M; Galvez J; Rodriguez-Roda J; de Alarcon A; Cabrera EG; Farinas MC; Miro JM; Montejo M; Moreno A; Ruiz-Morales J; Goenaga MA; Bouza E. Valve surgery in active infective

- García-Dorado D; García-del-Blanco B; Otaegui I; Rodríguez-Palomares J; Pineda V; Gimeno F; Ruiz-Salmeron R; Elizaga J; EvÁngelista A; Fernandez-Aviles F; San-Roman A; Ferreira-Gonzalez I. Intracoronary injection of adenosine before reperfusion in patients with ST-segment elevation myocardial infarction: A randomized controlled clinical trial. INTERNATIONAL JOURNAL OF CARDIOLOGY. 2014; 177(3) 935-941. IF: 4.036. Quartile: 1.

- de Lorenzo-Pinto A; Bueno H; Herranz-Alonso A; Elizaga-Corrales J; Pérez-Sanz C; Cuellar-Basterrechaa 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.

- Munoz P; Vena A; Ceron I; Valerio M; Palomo J; Guinea J; Escribano P; Martinez-Selles M; Bouza E. Invasive pulmonary aspergillosis in heart transplant recipients: Two radiologic patterns with a different prognosis. JOURNAL OF HEART AND LUNG TRANSPLANTATION. 2014; 33(10) 1034-1040. IF: 6.65. Quartile: 1.

- Munoz P; Ceron I; Valerio M; Palomo J; Villa A; Eworo A; Fernandez-Yanez J; Guinea J; Bouza E. Invasive aspergillosis among heart transplant recipients: A 24-year perspective. JOURNAL OF HEART AND LUNG TRANSPLANTATION. 2014; 33(3) 278-288. IF: 6.65. Quartile: 1.

- Martinez-Selles M; Doblas JTG; Hevia AC; de la Villa BG; Ferreira-Gonzalez I; Tello AA; Ogando RA; Vera TR; Jimenez AA; Carrillo P; Pascual CR; Romeva MC; Borras X; Cornide L; Lopez-Palop R. Prospective registry of symptomatic severe aortic stenosis in octogenarians: a need for intervention. JOURNAL OF INTERNAL MEDICINE. 2014; 275(6) 608-620. IF: 6.063. 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.

- Martinez-Legazpi P; Bermejo J; Benito Y; Yotti R; del Villar CP; Gonzalez-Mansilla A; Barrio A; Villacorta E; Sánchez PL; Contribution of the Diastolic Vortex Ring to Left Ventricular Filling. JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY. 2014; 64(16) 1711-1721. IF: 16.503. Quartile: 1.


- 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 CLINICA ESPAÑOLA. 2014; 214(1) 31-37. IF: 1.063. Quartile: 3.


- Marin F; Diaz-Castro O; Ruiz-Nodar JM; de la Villa BG; Sionis A; Lopez J; Fernandez-Ortiz A; Martinez-Selles M. Update on Ischemic Heart Disease and Critical Care Cardiology. REVISTA ESPAÑOLA DE CARDIOLOGIA. 2014; 67(2) 120-126. IF: 3.792. Quartile: 2.

• Hernández JMD; Alfonso F; Yuste VM; Recalde AS; Navarro MFJ; de Prado AP; Hernández F; Altisent OAJ; Roura G; Camarero TG; Elizaga J; Calvino R; Moreu J; Bosa F; Mazuecos JJ; Ruiz-Arroyo JR; del Blanco BG; Rumoso JR. Comparison of Paclitaxel and Everolimus-eluting Stents in ST-segment Elevation Myocardial Infarction and Influence of Thrombectomy on Outcomes. ESTROFA-IM Study. REVISTA ESPAÑOLA DE CARDIOLOGIA. 2014; 67(12) 999-1006. IF: 3.792. Quartile: 2.

• García DGD; Diez J; Cinca J; Marrugat J; Diaz FFA. Cooperative Research in Biomedicine. Spain’s Cardiovascular Network, Red de Investigacion Cardiovascular. REVISTA ESPAÑOLA DE CARDIOLOGIA. 2014; 67(4) 254-258. IF: 3.792. Quartile: 2.

• Miracle AL; Atienza F; Fernandez-Aviles F. Paroxysmal Supraventricular Tachycardia Immediately Following Heart Transplantation. REVISTA ESPAÑOLA DE CARDIOLOGIA. 2014; 67(8) 668-668. IF: 3.792. Quartile: 2.

• Sepulveda JC; Tome M; Fernandez ME; Delgado M; Campisi J; Bernad A; Gonzalez MA. Cell Senescence Abrogates the Therapeutic Potential of Human Mesenchymal Stem Cells in the Lethal Endotoxemia Model. STEM CELLS. 2014; 32(7) 1865-1877. IF: 6.523. Quartile: 1.

• Sarmiento E; Navarro J; Fernandez-Yanez J; Palomo J; Munoz 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.

• Gonzalez-Vilchez F; Arizon JM; Segovia J; Almenar L; Crespo-Leiro MG; Palomo J; Delgado JF; Mirabet S; Rabago G; Pérez-Villa F; Díaz B; Sanz ML; Pascual D; de la Fuente L; Guinea G. Chronic Renal Dysfunction in Maintenance Heart Transplant Patients: The ICEBERG Study. TRANSPLANTATION PROCEEDINGS. 2014; 46(1) 14-20. IF: 0.982. Quartile: 3.

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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.
- L5: Molecular determinants of block of inwardly rectifying K channels (Kir).
- L6: Molecular determinants of voltage-dependent channel block.
- L7: Modulation by endogenous mediators (e.g., 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

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<td>Pablo Dolz Gaitón</td>
<td>Determinantes moleculares de la modulación farmacológica de los canales cardiacos humanos que generan la corriente IK1</td>
<td>Eva Delpón Mosquera, Ricardo Caballero Collado, Juan Tamargo Menéndez</td>
<td>Universidad Complutense de Madrid</td>
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<td>Adriana Barana Muñoz</td>
<td>Papel de los endocannabinoides y ácidos grasos en la regulación de los canales auriculares humanos Kv1.5</td>
<td>Juan Tamargo Menéndez, Eva Delpón Mosquera, Ricardo Caballero Collado</td>
<td>Universidad Complutense de Madrid</td>
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Clinical practice guidelines

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<td>Kolh 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; Lauffer 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; Kolh 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</td>
<td>2014 ESC/EACTS Guidelines on myocardial revascularization</td>
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## CARDIAC CELLULAR ELECTROPHYSIOLOGY

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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).

(Continued on next page)
AREA 2: Cardiovascular diseases


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. 2014 ESC/EACTS Guidelines on myocardial revascularization. EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY. 2014; 46(4) 517-592. IF: 3.304. Quartile: 1.

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 (e.g., 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 IiSGM. The fruits of this cooperation can be seen in the numerous publications in prestigious journals both within and outside the field of cardiovascular disease (e.g., 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 IiSGM, 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; Guillén C; Díaz-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; 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; 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.

- Martin R; Cordova C; San Roman JA; Gutierrez B; Cachofeiro V; Nieto ML. Oleanolic 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.

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- 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.
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 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.

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 myocardopathy, 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.
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 Garcia: Postdoctoral.
- Alejandro Rodríguez Ogando: Predoctoral.
- Adolfo Sobrino Baladrón: Post-MIR.
- Samantha Wilkinson: Support technician.
- José Luis Zunzüñegui Martínez: Predoctoral.
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

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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 PEDIATRIA. 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.

- Sainz T; Alvarez-Fuente M; Navarro ML; Diaz L; Rojo P; Blazquez D; de José MI; Ramos JT; Serrano-Villar S; Martinez J; Medrano C; Munoz-Fernandez 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.

- 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.

- Subirana MT; Baron-Esquivas G; Manito N; Oliver JM; Ripoll T; Lambert JL; Zunzunegui JL; Bover R; Garcia-Pinilla JM. 2013 Update on Congenital Heart Disease, Clinical Cardiology, Heart Failure, and Heart Transplant. REVISTA ESPAÑOLA DE CARDIOLOGIA. 2014; 67(3) 211-217. IF: 3.792. Quartile: 2.

- 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.

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Blood lipids and cardiovascular risk

Group director: LUIS ANTONIO ÁLVAREZ-SALA WAL ther
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 Mª 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.
### Clinical practice guidelines

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<td>Nunez-Cortes JM; Pedro-Botet J; Brea-Hernando A; Diaz-Rodriguez A; Gonzalez-Santos P; Hernández-Mijares A; Mantilla-Morato T; Pinto-Sala X; Simo R</td>
<td>Use of Expert Consensus to Improve Atherogenic Dyslipidemia Management</td>
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<td>Clinical decisions in patients with diabetes and other cardiovascular risk factors. A statement of the Spanish Society of Internal Medicine</td>
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### 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; Amarenco 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; Murio C; Heredia JL. Short- and Medium-term Prognosis in Patients Hospitalized for COPD Exacerbation The CODEX Index. CHEST. 2014; 145(S) 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(S) 438-443. IF: 2.891. Quartile: 1.
- Diez-Manglano J; Barquero-Romero J; Almagro P; Cabrera FJ; Garcia 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; Martin 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; Perez-Jimenez F; Serrano-Rios M; Gonzalez-Santos P; Roman P; Camafort M; Conthe P; Garcia-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.

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## 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 IISGM, 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

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<td>Guidelines for the preventive treatment of ischaemic stroke and TIA (II). Recommendations according to aetiological sub-type</td>
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## Publications

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


- Purroy F; Caballero PEJ; Gorospe A; Torres MJ; Alvarez-Sabin J; Martinez-Sanchez P; Canovas D; Freijo M; Egido JA; Ramirez-Elverson JM; Alonso-Arias A; Rodriguez-Campello A; Casado-Naranjo I; Marti-Fabregas J; Silva Y; Cardona P; Morales A; Garcia-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; Garcia-Pastor A; Gil-Nunez A. Guidelines for the treatment of acute ischaemic stroke. NEUROLOGÍA. 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; Sclarisky DG; Nunez AG; Escalonilla CG; Martin AL; Ramirez IL; Montero JLM; Moreno JM; Alvarez FM; Arrondo RM; Garcia FP;; Analysis of stroke care resources in Spain in 2012: Have we benefitted from the Spanish Health System’s stroke care strategy?. NEUROLOGÍA. 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. NEUROLOGÍA. 2014; 29(3) 387-396. IF: 1.381. Quartile: 4.

- Cruz PMR; Sanchez JRP; Cuello JP; Garcia 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. NEUROLOGÍA. 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; Galle- go-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; Rodrí- guez-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.

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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.
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.

(Continued on next page)
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.

(Continued on next page)
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
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

- María Álvarez Blázquez: CIBER.
- Celso Arango López Senior: Researcher.
- Bárbara Arias Sampériz: Postdoctoral.
- Miguel Ángel Barcenilla González: Support technician.
- Leticia Boada Muñoz: Postdoctoral.
- Marta Bravo Sánchez: Postdoctoral.
- 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 Herrera: 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.
Group members (cont.)

- Susana Merchán Ribera: Support technician.
- Purificación Morán Moya: Management.
- Mª Dolores Moreno Pardillo: Postdoctoral.
- Carmen Moreno Ruiz: Postdoctoral.
- María 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 Diaz: 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-GEL. "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 neuroinfl amatorios de la disfunción cognitiva y de los síntomas negativos en espectroscopia 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 Parelada 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 neurológico de la pérdida de sustancia gris cerebral en primeros episodios psicóticos 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 psicóticos en niños y adolescentes.
  Funding body: F. Koplowitz
  Start date: 2013
  End date: 2015

- Principal investigator: Mª 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 7º 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: Joost Jansen Jeucken
  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: Carmen Moreno Ruiz
  Title: Proyecto FIS 2014. “Mecanismos etiofisiopatológicos comunes y diferenciales en el trastorno bipolar y la depresión mayo r 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

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<td>Arango C.</td>
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**Publications**

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

- 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; Jegat 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-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.
- 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.

- De Rubeis S; He X; Goldberg AP; Poultonay CS; Samocha K; Cicek AE; Kou Y; Liu L; Fromer M; Walker S; Singh T; Klei L; Kosmicki J; Fu SC; Aleksic 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-Caneda CM; Saiz PA; Bobes J; Corripio I; Grasa E; Rodriguez-Jimenez R; Fernandez M; Sanjuan J; Garcia-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; Woodruff P. Schizophrenia-Time to Commit to Policy Change. SCHIZOPHRENIA BULLETIN. 2014; 40: S165-S194. IF: 8.45. Quartile: 1.

- García-Bueno B; Bioque M; Mac-Dowell KS; Barcones MF; Martínez-Cengotitabengoa M; Pina-Camacho L; Rodríguez-Jimenez R; Saiz PA; Castro C; Lafuente A; Santabarbara J; González-Pinto A; Parellada M; Rubio G; García-Portilla MP; Mico JA; Bernardo M. Pro-/Ant-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.


- 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; Vlaminck LR; Kempton MJ; Gayer-Anderson C; Hubbard K; Beards S; Stillo 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-Meijas A; Moreno C; Castro-Fornieles J; Graell M; Otero S; González-Pinto A; Moreno D; Baeza I; Martínez-Cengotitabengoa 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; Bitanirwe B; Bowen L; Burshtein S; Cullen A; Fust M; Herrmann AP; Khodaie B; Kilian S; Lang QA; Manning EE; Masuda R; Nurjono M; Sadiq S; Sánchez-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; Alfarro-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.
• Fraguas D; Merchán-Naranjo J; del Rey-Mejías A; Castro-Fornieles J; González-Pinto A; Rapado-Castro M; Pina-Camacho L; Díaz-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.

• Martínez-Cengotitabengoa M; Mico JA; Arango C; Castro-Fornieles J; Graell M; Paya B; Leza JC; Zorrilla I; Parellada M; López 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; Rodríguez-Jimenez R; Cervilla J; Gutierrez B; Molina E; Arango C; Alvarez M; Pascual JC; Pérez 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.
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.

Group members

- Beatriz de la Casa Fages: Postdoctoral.
- Ana Contreras Chicote: Predoctoral.
- Ángel Esteban García: Predoctoral.
- 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

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-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.
- Lacalle-Aurioles M; Mateos-Pérez JM; Guzman-De-Villoria JA; Olazaran J; Cruz-Orduna I; Aleman-Gomez 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; Garcia PS; Peracho GV; Arratibel AG; Guzman DS; Quelle NB; Ruano BG; Mocillo 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.
- Pérez-Sánchez JR; Garcia-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.

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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.

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 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; Gomez-Tortosa E; Pastor P; Hernández I; Esteban-Pérez J; Suarez-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; Ticozzi 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.

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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 Higueras Fernández:** Postdoctoral.
- **María Luisa Martínez Ginés:** Predoctoral.
- **María Rosa Peraíta Adrados:** Postdoctoral.
- **Fernando Romero Delgado:** Predoctoral.
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; Garcia-Sanchez 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.

- Pejoual F; Casrouge A; Tejera-Alhambra M; 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.


- Hoggart CJ; Venturini G; Mangino M; Gomez F; Ascari G; Zhao JH; Teumer A; Winkler TW; Tsernikova N; Luan J; Mihailov E; Ehret GB; Zhang WH; Lambert D; Esko T; Mace A; Rueger S; Bochud P; 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.

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

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Total Impact Factor: 13.4

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

*Group director:* Mª CONCEPCIÓN GUÍASOLA 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: Mª Concepción Guisasola Zulueta
  Title: Metaloproteinasas y sus inhibidores en la degeneracion 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 Íñiguez
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.
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*.

(Continued on next page)
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)
Strategic lines (cont.)

8. Maintenance and diversification of funding sources

Strategic objectives:

- Maintain public and private financial support.
- Enter into agreements with R&D&i 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
Research programs and lines

P1: Cardiovascular infection
- L1: Endocarditis.
- L2: Bacteremia.
- L3: Catheters.

P2: Nosocomial infection
- L1: Ventilator-associated pneumonia.
- L2: Clostridium difficile.

P3: Infection in immunodepressed patients
- L1: Invasive mycosis.
- L2: BK virus.

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.
- Luis 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: Predoctoral.
- Rocio 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: Caracterización de levaduras causantes de fungemia: identificación molecular, determinación de la sensibilidad antifúngica, genotipado de resistencia a equinocándinas 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 secuenciación 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 candidemia 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: Mª 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
Principal investigator: Maricela Valerio Minero  
Title: Optimización del manejo de la infección fúngica 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 investigación asociado a Miguel Servet tipo I.  
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**

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<td>Un modelo de intervención desde el servicio de microbiología en la alerta precoz de la sepsis</td>
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**Clinical Practice Guidelines**

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<td>S. B. Debast, M. P. Bauer, E. J. Kuijper, on behalf of the Committee*</td>
<td>European Society of Clinical Microbiology and Infectious Diseases: update of the treatment guidance document for Clostridium difficile infection</td>
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<td>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; Rolides E; Tortorano AM; Ullmann AJ; van Diepeningen A; Verweij P; Petrikkos G</td>
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<td>ESCMID and ECMM joint guidelines on diagnosis and management of hyalohyphomycosis: Fusarium spp., Scedosporium spp. and others</td>
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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 Martin-Rabadán

Publications

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; Szeszys MW; St-Germain G; Bonefietti IX; 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; Fowler A; Fuller J; Gonzalez GM; Guarino 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; Cercenado 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.

Guinea J; Zaragoza O; Escribano P; Martin-Mazuelos E; Peman J; Sanchez-Reus F; Cuenca-Estrella M. Molecular Identification and Antifungal Susceptibility of Yeast Isolates Causing Fungiemia Collected in a Population-Based Study in Spain in 2010 and 2011. ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2014; 58(3) 1529-1537. IF: 4.476. Quartile: 1.

Moura I; Monot M; Tani C; Spigaglia P; Barbanti F; Norais N; Dupuy B; Bouza E; Mastrantonio P. Multidisciplinary Analysis of a Nontoxigenic Clostridium difficile Strain with Stable Resistance to Metronidazole. ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2014; 58(8) 4957-4960. IF: 4.476. Quartile: 1.

Burillo A; Bouza E. Use of rapid diagnostic techniques in ICU patients with infections. BMC INFECTIOUS DISEASES. 2014; 14. IF: 2.613. Quartile: 2.

Fernandez-Ruiz M; Aguado JM; Almirante B; Lora-Pablos D; Padilla B; Puig-Asenso M; Montejo M; Garcia-Rodriguez J; Peman J; de Pipaon M; Cuenca-Estrella M. Initial Use of Echinocandins Does Not Negatively Influence Outcome in Candida parapsilosis Bloodstream Infection: A Propensity Score Analysis. CLINICAL INFECTIOUS DISEASES. 2014; 58(10) 1413-1421. IF: 8.886. Quartile: 1.


Tortorano AM; Richardson M; Rolides 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. ESCMID and ECMM joint guidelines on diagnosis and management of hyalohyphomycosis: Fusarium spp., Scedosporium spp. and others. CLINICAL MICROBIOLOGY AND INFECTION. 2014; 20: 27-46. IF: 5.768. Quartile: 1.

Gasch O; Camoez M; Dominguez MA; Padilla B; Pintado V; Almirante B; Martin-Gandul C; Lopez-Medrano F; Goepfri E; Blanco JR; Garcia-Pardo G; Calbo E; Horcajada JP; Granados A; Jover-Saenz A; Duenas C; Pujol M. Lack of association between genotypes and haematogenous seeding infections in a large cohort of patients with methicillin-resistant Staphylococcus aureus bacteraemia from 21 Spanish hospitals. CLINICAL MICROBIOLOGY AND INFECTION. 2014; 20(4) 361-367. IF: 5.768. Quartile: 1.

Bassetti M; Baguneid M; Bouza E; Dryden M; Nathwani D; Wilcox M. European perspective and update on the management of complicated skin and soft tissue infections due to methicillin-resistant Staphylococcus aureus after more than 10years of experience with linezolid. CLINICAL MICROBIOLOGY AND INFECTION. 2014; 20: 3-18. IF: 5.768. Quartile: 1.
• 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; Las. ESCMID and ECMM joint clinical guidelines for the diagnosis and management of systemic phaeohyphomycosis: diseases caused by black fungi. CLINICAL MICROBIOLOGY AND INFECTION. 2014; 20: 47-75. IF: 5.768. Quartile: 1.

• Rodriguez-Pardo D; Pigrau C; Lora-Tamayo J; Soriano A; del Toro MD; Cobo J; Palomino J; Euba G; Riera M; Sanchez-Somolinos M; Benito N; Fernandez-Sampedro M; Sorli I; Guio L; Iribarren JA; Baraia-Etxaburu JM; Ramos A; Bahamonde A; Flores-Sanchez X; Corona. Gram-negative prosthetic joint infection: outcome of a debridement, antibiotics and implant retention approach. A large multicentre study. CLINICAL MICROBIOLOGY AND INFECTION. 2014; 20(11) O911-O919. IF: 5.768. Quartile: 1.

• Puig-Asensio M; Padilla B; Garnacho-Montero J; Zaragoza O; Aguado JM; Zaragoza R; Montejo M; Munoz P; Ruiz-Camps I; Cuenca-Estrella M; Almirante B. Epidemiology and predictive factors for early and late mortality in Candida bloodstream infections: a population-based surveillance in Spain. CLINICAL MICROBIOLOGY AND INFECTION. 2014; 20(4) O245-O254. IF: 5.768. Quartile: 1.

• Hirsch HH; Babel N; Comoli P; Friman V; Ginevri F; Jardine A; Lautenschlager I; Legendre C; Midtvedt K; Munoz P; Randhawa P; Rinaldo CH; Wieszek A. European perspective on human polyomavirus infection, replication and disease in solid organ transplantation. CLINICAL MICROBIOLOGY AND INFECTION. 2014; 20. 74-88. IF: 5.768. Quartile: 1.

• Gavalda J; Meije Y; Fortun J; Roilides E; Saliba F; Lortholary O; Munoz P; Grossi P; Cuenca-Estrella M. Invasive fungal infections in solid organ transplant recipients. CLINICAL MICROBIOLOGY AND INFECTION. 2014; 20. 27-48. IF: 5.768. Quartile: 1.

• Rodriguez-Sanchez B; Sanchez-Carrillo C; Ruiz A; Marin M; Cercenado E; Rodriguez-Creixems M; Bouza E. Direct identification of pathogens from positive blood cultures using matrix-assisted laser desorption-ionization time-of-flight mass spectrometry. CLINICAL MICROBIOLOGY AND INFECTION. 2014; 20(7) 0421-0427. IF: 5.768. Quartile: 1.

• 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.

• Bouza E; Martin-Rabada P; Echenagusia A; Camunez F; Rodriguez-Rosales G; Simo G; Echenagusia M; Gueime M. Diagnosis of venous access port colonization requires cultures from multiple sites: should guidelines be amended? DIAGNOSTIC MICROBIOLOGY AND INFECTIOUS DISEASE. 2014; 78(2) 162-167. IF: 2.457. Quartile: 3.

• Rodriguez-Sanchez B; Marin M; Sanchez-Carrillo C; Cercenado E; Ruiz A; Rodriguez-Creixems M; Bouza E. Improvement of matrix-assisted laser desorption/ionization time-of-flight mass spectrometry identification of difficult-to-identify bacteria and its impact in the workflow of a clinical microbiology laboratory. DIAGNOSTIC MICROBIOLOGY AND INFECTIOUS DISEASE. 2014; 79(1) 1-6. IF: 2.457. Quartile: 3.

• 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.

• Ardanuy C; de La Campa AG; Garcia E; Fenoll A; Calatayud L; Cercenado E; Perez-Trallero E; Bouza E; Linares J. Spread of Streptococcus pneumoniae Serotype 8-ST63 Multidrug-Resistant Recombinant Clone, Spain. EMERGING INFECTIOUS DISEASES. 2014; 20(11) 1848-1856. IF: 6.751. Quartile: 1.

• Martinez-Lirola MJ; Munoz-Davila MJ; Garcia-de Viedma D; Fernandez TC; Garcia PL. Usefulness of Genotype MTBDRplus assay in acid-fast bacilli positive smear specimens in Almeria, Spain. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2014; 32(8) 511-514. IF: 2.172. Quartile: 3.

• 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.

• Marin M; Martin A; Alcolea A; Iglesias C; Alcala L; Pelaez T; Sanchez-Somolinos M; Bouza E. First case of autochthonous Clostridium difficile PCR ribotype 027 detected in Spain. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2014; 32(6) 355-358. IF: 2.172. Quartile: 3.
• Guembe M; Rodriguez-Sanchez B; Ruiz A; Martin-Rabadan P; Rodriguez-Creixems M; Bouza E. Can MALDI-TOF mass spectrometry be used with intravascular catheters?. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2014; 32(6) 372-374. IF: 2.172. Quartile: 3.


• Canton E; Garcia-Rodriguez J; Martin-Mazuelos E; Peman J; Guinea J. Microbiological procedures for the diagnosis, management, and study of invasive fungal infections. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA. 2014; 32(6) 375-379. IF: 2.172. Quartile: 3.

• Guembe M; Rodriguez-Creixems M; Martin-Rabadan P; Alcala L; Munoz P; Bouza E. The risk of catheter-related bloodstream infection after withdrawal of colonized catheters is low. EUROPEAN JOURNAL OF CLINICAL MICROBIOLOGY & INFECTIOUS DISEASES. 2014; 33(5) 729-734. IF: 2.668. Quartile: 2.

• 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: 2.668. Quartile: 3.

• Sanz JC; Rodriguez-Avial I; Rios E; Ramos B; Cercenado E. Recurrent pneumococcal invasive disease in the Region of Madrid during a five-year period. INFECTION. 2014; 42(3) 475-483. IF: 2.618. Quartile: 2.

• Ramos A; Garcia-Pavia P; Orden B; Cobo M; Sanchez-Castilla M; Sanchez-Romero I; Munez E; Marin M; Garcia-Montero C. Gonococcal endocarditis: a case report and review of the literature. INFECTION. 2014; 42(2) 425-428. IF: 2.618. Quartile: 2.

• Martinez-Selles M; Munoz P; Arnaiz A; Moreno M; Galvez J; Rodriguez-Roda J; de Alarcon A; Cabrera EG; Farinas MC; Miro JM; Montejo M; Moreno A; Ruiz-Morales J; Goenaga MA; Bouza E. Valve surgery in active infective endocarditis: A simple score to predict in-hospital prognosis. INTERNATIONAL JOURNAL OF CARDIOLOGY. 2014; 175(1) 133-137. IF: 4.036. Quartile: 1.

• Marcos-Zambrano LI; Escribano P; Bouza E; Guinea J. Production of biofilm by Candida and non-Candida spp. isolates causing fungemia: Comparison of biomass production and metabolic activity and development of cut-off points. INTERNATIONAL JOURNAL OF MEDICAL MICROBIOLOGY. 2014; 304(8) 1192-1198. IF: 3.614. Quartile: 2.

• Guzman-Fulgencio M; Jimenez JL; Jimenez-Sousa MA; Bellon JM; Garcia-Alvarez M; Soriano V; Gijon-Vidaurreta P; Bernal-Morell E; Viciana P; Munoz-Fernandez 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.

• Garcia-Cobos S; Arroyo M; Perez-Vazquez M; Aracil B; Lara N; Oteo J; Cercenado E; Campos J. Isolates of beta-lactamase-negative ampicillin-resistant Haemophilus influenzae causing invasive infections in Spain remain susceptible to cefotaxime and imipenem. JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2014; 69(1) 111-116. IF: 5.313. Quartile: 1.

• Garcia-Garrote F; Cercenado E; Marin M; Bal M; Trincado P; Corredera J; Ballesteros C; Pita J; Alonso P; Vindel A. Methicillin-resistant Staphylococcus aureus carrying the mecC gene: emergence in Spain and report of a fatal case of bacteraemia. JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2014; 69(1) 45-50. IF: 5.313. Quartile: 1.

• Marcos-Zambrano LI; Escribano P; del Vecchio MG; Bouza E; Guinea J. Miconfugin is more active against Candida albicans biofilms with high metabolic activity. JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2014; 69(11) 2984-2987. IF: 5.313. Quartile: 1.

• Vindel A; Trincado P; Cuevas O; Ballesteros C; Bouza E; Cercenado E. Molecular epidemiology of community-associated methicillin-resistant Staphylococcus aureus in Spain: 2004–12. JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2014; 69(11) 2913-2919. IF: 5.313. Quartile: 1.

Ceron I; Munoz P; Marin M; Segado A; Roda J; Valerio M; Bouza E. Efficacy of daptomycin in the treatment of enterococcal endocarditis: a 5 year comparison with conventional therapy. JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2014; 69(6) 1669-1674. IF: 5.313. Quartile: 1.


Munoz P; Vena A; Ceron I; Valerio M; Palomo J; Guinea J; Escribano P; Martinez-Selles M; Bouza E. Invasive pulmonary aspergillosis in heart transplant recipients: Two radiologic patterns with a different prognosis. JOURNAL OF HEART AND LUNG TRANSPLANTATION. 2014; 33(10) 1034-1040. IF: 6.65. Quartile: 1.


Davies KA; Longshaw CM; Davis GL; Bouza E; Barbut F; Barza Z; Delmee M; Fitzpatrick F; Ivanova K; Kuijper E; Macovei IS; Mentula S; Mastrantonio P; von Muller L; Oleastro M; Petinaki E; Pituch H; Noren T; Novakova E; Nyc O; Rupnik M; Schmid D; Wilcox MH. Underdiagnosis of Clostridium difficile across Europe: the European, multicentre, prospective, biannual, point-prevalence study of Clostridium difficile infection in hospitalised patients with diarrhoea (EUCLID). LANCET INFECTIOUS DISEASES. 2014; 14(12) 1208-1219. IF: 22.433. Quartile: 1.

Muthuri SG; Venkatesan S; Myles PR; Leonardi-Bee J; Al Khuwaitir TSA; Al Mamun A; Anovadiya AP; Aziz-Baumgartner E; Baez C; Bassetti M; Beovic B; Bertisch B; Bonmarin I; Booy R; Borja-Aburto VH; Burgmann H; Cao B; Carratala J; Denholm JT; Dominguez SR; D. Effectiveness of neuraminidase inhibitors in reducing mortality in patients admitted to hospital with influenza A H1N1pdm09 virus infection: a meta-analysis of individual participant data. LANCET RESPIRATORY MEDICINE. 2014; 2(5) 395-404. IF: 9.629. Quartile: 1.

Fernandez-Cruz A; Martin-Rabadan P; Suarez-Salas M; Rojas-Wettig L; Perez MJ; Guinea J; Guembe M; Pelaez T; Sanchez-Carrillo C; Is it feasible to diagnose catheter-related infection without catheter withdrawal?. MEDICAL MYCOLOGY. 2014; 52(5) 489-495. IF: 2.335. Quartile: 1.

Guembe M; Guinea J; Marcos-Zambrano L; Fernandez-Cruz A; Pelaez T; Munoz P; Bouza E. Is Biofilm Production a Predictor of Catheter-Related Candidemia?. MEDICAL MYCOLOGY. 2014; 52(4) 407-410. IF: 2.335. Quartile: 1.
• Escribano P; Guinea J; Marcos-Zambrano LJ; Martin-Rabadan P; Fernandez-Cruz A; Sanchez-Carrillo C; Munoz P; Bouza E. Is catheter-related candidemia a polyclonal infection? MEDICAL MYCOLOGY. 2014; 52(4) 411-416. IF: 2.335. Quartile: 1.

• Martinez-Jimenez MC; Munoz P; Guinea J; Valerio M; Alonso R; Escribano P; Bouza E. Potential role of Candida albicans germ tube antibody in the diagnosis of deep-seated candidemia. MEDICAL MYCOLOGY. 2014; 52(3) 270-275. IF: 2.335. Quartile: 1.

• 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.

• Guinea J; Bouza E. Current Challenges in the Microbiological Diagnosis of Invasive Aspergillosis. MYCOPATHOLOGIA. 2014; 178(5-6) 403-416. IF: 1.528. Quartile: 3.


• Burillo A; Rodriguez-Sanchez B; Ramiro A; Cercenado E; Rodriguez-Creixems M; Bouza E. Gram-Stain Plus MALDI-TOF MS (Matrix-Assisted Laser Desorption Ionization-Time of Flight Mass Spectrometry) for a Rapid Diagnosis of Urinary Tract Infection. PLOS ONE. 2014; 9(3). IF: 3.234. Quartile: 1.

• Sun HY; Munoz P; Torre-Cisneros J; Aguado JM; Lattes R; Montejo M; Garcia-Reyne A; Bouza E; Valerio M; Lara R; Wagener MM; John GT; Bruno D; Singh N. Tuberculosis in solid-organ transplant recipients: disease characteristics and outcomes in the current era. PROGRESS IN TRANSPLANTATION. 2014; 24(1) 37-43. IF: 0.835. Quartile: 4.

• Perez-Lago L; Navarro Y; Garcia-de-Viedma D. Current knowledge and pending challenges in zoonosis caused by Mycobacterium bovis: A review. RESEARCH IN VETERINARY SCIENCE. 2014; 97. S94-S100. IF: 1.409. Quartile: 2.

• Navarro Y; Herranz M; Romero B; Bouza E; Dominguez L; de Juan L; Garcia-De-Viedma D. High-throughput multiplex MIRU-VNTR typing of Mycobacterium bovis. RESEARCH IN VETERINARY SCIENCE. 2014; 96(3) 422-425. IF: 1.409. Quartile: 2.

• Marcos-Zambrano LJ; Escribano P; Bouza E; Guinea J. Use of molecular typing tools for the study of hospital outbreaks of candidemia. REVISTA IBEROAMERICANA DE MICOLOGIA. 2014; 31(2) 97-103. IF: 1.056. Quartile: 4.

• Giannella M; Munoz P; Alarcon JM; Mularoni A; Grossi P; Bouza E. Pneumonia in solid organ transplant recipients: a prospective multicenter study. TRANSPLANT INFECTION DISEASE. 2014; 16(2) 232-241. IF: 2.064. Quartile: 3.

• Meije Y; Fortun J; Len O; Aguado JM; Moreno A; Cisneros JM; Gurgui M; Carratala J; Munoz P; Montejo M; Blanes M; Bou G; Perez JL; Torre-Cisneros J; Ramos A; Pahissa A; Gavalda J. Prevention strategies for cytomegalovirus disease and long-term outcomes in the high-risk transplant patient (D+/R-): experience from the RESITRA-REIPI cohort. TRANSPLANT INFECTION DISEASE. 2014; 16(3) 387-396. IF: 2.064. Quartile: 3.

• Sarmiento E; Navarro J; Fernandez-Yanez J; Palomo J; Munoz P; Carbone J. Evaluation of an immunological score to assess the risk of severe infection in heart recipients. TRANSPLANT INFECTION DISEASE. 2014; 16(5) 802-812. IF: 2.064. Quartile: 3.

• Martinez-Atienza J; Rosso-Fernandez C; Roca C; Aydillo TA; Garcia-Reyne A; Blanes-Julia M; Suarez-Benjumea A; Lop. Efficacy and safety of a booster dose of influenza vaccination in solid organ transplant recipients, TRANS-GRIPE 1-2: study protocol for a multicenter, randomized, controlled clinical trial. TRIALS. 2014; 15. IF: 1.731. Quartile: 3.

• Alvarez-Perez S; Blanco JL; Martinez-Nevado E; Pelaez T; Harmanus C; Kuijper E; Garcia ME. Shedding of Clostridium difficile PCR ribotype 078 by zoo animals, and report of an unstable metronidazole-resistant isolate from a zebra foal (Equus quagga burchellii). VETERINARY MICROBIOLOGY. 2014; 169(3-4) 218-222. IF: 2.511. Quartile: 1.
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.

Publications in journals not indexed in the Journal Citation Reports:


- Alvarez-Perez S; Mellado E; Serrano D; Blanco JL; Garcia ME; Kwon M; Munoz P; Cuenca-Estrada 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.

- Fernandez Regueiro R; Valerio M; Martin Serrat A; Munoz P. Paranasal sinuses masses and Ig G4-related disease. MED CLIN (BARC). 2014 Jun 16;142(12):562-3.

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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

- Mª 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 activacion 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

Theses

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<td>Pablo Ryan Murua</td>
<td>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</td>
<td>Juan Berenguer Berenguer</td>
<td>Universidad Complutense de Madrid</td>
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Clinical practice guidelines

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<td>Executive summary of the GeSIDA/National AIDS Plan consensus document on antiretroviral therapy in adults infected by the human immunodeficiency virus (updated January 2014)</td>
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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;

- 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 andTransient Elastography.* CLINICAL INFECTIONOUS 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; Benezit MC; 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; Rollon 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; Rollon 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 coinfectected 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 coinfectected 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.
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

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


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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.
Strategic axes

- 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 REUMATOLOGÍA.
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.)

<table>
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<th>Axis 3: Training</th>
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<tr>
<td>1. Consolidation and improvement of the scientific output of trainees</td>
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<tr>
<td><strong>Strategic objectives:</strong></td>
</tr>
<tr>
<td>• Publish results from basic and clinical research.</td>
</tr>
<tr>
<td>• Encourage participation of medical residents and trainees in the preparation of manuscripts.</td>
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<tr>
<td>• Promote preparation of doctoral theses.</td>
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<table>
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<tr>
<td>1. Certification of the laboratory by ENAC. Standard UNE-EN-ISO 15189. (maintenance and extension of the scope of the certification)</td>
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<tr>
<td><strong>Strategic objectives:</strong></td>
</tr>
<tr>
<td>• Re-evaluation of the laboratory.</td>
</tr>
<tr>
<td>• Certification by category; flexible scope.</td>
</tr>
<tr>
<td>• Promotion of activity so that the laboratory can be used to perform clinical trials.</td>
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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.

P2: Primary immunodeficiencies: pathogenesis, classification, and treatment
- 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

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

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

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 Rodriguez: 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 cardiaco.
  Funding body: F. Mutua Madrileña
  Start date: 2013
  End date: 2014

Publications

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; Seyerherth A; Alonso B; Alonso J; Leon JA; Alessandri D; Melia E; de Albornoz EC; Ordonez D; Santillan I; Verdu V; de Morales JMGR; L. Experience in IVlg 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.


- Sarmiento E; Arraya M; Jaramillo M; Díez 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 Andrés C; Tejera-Alhambra M; Alonso B; Teijeiro R; Ramos-Medina R; Mateos D; Faure F; Sánchez-Ramón 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.


• Sarmiento E; Navarro J; Fernández-Yanez J; Palomo J; Munoz 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.

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Molecular biology of HIV

Group director: Mª ÁNGELES MUÑOZ FERNÁNDEZ
Type: Consolidated

Research programs and lines

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| 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.
- Marta Martínez Bonet: Trainee.
- Mª Ángeles Muñoz Fernández: Senior researcher.
- Paula Palau Concejo: RETICS.
- Marjorie Pion: Predoctoral.
- Ana Judith Perise Barrios: Predoctoral.
- Miguel Relloso Cereceda: Miguel Servet.
- Laura Salinas Muñoz: Predoctoral.
- Begoña Santiago García: Rio Hortega.
- Daniel Sepúlveda Crespo: Predoctoral.
- Mª Jesús Serramia Lobera: Support technician.
- Daniel Tornero Prieto: Sara Borrell.
Research projects – Competitive calls

• Principal investigator: Miguel Relloso 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: Dendrimeros carbosilanos aniónicos con efecto antiinflamatorio como posibles microbiocidas frente VIH.
  Funding body: Instituto de Salud Carlos III
  Start date: 2012
  End date: 2014

• Principal investigator: Marjorie Pion
  Title: Descapсидacion de viriones VIH-1 y trafico hacia P-bodies como mecanismo de restriccion de las primeras etapas del ciclo viral en linfocitos.
  Funding body: Instituto de Salud Carlos III
  Start date: 2013
  End date: 2015

• Principal investigator: Mª Ángeles Muñoz Fernández
  Title: Desarrollo y mecanismo de acción de dendrimeros 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: Mª Ángeles Muñoz Fernández
  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: Mª 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 Relloso 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: Mª 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 VIH 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

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<th>Title</th>
<th>Director</th>
<th>University</th>
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<tr>
<td>Leidi Didiana Jaramillo Ruiz</td>
<td>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</td>
<td>Mª Ángeles Muñoz Fernández, Rafael Correa Rocha</td>
<td>Universidad Autónoma de Madrid</td>
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<td>Rafael Correa Rocha</td>
<td>Células Treg y homeostasis inmune en la infancia. Implicaciones en distintas alteraciones inmunes pediátricas</td>
<td>Mª Ángeles Muñoz Fernández, Mª José Mellado Peña</td>
<td>Universidad Autónoma de Madrid</td>
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<td>Talía Sainz Costa</td>
<td>Arteriosclerosis carotidea en niños y adolescentes infectados por el VIH: factores fisiopatológicos implicados</td>
<td>Mª Ángeles Muñoz Fernández, Mª José Mellado Peña</td>
<td>Universidad Complutense de Madrid</td>
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<tr>
<td>Marta Martínez Bonet</td>
<td>Nuevas estrategias frente a la infección por el VIH-1</td>
<td>Mª Ángeles Muñoz Fernández, Ricardo Madrid González</td>
<td>Universidad Autónoma de Madrid</td>
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Patents

• Title: Dendrimeros 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, Mª Ángeles Muñoz-Fernández, Verónica Briz Sebastián, Mª Jesús Serramia Lobera, Conchita Tros de Ilarduya.

• Title: Dendrimeros carbosilanos con un núcleo polifenolónico y su uso como antivirales
Reference: P201030450
Owner: UAH - HGUGM

• Title: Dendrimeros 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

• 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, Mª 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, Mª Jesús Serramia Lobera, Rosa Reguera.
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 Mª Ángeles Muñoz, Director of the HIV Molecular Biology Group of the IISGM.

**Publications**

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

- Perise-Barrios AJ; Correa-Rocha R; Álvarez S; Munoz-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; Munoz-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; Munoz-Fernández MA; Schmitz M; Voit B; Appelhans D. Potential of Ni(II)-NTA-Modified Poly(ethylene imine) Glycopolymers 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; Munoz-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.
- Garcia-Navarro C; Garcia 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.
- Serrano-Villar S; Estrada V; Gomez-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-Martinez 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.
Ziemba 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; Gómez-Ramírez 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-Echevarría E; Serrano-Villar S; Sainz T; Moreno A; Casado JL; Dronda F; Elias MJ; 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; Gijón-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.

Mendez-Lagares G; Jaramillo-Ruiz D; Pion M; Leal M; Munoz-Fernández MA; Pacheco YM; Correa-Rocha R. HIV Infection Deregulates 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.

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.

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.

Vilades C; Esco E; López-Dupla M; Martinez E; Domingo P; Asensi V; Leal M; Peraire J; Inza MI; Arnedo M; Gutierrez M; Valle–Garay E; Ferrando-Martinez S; Olona M; Alba V; Sirvent JJ; Gatell JM; Vidal F. Involvement of the LPS-LPB-CD14-MD2-TLR4 inflammation pathway in HIV-1/HAART-associated lipodystrophy syndrome (HALS). JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2014; 69(6) 1653-1659. IF: 5.313. Quartile: 1.

De Pablo-Bernal RS; Ruiz-Mateos E; Rosado I; Dominguez-Molina B; Álvarez-Rios AI; Carrillo-Vico A; De La Rosa R; Delgado J; Munoz-Fernández MA; Leal M; Ferrando-Martinez S. TNF-alpha levels in HIV-infected patients after long-term suppressive cART persist as high as in elderly, HIV-uninfected subjects. JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2014; 69(11) 3041-3046. IF: 5.313. Quartile: 1.

Bhadra R; Moretto MM; Castillo JC; Petrovas C; Ferrando-Martinez S; Shokal U; Leal M; Koup RA; Eleftherianos I; Khan IA. Intrinsic TGF-beta signaling promotes age-dependent CD8(+) T cell polynfunctionality attrition. JOURNAL OF CLINICAL INVESTIGATION. 2014; 124(6) 2441-2455. IF: 13.215. Quartile: 1.


Pozo-Balado MM; Martinez-Bonet M; Rosado I; Ruiz-Mateos E; Mendez-Lagares G; Rodriguez-Mendez MM; Vidal F; Munoz-Fernández MA; Pacheco YM; Leal M. Maraviroc Reduces the Regulatory T-Cell Frequency in Antiretroviral-Naive HIV-Infected Subjects. JOURNAL OF INFECTIOUS DISEASES. 2014; 210(6) 890-898. IF: 5.997. Quartile: 1.

Sun H; Buzon MJ; Shaw A; Berg RK; Yu XG; Ferrando-Martinez S; Leal M; Ruiz-Mateos E; Lichterfeld M. Hepatitis C Therapy With Interferon-alpha...


- Ferrando-Martínez S; Lorente R; Gurbindo 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; Planas 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.


- Jimenez-Montero B; Beceiro J; de Jose-Gomez MI; Gonzalez-Tome MI; Gurbindo-Gutierrez J; Martinez-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.


- Beltran LM; Hernandez RM; Bernal RSD; Morillo JSG; Egido J; Noval ML; Ferrando-Martínez S; Blanco-Colio LM; Genebat M; Villar JR; Moreno-Luna R; Moreno JA. Reduced sTWEAK and Increased sCD163 Levels in HIV-Infected Patients: Modulation by Antiretroviral Treatment, HIV Replication and HCV Co-Infection. PLOS ONE. 2014; 9(3). IF: 3.234. Quartile: 1.

- Palladino C; Briz V; Bellon JM; Climent FJ; de Ory SJ; Mellado MJ; Navarro ML; Ramos JT; Taveira N; de Jose MI; Munoz-Fernández MA. Determinants of Highly Active Antiretroviral Therapy Duration in HIV-1-Infected Children and Adolescents in Madrid, Spain, from 1996 to 2012. PLOS ONE. 2014; 9(5). IF: 3.234. Quartile: 1.

- Serrano-Villar S; Perez-Elias MJ; Dronda F; Casado JL; Moreno A; Royuela A; Perez-Molina JA; Sainz T; Navas E; Bermudez JM; Quereda C; Moreno S. Increased Risk of Serious Non-AIDS-Related Events in HIV-Infected Subjects on Antiretroviral Therapy Associated with a Low CD4/CD8 Ratio. PLOS ONE. 2014; 9(1). IF: 3.234. Quartile: 1.

- Serrano-Villar S; Sainz T; Lee SA; Hunt PW; Sinclair E; Shacklett BL; Ferre AL; Hayes TL; Somsouk M; Hsu PY; Van Natta ML; Meinert CL; Lederman MM; Hatano H; Jain V; Huang Y; Hecht FM; Martin JN; McCune JM; Moreno S; Deeks SG. HIV-Infected Individuals with Low CD4/CD8 Ratio despite Effective Antiretroviral Therapy Exhibit Altered T Cell Subsets, Heightened CD8+ T Cell Activation, and Increased Risk of Non-AIDS Morbidity and Mortality. PLOS PATHOGENS. 2014; 10(5). IF: 7.562. Quartile: 1.
• Martínez-Munoz L; Barrosoa R; Dyrhaug SY; Navarro G; Lucas P; Soriano SF; Vega B; Costas C; Munoz-Fernández MA; Santiago C; Frade JMR; Franco R; Mellado M. CCR5/CD4/CXCR4 oligomerization prevents HIV-1 gp120(IIIB) binding to the cell surface. PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA. 2014; 111(19) E1960-E1969. IF: 9.674. Quartile: 1.

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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 hepatoxicidad 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; Miranda-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; Domínguez-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; Martin-Mola E; Miranda-Carus ME. Decreased Frequencies of Circulating Follicular Helper T Cell Counterparts and Plasmablasts in Ankylosing Spondylitis Patients Naive for TNF Blockers. PLOS ONE. 2014; 9(9). IF: 3.234. Quartile: 1.

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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

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**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 Rio, Vicente Escudero, Diana Hernández, Carmen Rodríguez

**Publications**  

*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; Battle-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; Bakhaus M; 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; Filippucci E; Baudoin P; van Vuigt R; Pineda C; Wakefield R; Garrido J; Pech 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.

- 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. JOURN AL OF LEUKOCYTE BIOLOGY. 2014; 95(5) 797-808. IF: 4.289. Quartile: 1.

- de Andres C; Tejera-Alhambra M; Alonso B; Valor L; Teijeiro R; Ramos-Medina R; Mateos D; Faure F; Sánchez-Ramón 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; Maksymowycz WP; Naredo E; Dougados M; Iagnocco A; Bingham CO; Brooks PM; Beaton DE; Gandjbakhch F; Gossec L; Guillemín 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; Ohndorf S; Delle Sedie A; Backhaus M; Berner-Hammer H; Gandjbakhch F; Kaelery G; Louelle D; Moller I; Terslev L; Aegerter 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-Alvarez E; Zea A; Freire M; Sánchez-Atrio AI; García-Vicuna R; Pego-Reigosa JM; Manrique-Arija S; Nieves-Martín 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-Mejias R; Genre F; García-Bermudez M; Ugilla B; Casaneda S; Uloca 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, PPAR2B, 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; Berghera 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; Cicheomska A; Moller I; Varvaru 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 ULTRASONOGRAPHY. 2014; 16(1) 32-36. IF: 1.108. Quartile: 4.


- 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; Gratasco 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.

- Julia A; Rodríguez J; Fernández-Sueiro JL; Gratasco M; Queiro R; Montilla C; Torre-Alonso JC; Perez-Venegas JJ; Manrique-Arija S; Munoz-Fernández S; González C; Roig D; Zarco P; Erra A; Casaneda S; García A; Salvador G; Diaz-Torre C; Blanco R; Dominguez. *PDE3A-SLC01C1 locus is associated with response to anti-tumor necrosis factor therapy in psoriatic arthritis*. PHARMACOGENOMICS. 2014; 15(14) 1763-1769. IF: 3.218. Quartile: 2.

- Genre F; López-Mejias R; García-Bermudez M; Casaneda S; González-Juanatey C; Llorca J; Corrales A; Ugilla 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: 2.234. Quartile: 1.

- Iagnocco A; Porta F; Cuomo G; Delle Sedie A; Filippucci E; Grassi W; Sakellarious G; Epis O; Adinolfi A; Cecarelli F; De Lucia O; Di Geso L; Di Sabatino V; Gabbia 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


- 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-SantaMaria E; Pego-Reigosa JM; Marques AO; Rua-Figueroa I; Fernandez-Nebro A; Caliz RC; Longo FJL; Munoz-Fernandez 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.

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Infections in pediatric patients

Group director: Mª 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.

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.
- Mª Carmen Suárez Arrabal: Predoctoral.
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 transmisión vertical.
  Funding body: Gilead Sciences, S.L.
  Start date: 2014
  End date: 2015

Clinical practice guidelines

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Publications

- 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 M; Munoz E; Fernández-Ibietza 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; Martinez 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.
- Jimenez-Montero B; Beceiro J; de Jose-Gomez MI; González-Tome MI; Gurbindo-Gutierrez D; Martinez-Perez J; Mellado-Pena MJ; Navarro-Gomez ML; Roa-Francia MA; Rojo-Conejo P; Saavedra-Lozano J; de Oriy 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-Garcia A; Blazquez-Gamero D; Cilleruelo-Ortega MJ; Ramos-Amador JT; Gale-Anso I; Marin N; Gomez-Garcia R; Santiago-Garcia 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; Mella-do-Pena MJ. *Pediatric Drug-resistant Tuberculosis in Madrid.* PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2014; 33(4) 345-350. IF: 2.723. Quartile: 1.

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

*Group directors:* RAFAEL CORREA ROCHA (Mª 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.
- **Maria 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

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<td>Células Treg y homeostasis inmune en la infancia. Implicaciones en distintas alteraciones inmunes pediátricas</td>
<td>MªÁngeles Muñoz Fernández, Mª José Mellado Peña</td>
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Publications

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

• Perise-Barrios AJ; Correa-Rocha R; Álvarez S; Munoz-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; Munoz-Fernández MA; Pacheco YM; Correa-Rocha R. HIV Infection Deregulates 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; 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.
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-Torne MI; Gur- bindo-Gutierrez D; Martinez-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.

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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 bronchodyplasia 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 Ortuño: Senior researcher.
**Publications**

**Total Impact Factor: 11.5**

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


- 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.

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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

**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.

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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.
- 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 (e.g., the Breast Cancer RETIC) and national cooperative groups (e.g., 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 (e.g., 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 (e.g., 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.

(Continued on next page)
### 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.
- 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.
- 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.
- 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.
- 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.
- 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).
- L23: Development of murine breast cancer tumourgrafts 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.
Group members

- Rosa Mª 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 Ferrándiz: 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.
- Mª 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.
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 Tumorgrafts murinos de cáncer de mama para estudiar e 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

Theses

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<th>Doctoral student</th>
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<td>Sara Custodio Cabello</td>
<td>Utilidad de las células tumorales circulantes en la predicción de la respuesta al tratamiento en cáncer de mama metastásico</td>
<td>Miguel Martín Jiménez</td>
<td>Universidad Complutense de Madrid</td>
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Clinical practice guidelines

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<td>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)</td>
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<td>Documento de recomendaciones para la preservación de la fertilidad en pacientes con cáncer de mama</td>
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<td>Juan Jesús Cruz Hernández, Miguel Martín Jiménez, Andrés J. Muñoz Martín.</td>
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**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; Alessandri D; Melia E; de Albornoz EC; Ordonez D; Santillan I; Verdu V; de Morales JMG; 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.

- Garcia-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; Sagastibela 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; Díez JD. Pulmonary Veno-Occlusive Disease in a Female Gardener. ARCHIVOS DE BRONCONEUMOLOGIA. 2014; 50(1) 40-41. IF: 1.823. Quartile: 3.

- Martin M; Brase JC; Calvo L; Krappmann K; Ruiz-Borrogo M; Fisch K; Ruiz A; Weber KE; Munarriz B; Petry C; Rodriguez CA; Kronenwett R; Crespo C; Alba E; Carrasco E; Casas M; Caballero R; Rodriguez-Lescure A. Clinical validation of the EndoPredict test in node-positive, chemotherapy-treated ER+/HER2-breast cancer patients: results from the GEICAM 9906 trial. BREAST CANCER RESEARCH. 2014; 16(2). IF: 5.49. Quartile: 1.

- Castello A; Pollan M; Buijss 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; Boeig 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; Chaoon JI; Parker JS; Calvo L; Plazola A; Arcusa A; Segui-Palmer MA; Burgues O; Ribelles N; Rodriguez-Lescure A; Guerrero A; Ruiz-Borrogo M; Munarriz B; Lope 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; García-Saenz JA; del Prado N; Pelayo A; Furio V; Roman JM; de la Hoya M; Díaz-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; Sagastibela 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.

- Martin AJM; Puig CF; Martin LMM; Garcia PB; Jimenez MM. Clinical guide SEOM on venous thromboembolism in cancer patients. CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(12) 1079-1090. IF: 2.077. Quartile: 3.
• 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 hydrealectrolytic 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.

• Martin AJM; Alfonso PG; Blanco ABR; Ramirez SP; Codesido MB; Jimenez MM. Incidence of venous thromboembolism (VTE) in ambulatory pancreatic cancer patients receiving chemotherapy and analysis of Khorana’s predictive model. CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(10) 927-930. IF: 2.077. Quartile: 3.

• Sastre J; Argiles G; Benavides M; Feliu J; Garcia-Alfonso P; Garcia-Carbonero R; Gravalos C; Guillen-Ponce C; Martinez-Villacampa M; Pericay C. Clinical management of regorafenib in the treatment of patients with advanced colorectal cancer. CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(11) 942-953. IF: 2.077. Quartile: 3.

• Di Leo A; Jerusalem G; Petruzelka I; Torres R; Bondarenko IN; Khasanov R; Verhoeven D; Pedrini JL; Smirnova I; Lichinitser MR; Pendergrass K; Malorni L; Garnett S; Rukazenkov Y; Martin M. Final Overall Survival: Fulvestrant 500 mg vs 250 mg in the Randomized CONFIRM Trial. JNCI-JOURNAL OF THE NATIONAL CANCER INSTITUTE. 2014; 106(1). IF: 12.583. Quartile: 1.

• Saura C; Garcia-Saenz JA; Xu BH; Harb W; Morooste R; Pluard T; Cortes J; Kiger C; Germa C; Wang KM; Martin M; Baselga J; Kim SB. Safety and Efficacy of Neratinib in Combination With Capecitabine in Patients With Metastatic Human Epidermal Growth Factor Receptor 2-Positive Breast Cancer. JOURNAL OF CLINICAL ONCOLOGY. 2014; 32(32) 3626. IF: 18.428. Quartile: 1.

- Wheeler HE; Gonzalez-Neira A; Pita G; de la Torre-Montero JC; Alonso R; Lopez-Fernandez LA; Alba E; Martin M; Dolan ME. Identification of genetic variants associated with capecitabine-induced hand-foot syndrome through integration of patient and cell line genomic analyses. PHARMACOGENETICS AND GENOMICS. 2014; 24(5) 231-237. IF: 3.481. Quartile: 1.

- Prior C; Perez-Gracia JL; Garcia-Donas J; Rodriguez-Anton A; Guruceaga E; Esteban E; Suarez C; Castellano D; del Alba AG; Lozano MD; Carles J; Climent MA; Arranz JA; Gallardo E; Puente J; Bellmunt J; Gurpide A; Lopez-Picazo JM; Hernandez AG; Mellado B. Identification of Tissue microRNAs Predictive of Sunitinib Activity in Patients with Metastatic Renal Cell Carcinoma. PLOS ONE. 2014; 9(1). IF: 3.234. Quartile: 1.

- Sole CV; Calvo FA; 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.

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- Sole CV; Calvo FA; Lozano MA; Gonzalez-Bayon L; Gonzalez-Sansegundo C; Alvarez A; Lizarraga S; Garcia-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.
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.
- Rocio 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.
- María Isabel Peligros Gómez: Postdoctoral.
- Rafael Peñalver Pascual: Postdoctoral.
- María Jesús Prieto Rodríguez: Predoctoral.
- Marcos Rodriguez 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 telegidance, planning and pre-robotic automatization for intraoperative radiation therapy I.
  Funding body: Instituto de Salud Carlos III
  Start date: 2012
  End date: 2014

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<tr>
<td><strong>Doctoral student</strong></td>
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<td>Virginia Morillo Macías</td>
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<td>Luis Cabezón Gutiérrez</td>
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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

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.


- Garutti I; Puente-Maestu L; Laso J; Sevilla R; Ferrando A; Frias I; Reyes A; Ojeda E; Gonzalez-Aragonese 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.

- Ayyoub M; Memou L; Álvarez-Fernandez E; Colarossi C; Costanzo R; Aiello E; Martinetti D; Valmori D. Assessment of MAGE-A Expression in Resected Non-Small Cell Lung Cancer in Relation to Clinicopathologic Features and Mutational Status of EGFR and KRAS. CANCER IMMUNOLOGY RESEARCH. 2014; 2(10) 943-948. IF: 3.857. Quartile: 2.

- Esteves MB; Arteaga AS; Oliver JL; Fuentes FT. Delayed diagnosis of a traumatic intrapericardial diaphragmatic hernia. CIRUGIA ESPAÑOLA. 2014; 92(9) E57-E57. IF: 0.743. Quartile: 4.

- Guerra JLL; Marrone I; Jaen J; Bruna M; Sole C; Sanchez-Reyes A; Rivin E; Ortiz MJ; Calvo F; Matute R. Outcome and toxicity using helical tomotherapy for craniospinal irradiation in pediatric medulloblastoma. CLINICAL & TRANSLATIONAL ONCOLOGY. 2014; 16(1) 96-101. IF: 2.077. Quartile: 3.

- 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.
• Pereira A; Perez-Medina T; Rodriguez-Tapia A; Rutherford S; Millan I; Iglesias E; Ortiz-Quintana L. Chronic Perineal Pain Analyses of Prognostic Factors in Pudendal Neuralgia. CLINICAL JOURNAL OF PAIN. 2014; 30(7) 577-582. IF: 2.527. Quartile: 2.

• Casares G; Thomas A; Carmona J; Acero J; Vila CN. Influence of oral stabilization appliances in intra-articular pressure of the temporomandibular joint. CRANIO-THE JOURNAL OF CRANIOMANDIBULAR PRACTICE. 2014; 32(3) 219-223. IF: 0.682. Quartile: 4.

• Pereira A; Perez-Medina T; Magrina JF; Magtibay PM; Rodriguez-Tapia A; de Leon J; Peregrin I; Ortiz-Quintana L. Correlation between the extent of peritoneal disease and nodal metastasis in node-positive ovarian cancer patients. EJSO. 2014; 40(8) 917-924. IF: 3.009. Quartile: 1.

• Turegano F; Lennquist S. Introduction to the 5th focus-on issue devoted to disaster and military surgery. EUROPEAN JOURNAL OF TRAUMA AND EMERGENCY SURGERY. 2014; 40(4) 419-420. IF: 0.346. Quartile: 4.

• Ashkenazi I; Turegano-Fuentes F; Einav S; Kessel B; Alfi ci R; Oshia O. Pitfalls to avoid in the medical management of mass casualty incidents following terrorist bombings: the hospital perspective. EUROPEAN JOURNAL OF TRAUMA AND EMERGENCY SURGERY. 2014; 40(4) 445-450. IF: 0.346. Quartile: 4.

• Turegano-Fuentes F; Perez-Diaz D; Sanz-Sanchez M; Alfici R; Ashkenazi I. Abdominal blast injuries: different patterns, severity, management, and prognosis according to the main mechanism of injury. EUROPEAN JOURNAL OF TRAUMA AND EMERGENCY SURGERY. 2014; 40(4) 451-460. IF: 0.346. Quartile: 4.

• Garcia-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.

• Llano LA; Valcalccl CR; Al-lal YM; Diaz MDP; Stafford A; Fuentes FT. The role of surgery in the management of “body packers”. EUROPEAN JOURNAL OF TRAUMA AND EMERGENCY SURGERY. 2014; 40(3) 351-355. IF: 0.346. Quartile: 4.

• Sole CV; Calvo FA. In Regard to Habr-Gama et al. INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS. 2014; 89(4) 932-933. IF: 4.256. Quartile: 1.

• Dzhugashvili M; Luengo-Gil G; Garcia T; Gonzalez-Conejero R; Conesa-Zamora P; Escolar PP; Calvo F; Vicente V; de la Pena FA. Role of Genetic Polymorphisms in NFKB-Mediated Inflammatory Pathways in Response to Primary Chemoradiation Therapy for Rectal Cancer. INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS. 2014; 90(3) 595-602. IF: 4.256. Quartile: 1.

• Sole CV; Calvo FA; Polo A; Cambeiro M; Álvarez 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.

• Morganti AG; Falconi M; van Stiphout RGPM; Mattiucci GC; Alfieri S; Calvo FA; Dubois JB; Fastner G; Herman JM; Maidment BW; Miller RC; Regine WF; Reni M; Sharma NK; Ippolito E; Valentini V. Multi-institutional Pooled Analysis on Adjuvant Chemoradiation in Pancreatic Cancer. INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS. 2014; 90(1) 911-917. IF: 4.256. Quartile: 1.

• Paly JJ; Hallemeier CL; Biggs PJ; Niemierko A; Roeder F; Martinez-Monge R; Whitson J; Calvo FA; Fastner G; Sedlmayer F; Wong WW; Ellis RJ; Haddock MG; Choo R; Shipley WU; Zietman AL; Efstathiou JA. Outcomes in a Multi-institutional Cohort of Patients Treated With Intraoperative Radiation Therapy for Advanced or Recurrent Renal Cell Carcinoma. INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS. 2014; 88(3) 618-623. IF: 4.256. Quartile: 1.

• Calvo FA; Sole CV; Cambeiro M; Montero A; Polo A; Gonzalez C; Cuervo M; Julian MS; Garcia-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
• 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) 1239-1248. 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.

• Guzman-Fulgencio M; Garcia-Álvarez 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.


• Kestler M; Munoz P; Rodriguez-Creixems M; Rotger A; Jimenez-Requena F; Mari A; Orcajo J; Hernandez L; Alonso JC; Bouza E. Role of F-18-FDG PET in Patients with Infectious Endocarditis. JOURNAL OF NUCLEAR MEDICINE. 2014; 55(7) 1093-1098. IF: 6.16. Quartile: 1.

• Cuellar CN; Caicoya SJ; Sanz JA; Cuellar IN; Muela CM; Vila CN. Mandibular Reconstruction With Iliac Crest Free Flap, Nasolabial Flap, and Osseointegrated Implants. JOURNAL OF ORAL AND MAXILLOFACIAL SURGERY. 2014; 72(6). IF: 1.425. Quartile: 2.

• Guerra P; Udias JM; Herranz E; Santos-Miranda JA; Herraiz JL; Valdivieso MF; Rodriguez R; Calama JA; Pascau J; Calvo FA; Illana C; Ledesma-Carbayo MJ; Santos A. Feasibility assessment of the interactive use of a Monte Carlo algorithm in treatment planning for intraoperative electron radiation therapy. PHYSICS IN MEDICINE AND BIOLOGY. 2014; 59(23) 7159-7179. IF: 2.761. Quartile: 2.

• 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.

• Lopez-Tarjuelo J; Bouche-Babiloni A; Santos-Serra A; Morillo-Macias V; Calvo FA; Kubyshin Y; Ferrer-Albiach C. Failure mode and effect analysis oriented to risk-reduction interventions in intraoperative electron radiation therapy: The specific impact of patient transportation, automation, and treatment planning availability. RADIOTHERAPY AND ONCOLOGY. 2014; 113(2) 283-289. IF: 4.363. Quartile: 1.

• Hualde AM; Regi AR; Rincon JO; Badiola IS; Berrocal JAC; Farto JCA. Utility of radioguided surgery in splenosis. REVISTA ESPAÑOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR. 2014; 33(3) 180-182. IF: 1.054. Quartile: 4.

• Rincon JO; Regi AR; Hualde AM; Berenguer LR; Moreno LH; Farto JCA. A prospective study to determine the real value of mesenteric F-18-FDG uptake in cancer patients. inflammatory or tumoral mesenteric panici... REVISTA ESPAÑOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR. 2014; 33(6) 352-357. IF: 1.054. Quartile: 4.

• Castrejon AMS; Rivera EP; Farto JCA; Casas JAV; Gasen AR; Perego JS; Lostao JA. Nuclear medicine in Spain: High technology 2013. REVISTA ESPAÑOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR. 2014; 33(6) 378-381. IF: 1.054. Quartile: 4.

• Calvo FA; Sole CV; Polo A; Cambeiro M; Montero A; Álvarez 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. STRAHLEnTERAPIE 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; 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.

• Sole CV; Calvo FA; Lozano MA; Gonzalez-Bayon L; Gonzalez-Sansegundo C; Alvarez A; Lizarraga S; Garcia-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.
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 Borde: 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 hemopoéticos. 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 haploídental 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 haploídental: 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

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<th>Authors</th>
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<td>Osorio S, García-Gutiérrez V</td>
<td>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</td>
<td>GRUPO ESPAÑOL DE LEUCEMIA MIELOIDE CRÓNICA (GELMC) DE LA SOCIEDAD ESPAÑOLA DE HEMATOLOGÍA Y HEMOTERAPIA</td>
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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
Publications

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 MM; 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; Bono I; Zheng JB; Moor- head M; Klinger M; Zhang B; Waqar A; Zehnder JL; Miklos DB. Immunoglobulin 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; Rezpecki P; Valcarcel 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 haploidentical cells. BONE MARROW TRANSPLANTATION. 2014; 49(2) 212-218. IF: 3.57. Quartile: 2.

- Sanchez-Garcia J; del Canizo C; Lorenzo I; Nomdedeu B; Luno E; de Paz R; Xicoy B; Valcarcel D; Brunet S; Marco-Betes V; Garcia-Pintos M; Osorio S; Tormo M; Bailer 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.

- Bastos-Oreiro M; Perez-Corral A; Martinez-Laperche C; Bento L; Pascual C; Kwon M; Balsalobre P; Munoz C; Buces E; Serrano D. Prognostic impact of minimal residual disease analysis by flow cytometry in patients with acute myeloid leukaemia before and after allogeneic hematopoietic stem cell transplantation. EUROPEAN JOURNAL OF HAEMATOLOGY. 2014; 93(3) 239-246. IF: 2.066. Quartile: 3.

- 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; Hernandez-Rivas JM; Ayala R; Calasanz MJ; Larrayoz MJ; Brichs LF; Gonzalez-Vicent M; Pisoano DG; Piris MA; Al'varo 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.

• Mollejo M; Menarguez J; Guisado-Vasco P; Bento L; Algara P; Montes-Moreno S; Rodriguez-Pinilla MS; Cruz MA; Casado F; Montalban C; Piris MA. Hepatitis C virus-related lymphoproliferative disorders encompass a broader clinical and morphological spectrum than previously recognized: a clinicopathological study. MODERN PATHOLOGY. 2014; 27(2) 281-293. IF: 6.187. Quartile: 1.

• 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; Gonzalez. 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; Martinez-Laperche C; Buces E; Anguita J; Diez-Martín JL; Trasplante de progenitores hematopoyéticos utilizando donantes alternativos. ACTA CIENTIFICA Y TECNOLÓGICA. 2014; 23:16-19.

• Manso R; Sánchez-Beato M; Monsalvo S; Gómez S; Cereceda L; Llamas P; Rojo F; Mollejo M; Menarguez J; Alves J; Garcia-Cosio M; Piris MA; Rodriguez-Pinilla SM. The RH0A 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; Garcia-Gutiérrez V; Jiménez-Velasco A; Gómez-Casares MT; Martínez-Laperche C; Diez-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-Vizucaya A; Rodriguez-Romano R; Nieto Jb; De La Cámara R; Brunet S; Vallejo C; Osca G; Martinez-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.


• 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; Martinez-Laperche C; Flores R; Trujillo M; Álvarez S; Cigudosa JC. Myeloid neoplasms with der(1)t(1;19) may constitute a specific entity characterized by a cytogenetic

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

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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

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 Valle 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; Sabrídoo 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; Garcia-Sabrido JL; Garcia-Alfonso. 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; 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.

- Sole CV; Calvo FA; Lozano MA; Gonzalez-Bayon L; Gonzalez-Sansegundo C; Alvarez A; Lizarraga S; Garcia-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.

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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.

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 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-Pena 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.

Angiogenesis in brain tumors

Group director: JUAN CARLOS MARTÍNEZ MONTERO
Type: Associated Clinical

Research programs and lines

P1: Angiogenesis in brain tumors


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.
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

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.

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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

1. **A1**: Promotion of alliances and collaborations with groups of interest.
2. **A2**: Consolidation of research lines in the area of systemic disease.
3. **A3**: Training.
4. **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 (e.g., 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**
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
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

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<td>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</td>
<td>Rafael Bañares y Diego Rincón</td>
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Clinical practice guidelines

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### publications

**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-Echavarria T; Carrero A; Tejerina F; Díez 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 JI; 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.


- Fontenla FD; Miranda-Bautista J; Alonso AH; Gorosarri MU; Perez JMJ; Labiano MS. Telaprevir-induced cutaneous lesions. GASTROENTROLOGIA Y HEPATOLOGIA. 2014; 37(7) 411-420. IF: 0.838. Quartile: 4.

- Altamirano J; Miquel R; Katoonizadeh A; Abalades JG; Duarte-Rojo A; Louvet A; Augustin S; Mookerjee RP; Michelaena J; Smyrk TC; Buob D; Leteurtre E; Rincon D; Ruiz P; Garcia-Pagan JC; Guerrero-Marquez C; Jones PD; Barritt 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; Gutiérrez 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; Garcia V; Marin-Jimenez I; Penalva M; Gomollon F; Calvet X; Merino O; García-Planella E; Vazquez-Romero N; Esteve M; Nos P; Gutiérrez 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-Urion I; Carretero C; Borobia 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.

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

Group director: JOSÉ LUÑO FERNÁNDEZ
Type: Consolidated

Research lines
- 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: Aproximacion 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

Clinical practice guidelines

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<td>Spanish Society of Nephrology document on KDIGO guidelines for the assessment and treatment of chronic kidney disease</td>
<td>NEFROLOGÍA</td>
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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 Camaño 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

Theses

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<td>Juan Carlos Jado Rodríguez</td>
<td>Cilastatina protege del fracaso renal agudo inducido por gentamicina sin comprometer su eficacia bactericida</td>
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<td>Universidad Autónoma de Madrid</td>
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Publications

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; Vera; 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; Galeceran JM; Goicoechea M; Oliveras A; Portoles J; Rubio E; Segura J; Aranda P; de Francisco ALM; del Pino MD; Fernandez-Vega F; Gorriz 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.

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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.
- 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 IIISGM 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 Maternoinfantil 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 Arriotua: Predoctoral.
- Ángel Carrillo Álvarez: Postdoctoral.
- Jimena del Castillo Peral: Predoctoral.
- Sarah Fernández Lafeyer: Post-MIR FIBHGM.
- Rafael González Cortés: Trainee.
- Jorge López González: Rio Hortega.
- Jesús López-Heerce Cid: Senior researcher.
- Santiago Mencia Bartolomé: Postdoctoral.
- Amelia Sánchez Galindo.
- César Sánchez Sánchez: Postdoctoral.
- María José Santiago Lozano: Postdoctoral.
- María José Solana García: Rio 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 cardiaca.
  Funding body: Instituto de Salud Carlos III
  Start date: 2013
  End date: 2015

- Principal investigator: María José Santiago Lozano
  Title: Repercusión de las tecnecno nacional de investigaciones cardiovasculares de depuración extrarrenal 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

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<td>Javier Urbano Villaescusa</td>
<td>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</td>
<td>Jesús López-Herce Cid</td>
<td>Universidad Autónoma de Madrid</td>
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<td>María José Solana García</td>
<td>Eficacia y farmacocinética del omeprazol intravenoso para la profilaxis de la hemorragia digestiva y el refl ujo gastroesofágico en niños crítico</td>
<td>Jesús López-Herce Cid</td>
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<td>López-Herce (coordinador)</td>
<td>Manual de experimentación animal en Pediatría y obstetricia</td>
<td>RedSAMID (en prensa por el Ministerio de Sanidad)</td>
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Patents

- Title: Dispositivo, sistema y procedimiento simulador para entrenamiento de profesionales sanitarios en el manejo de pacientes criticamente 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.


- 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.


- 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.


• de Lorenzo-Pinto A; Sanchez-Galindo AC; Manrique-Rodriguez S; Fernandez-Llamazares CM; Fernandez-Lafever SN; San-Prudencio MG; Cortijoso 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; Carillo 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.


• Perez DV; Jordan I; Esteban E; Garcia–Soler P; Murga V; Bonil V; Ortiz I; Flores C; Bustinza 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.


• 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**
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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
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.

**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  
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Clinical practice guidelines

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<td>Datino T; Rexach L; Vidan MT; Alonso A; Gandara A; Ruiz-Garcia J; Fontecha B; Martinez-Selles M</td>
<td>Guidelines on the management of implantable cardioverter defibrillators at the end of life</td>
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Publications

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.


- 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 CLINICA ESPAÑOLA. 2014; 214(1) 31-37. IF: 1.063. Quartile: 3.

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<td>Datino T; Rexach L; Vidan MT; Alonso A; Gandara A; Ruiz-Garcia J; Fontecha B; Martinez-Selles M</td>
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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

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; Perez 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.


- Gomez-Guzman M; Jimenez R; Romero M; Sanchez M; Zarzuelo MJ; Gomez-Morales M; O’Valle F; Lopez-Farre AJ; Algieri F; Galvez J; Perez 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 L; Perez 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; Perez 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 I; 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

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Neonatal and developmental pathophysiology

Group director: MANUEL SÁNCHEZ LUNA
Type: In process of consolidation

Research programs and lines

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<tr>
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<td>L1: Noninvasive respiratory support.</td>
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<td>L2: Animal model of bronchopulmonary dysplasia induced by prolonged exposure to oxygen.</td>
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<td>L5: Congenital diaphragmatic hernia.</td>
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<td>L6: Expression of VEGF in the lungs of newborn rats exposed to nitrofen in utero.</td>
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<td>L1: Active hypothermia in the prevention of brain damage induced by hypoxic ischemic encephalopathy.</td>
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<td>L1: Nosocomial infection</td>
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<td>L2: Study of innate immunity in the extremely preterm newborn.</td>
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<td>L3: Development of autologous vaccines for the prevention of nosocomial infection.</td>
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<td>L1: Development of an incubator for neonatal imaging with nonionizing radiation.</td>
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<td>L1: Cyclic parenteral nutrition.</td>
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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.
NEONATAL AND DEVELOPMENTAL PATHOPHYSIOLOGY

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 recien nacidos.
  Funding body: Instituto de Salud Carlos III
  Start date: 2015
  End date: 2017

Theses

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<td>Evelyn Cano Giménez</td>
<td>Estrés y ansiedad parental en la unidad de cuidados intensivos neonatal. El papel modulador de una intervención temprana</td>
<td>Manuel Sánchez Luna, Alfredo Gustavo Brito de la Nuez</td>
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Publications

- 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.
- Moreno I; Moral-Sanz J; Morales-Cano D; Barreira B; Moreno E; Ferrari A; Pandolfi R; Ruperez FJ; Cortijo J; Sanchez-Luna M; Villamor E; Perez Vizcaino 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 INFECTIONOUS DISEASES. 2014; 14. IF: 2.613. Quartile: 2.

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, M´Jesús Ledesma Carballo, Andrés de Santos Lleó, José Luis Rubio Guivernau
• 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.

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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

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Publications

Publications include:

- Rodriguez PR; Serrano FP; Caicedo LPM; de Guzman MCR; Presmanes MC; Diez JD. Pulmonary Veno-Occlusive Disease in a Female Gardener. ARCHIVES 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. Acidimium 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-Garcia R; Hernandez-Barrera V; Maestu LP; Aparicio 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.


- Puente-Maestu L; Calle M; Ortega-Gonzalez A; Fuster A; Gonzalez C; Marquez-Martín 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.

• 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.

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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 González**: Predoctoral.
- **María Tovar Pozo**: Predoctoral.
Research projects – Competitive calls

- Principal investigator: Luis Andrés López Fernández
  Title: Validación de polimorfismos genéticos asociados a toxicidad al tratamiento basado en flupirimidinas 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

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<td>Mª Esther Durán García</td>
<td>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</td>
<td>Cecilia Martínez Fernández-Llamazares, Miguel Ángel Calleja-Hernández, Fernando Martínez Martínez</td>
<td>Universidad de Granada</td>
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<td>Vicente Escudero Vilaplana</td>
<td>Utilización de agentes estimulantes de la eritropoyesis en el tratamiento de la anemia secundaria a enfermedad renal crónica</td>
<td>Ana Herranz Alonso, Juan Manuel López Gómez, Irene Iglesias Peinado</td>
<td>Universidad Complutense de Madrid</td>
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Clinical practice guidelines

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<td>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.</td>
<td>Preparation of intravenous drug administration guidelines for a pediatric intensive care unit</td>
<td>JOURNAL OF INFUSION NURSING</td>
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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 Rodriguez.

Publications

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 I; Gonzalez D; de Castro I; 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-Beinado 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-Beinado I; Carrillo-Alvarez A; Saez MS; Fernandez-Llamazaes 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.


• Marquinez-Alonso I; Escudero-Vilaplana V; Pernia S; Bieler CB; Fernandez-Llamazaes 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-Llamazaes 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; Merchant-Naranjo J; Baeza I; Castro-Forinieles J; Alda JA; Martinez-Cantarero C; Moreno C; de Andres P; Cuerda C; de la Serna E; Correll CU; Fragus D; Second-Generation Antipsychotic Use in Children and Adolescents: A Six-Month Prospective Cohort Study in Drug-Naive 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-Garcia 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; Comps CC; Alvarez MC; Lesmes IB; Pinto AD; Bravo SB; Soriano LF; Per. HOME PARENTERALNUTRITION; 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; Garcia-Peris P; Cambi 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-Comps 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.

• 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:


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Regenerative medicine in plastic surgery

Group directors: ROSA Mª 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.
Patentes

- **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.

Publicaciones

*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.


- Aluarex-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.

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## Research programs and lines

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<td>L1: Pathophysiology of one-lung ventilation.</td>
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<td>L2: Thoracic paravertebral block.</td>
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<td>L3: Postoperative management.</td>
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<td>L4: Experimental line: lung autotransplantation.</td>
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## 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.
Research projects – Competitive calls

- Principal investigator: Carlos María Simón Adiego
  Title: Efecto de la administración de sevoflurano y de lidocaina durante la perfusión pulmonar exvivo de un modelo experimental de transplante 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 lidocaina durante la perfusión pulmonar exvivo en un modelo experimental de trasplante de donante en asistolia.
  Funding body: Instituto de Salud Carlos III
  Start date: 2014
  End date: 2016

Publications

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

- 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.


- 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; Garcia 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.

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Regenerative medicine and systems development: cardiovascular and osteochondral

Group director: Mª BEGOÑA QUINTANA VILLAMANDOS
Type: Emerging

Research programs and lines

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<tr>
<td>L2: Pathophysiology of ventricular remodeling.</td>
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<th>P2: Growth plate transplant</th>
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<td>L1: Formation of a cryoperserved growth plate biobank.</td>
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<td>L2: Immunosuppressive therapy.</td>
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<th>P3: Development of the osteochondral system</th>
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<td>L1: Comparative anatomy in the osteochondral system. Evo-devo implications.</td>
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<td>L2: Study of experimental models.</td>
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<th>P4: Vascular disease</th>
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<td>L1: Fetal origin of cardiovascular disease and nutrition.</td>
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<td>L2: Antioxidant and antihypertensive action of liver growth factor.</td>
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<td>L3: Applications of confocal microscopy to the study of vascular remodelling.</td>
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<td>L4: Serum biomarkers of cardiovascular disease.</td>
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<td>L5: High-altitude pulmonary hypertension.</td>
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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

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<td>Guillermo Juan Rodriguez Bernal</td>
<td>Flujo sanguíneo cerebral en dispositivos de asistencia mecánica circulatoria. Estudio experimental en cerdos*</td>
<td>Begoña Quintana Villamandos</td>
<td>Universidad Autónoma de Madrid</td>
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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; Hoortje 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.

Group members

- Consuelo Cansado Funes: Predoctoral.
- Begoña Ezquieta Zubicaray: Senior researcher.

Clinical practice guidelines

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<td>Begoña Ezquieta</td>
<td>Triptico Guia para pacientes forma clasica HSC</td>
<td>SOCIEDAD ESPANOLA DE ENDOCRINOLOGIA PEDIATRICA. ASOCIACION DE FAMILIAS CON HSC</td>
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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**

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<td>Spanish consensus document for acceptance and rejection of kidneys from expanded criteria donors</td>
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**Publications**

*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; Gayà 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; Garcia 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.


- 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-García E; Riera L; Passas J; Paredes D; Morales JM; Sanchez-Escuredo A; Burgos-Revilla FJ; Belmonte AD; Oppenheimer F; Rodríguez-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. 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.

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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; CL1996000890  
  **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. Mª Jesús Pérez.

Publications

**Total impact factor: 21.4**

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

- Diez-Villanueva P; Gutierrez-Ibanes 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; Sabrindo 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.


- 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.

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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.

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

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.

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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.
- L7: Prospective study of catheter-related thrombosis.
- L8: Quality of care in home parenteral nutrition.
- L10: Outcome of a series of HGUGM patients receiving home parenteral nutrition.

Group members

- Irene Bretón Lesmes: Predoctoral.
- Miguel Cambor Álvarez: Predoctoral.
- María Cristina de la Cuerda Compés: Postdoctoral.
- María Luisa Carrascal Fabián: Trainee.
- Laura Frias Soriano: Predoctoral.
- Pilar García Peris: Senior researcher.
- Isabel Higuera Pulgar: Predoctoral.
- Cristina Velasco Gimeno: Predoctoral.
### Clinical practice guidelines

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### Publications

**Total impact factor: 22.4**

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

- Cuerda C; Velasco C; Merchan-Naranjo J; Garcia-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; Giraldex M; Merchan-Naranjo J; Baeza I; Castro-Fornicles 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-Naive Patients. JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY. 2014; 53(11) 1179–1190. IF: 7.26. Quartile: 1.


- 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; Zuggasti 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.

- Higuera I; Garcia-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; Garcia-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.


• Lesmes IB; Pelaez RB; Cuerdal C; Camblor M; Velasco C; Higuera I; Garcia-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.

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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

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.

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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**

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Pediatric endocrinology

Group director: Mª 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

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<td>Arnao MDR; Sanchez AR; Garcia-Rey C; Diez FJA; Estrada RC; Cuartero BG; Merillas MA; Lopez-Siguer JP</td>
<td>The DATAC study: a new growth database. Description of the epidemiology, diagnosis and therapeutic attitude in a group of Spanish children with short stature</td>
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Publications **Total impact factor: 5.2**

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

- Arnao MDR; Sanchez AR; Garcia-Rey C; Diez FJA; Estrada RC; Cuartero BG; Merillas MA; Lopez-Siguer 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. 2014; 27(11-12) 1201-1208. IF: 0.995. Quartile: 4.

- Stevens A; Clayton P; Tato L; Yoo HW; Rodriguez-Arnao MD; Skorodok J; Ambler GR; Zignani M; Zieschang J; Della Corte G; Destenaves B; Champigneulle A; Raeslon 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.

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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/arthritis.

Group members

- Francisco Chana Rodríguez: Postdoctoral
- Francisco Forriol Campos: Postdoctoral
- Rafael Laguna Aranda: Predoctoral
- José Antonio Matas Díaz: Predoctoral
- Francisco Javier Narbona Cárceles: 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**

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<td>Joaquin Moya Angeler</td>
<td>Valoración por resonancia magnética de un modelo experimental para el estudio de la degeneración articular</td>
<td>Francisco Forriol Campos, Javier Vaquero Martín</td>
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**Publications**

*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.


- 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.

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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-Espona Pancorbo: Predoctoral
- Miguel Ángel Sánchez Pablo: Predoctoral
- Marta Clavero Olmos: Predoctoral
Publications in journals with impact factor indexed in the Journal Citation Reports:


- 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.
Emergency medicine

Group director: JAVIER MUÑOZ GONZÁLEZ
Type: Associated Clinical

Research programs and lines

<table>
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<tr>
<th>P1: Pathogenic mechanisms in the critically ill patient</th>
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<td>▶ L1: Deep vein thrombosis in the critically ill patient</td>
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<td>▶ L3: Severe sepsis and septic shock</td>
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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

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<td>Javier Muñoz González</td>
<td>ECMO en adultos con insuficiencia respiratoria aguda grave</td>
<td>Carlos Pérez de Oteyza</td>
<td>Universidad Complutense de Madrid</td>
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Publications  

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


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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

- Mª 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:


• de Torres JP; Marin JM; Martinez-Gonzalez C; de Lucas-Ramos P; Mir-Viladrich I; Cosio B; Peces-Barba G; Calle-Rubio M; Solanes-Garcia I; Balbin RA; de Diego-Damia A; Feu-Collado N; Michavila I; 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?. PHARMACOPSYCHIATRY. 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-Garcia 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.

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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.
- Mª 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

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


- Atienza F; Almendral J; Ormaetxe JM; Moya A; Martinez-Alday JD; Hernandez-Madrid A; Castellanos E; Arribas F; Arias MA; Tercedor L; Peinado R; Arcocfa 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.


Number of documents IF

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NURSING GROUP

Area coordinator:
Ana Mª García Pozo
Research in nursing

Group director: ANA Mª GARCÍA POZO

Research lines

- 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 cardiaca 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

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<td>Ana Mª García Pozo</td>
<td>Investigación en Enfermería en la Comunidad de Madrid: perfil investigador de las enfermeras y situación actual en los Hospitales del Servicio Madrileño de Salud</td>
<td>Ruth Gil Prieto/ Gregorio Garrido Canatarero</td>
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Publications

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


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


- 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; 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.

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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 with 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 OTORHINOLARINGOLOGICA ITALICA. 2014; 34(6) 382-388. IF: 1.64. Quartile: 2. Otorhinolaryngology.

- Martinez PAS; Trevino LJ; Mesa EMD; Gonzalez MPGP; Gonzalez PM; Al-Halabi 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.


- 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; Macion S; Fernandez-Fonseca E; Cannatta-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-Martín 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. CIRUGÍA 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; Álvarez-Escosa C; Garcia R; Blanco C; Camara R; Gaztambide 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 & LEUK EMIA. 2014; 14(4) 305-318. IF: 2.02. Quartile: 3.

• Valentin A; Alarcon G; Barrington SF; Seoane JIG; 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; Pascual-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-Olivia 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; Areal-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.


• 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.

• Fernandes VS; Ribeiro ASF; Martinez-Saenz A; Blaha I; Serrano-Marguello D; Recio P; Martinez AC; Bustamante S; Vazquez-Alba D; Carballedo 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-H13 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.
• 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; Planelles 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.

• Roncero C; Vega P; Martinez-Raga J; Barral C; Basurte-Villamor I; Rodriguez-Cintas L; Mesias B; Grau-Lopez L; Casas M; Szerman N. Professionals’ perceptions about healthcare resources for co-occurring disorders in Spain. INTERNATIONAL JOURNAL OF MENTAL HEALTH SYSTEMS. 2014; 8. IF: 0.769. Quartile: 4. Psychiatry.

• Ortiz-Gomez JR; Palacio-Abizanda FJ; Morillas-Ramirez F; Fornet-Ruiz I; Lorenzo-Jimenez A; Bermejo-Albares ML. The effect of intravenous ondansetron on maternal haemodynamics during elective caesarean delivery under spinal anaesthesia: a double-blind, randomised, placebo-controlled trial. INTERNATIONAL JOURNAL OF OBSTETRIC ANESTHESIA. 2014; 23(2) 138-143. IF: 1.598. Quartile: 3. Anesthesiology.

• Bravo C; Sanjuan C; Gamez F; Perez R; De Leon-Luis J. Prenatal Diagnosis of Omphalopagus Conjoined Twins with Shared Megacystis. JOURNAL OF CLINICAL ULTRASOUND. 2014; 42(6) 360-362. IF: 0.691. Quartile: 3.

• Paradas-Lara I; Casado-Gomez I; Martin C; Martinez-Sanz E; Lopez-Gordillo Y; Gonzalez P; Rodriguez-Bobada C; Chamorro M; Arias P; Maldonado E; Ortega R; Berenguer B; Martinez-Álvarez C. Maxillary growth in a congenital cleft palate canine model for surgical research. JOURNAL OF CRANIO-MAXILLOFACIAL SURGERY. 2014; 42(1) 13-21. IF: 2.933. Quartile: 1. Infant plastic surgery.

• Szerman N; Vega P; Grau-Lopez L; Barral C; Basurte-Villamor I; Mesias B; Rodriguez-Cintas L; Martinez-Raga J; Casas M; Roncero C. Dual Diagnosis Resource Needs in Spain: A National Survey of Professionals. JOURNAL OF DUAL DIAGNOSIS. 2014; 10(2) 84-90. IF: 1.044. Quartile: 3. Psychiatry.

• Romero RM; Angulo JM; Parente A; Rivas S; Tardaguila AR. Primary Obstructive Megureter: The Role of High Pressure Balloon Dilation. JOURNAL OF ENDOUROLOGY. 2014; 28(5) 517-523. IF: 1.708. Quartile: 3. Pediatric urology.

• Ribeiro ASF; Fernandes VS; Martinez-Saenz A; Martinez P; Barahona MV; Orensanz LM; Blaha I; Serrano-Marguillo D; Bustamante S; Carballido J; Garcia-Sacristan A; Prieto D; Hernandez M. Powerful Relaxation of Phosphodiesterase Type 4 Inhibitor Rolipram in the Pig and Human Bladder Neck. JOURNAL OF SEXUAL MEDICINE. 2014; 11(4) 930-941. IF: 3.151. Quartile: 1. Urology.


• Cordeiro AC; Moraes AAI; Cerutti V; Franca F; Quiroga B; Amodeo C; Picotti JC; Dutra LV; Rodrigues GD; Amparo FC; Lindholm B; Carrero JJ. Clinical determinants and prognostic significance of the electrocardiographic strain pattern in chronic kidney disease patients. JOURNAL OF THE AMERICAN SOCIETY OF HYPERTENSION. 2014; 8(5) 312-320. IF: 2.606. Quartile: 3. Nephrology.

• Rivero JR; Ortiz LB. Foreign body granulomatous reaction to red tattoo pigment. MEDICINA CLINICA. 2014; 143(11) 520-520. IF: 1.417. Quartile: 2. Dermatology.

• Soria VJR; Cembranos MDM; Blanco VP; Blanco CC. Scleromyxedema. MEDICINA CLINICA. 2014; 143(2) 96-96. IF: 1.417. Quartile: 2. Dermatology/histopathology.

• Cruz PMR; Luo YB; Miller J; Junckerstorff RC; Mastaglia FL; Fabian V. An analysis of the sensitivity and specificity of MHC-I and MHC-II immunohistochemical staining in muscle biopsies for the diagnosis of inflammatory myopathies. NEUROMUSCULAR DISORDERS. 2014; 24(12) 1025-1035. IF: 2.638. Quartile: 2. Neurology.
• Cruz PMR; Needham M; Hollingsworth P; Mastaglia FL; Hillman DR. Sleep disordered breathing and subclinical impairment of respiratory function are common in sporadic inclusion body myositis. NEUROMUSCULAR DISEASES. 2014; 24(12) 1036-1041. IF: 2.638. Quartile: 2. Neurology.

• Medina M; Di Lella F; Di Trapani G; Prasad SC; Bacciu A; Aristegui M; Russo A; Sanna M. Cochlear Implantation Versus Auditory Brainstem Implantation in Bilateral Total Deafness After Head Trauma: Personal Experience and Review of the Literature. OTOTOLOGY & NEUROTOLOGY. 2014; 35(2) 260-270. IF: 1.787. Quartile: 2. Otorhinolaryngology.

• Valdivielso-Ramos M; Torrelo A; Campos M; Feito M; Gamo R; Rodriguez-Peralto JL. Pediatric Dermatofibrosarcoma Protuberans in Madrid, Spain: Multi-institutional Outcomes. PEDIATRIC DERMATOLOGY. 2014; 31(6) 676-682. IF: 1.015. Quartile: 3. Dermatology.

• Bardon-Cancho EJ; Munoz-Jimenez L; Vazquez-Lopez M; Ruiz-Martin Y; Garcia-Morin M; Barredo-Valderrama E. Periventricular Nodular Heterotopia and Dystonia Due to an ARFGEF2 Mutation. PEDIATRIC NEUROLOGY. 2014; 51(3) 461-464. IF: 1.695. Quartile: 2. Radiology/pediatrics.


• Marhuenda C; Barcelo C; Fuentes I; Guillen G; Cano I; Lopez M; Hernandez F; Perez-Yarza EG; Matute JA; Garcia-Casillas MA; Alvarez V; Moreno-Galdo A. Urokinase Versus VATS for Treatment of Empyema: A Randomized Multicenter Clinical Trial. PEDIATRICS. 2014; 134(5) E1301-E1307. IF: 5.473. Quartile: 1. Pediatrics.

• Miranda-Herrero MC; Pascual-Pascual SI; Barredo-Valderrama E; Vazquez-Lopez M; de Castro-De Castro P. Visuospatial functions and prematurity. REVISTA DE NEUROLOGIA. 2014; 59(9) 411-418. FI: 0,83. Quartile: 4. Neurology.

• Ramos-Casals M; Brito-Zeron P; Solans R; Camps MT; Casanovas A; Sopena B; Diaz-Lopez B; Rascon FJ; Qanneta R; Fraile G; Perez-Álvarez R; Callejas JL; Ripoll M; Pinilla B; Akasbi M; Fonseca E; Canora J; Nadal ME; de la Red G; Fernandez-Regal I; Jimenez-Her. Systemic involvement in primary Sjogren’s syndrome evaluated by the EULAR-SS disease activity index: analysis of 921 Spanish patients (GEAS-SS Registry). RHEUMATOLOGY. 2014; 53(2) 321-331. IF: 4.475. Quartile: 1. Internal medicine.

• De Waele JJ; Tellado JM; Weiss G; Alder J; Kruesmann F; Arvis P; Hussain T; Solomkin JS. Efficacy and Safety of Moxifloxacin in Hospitalized Patients with Secondary Peritonitis: Pooled Analysis of Four Randomized Phase III Trials. SURGICAL INFECTIONS. 2014; 15(5) 567-575. IF: 1.448. Quartile: 3. General surgery.

• Pereira A; Perez-Medina T; Magrina JF; Magtibay PM; Rodriguez-Tapia A; Perez-Milan F; Ortiz-Quintana L. The impact of pelvic retroperitoneal invasion and distant nodal metastases in epithelial ovarian cancer. SURGICAL ONCOLOGY-OXFORD. 2014; 23(1) 40-44. IF: 3.27. Quartile: 1. Gynecology.
Patient platform

Support unit: project design and statistical analysis

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.
- 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.
- Guzman-Fulgencio M; Jimenez JL; Jimenez-Sousa MA; Bellon JM; Garcia-Álvarez M; Soriano V; Gijon-Vidaurreta P; Bernal-Morell E; Viciana P; Munoz-Fernandez 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.
- Berenguer J; Zamora FX; Carrero A; Von Wichmann MA; Crespo M; Lopez-aldeguer J; Aldamiz-Echevarria T; Montes M; Quereda C; Telez 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.
- 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.
- 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.
- Palladino C; Briz V; Bellon JM; Climent FJ; de Ory SJ; Mellado MJ; Navarro ML; Ramos JT; Taveira N; de Jose MI; Munoz-Fernandez MA. Determinants of Highly Active Antiretroviral Therapy Duration in HIV-1-Infected Children and Adolescents in Madrid, Spain, from 1996 to 2012. PLOS ONE. 2014; 9(5). IF: 3.234. Quartile: 1.
OTHER RESEARCH ACTIVITY

Annual Scientific Report 2014

Patient platform

Cell production unit

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. 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).

• 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).

Animal platform

Animal facility

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

• 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.

Cell platform

Confocal microscopy

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

• Samaniego R; Palacios BS; Domiguez-Soto A; Vidal C; Salas A; Matsuyama T; Sanchez-Torres C; de la Torre I; Miranda-Carus ME; Sanchez-Mateos P. 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).

Flow cytometry and cell sorting

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

• Sainz T; Diaz L; Navarro ML; Rojo P; Blazquez D; Ramos JT; de Jose MI; Alvarez-Fuente M; Serrano-Villar S; Mellado MJ; Munoz-Fernandez MA. Cardiovascular biomarkers in vertically HIV-infected children without metabolic abnormalities. ATHEROSCLEROSIS. 2014; 233(2) 410-414. (IF: 3.994; Quartile: 1).

• Sainz T; Alvarez-Fuente M; Navarro ML; Diaz L; Rojo P; Blazquez D; de Jose MI; Ramos JT; Serrano-Villar S; Martinez J; Medrano C; Munoz-Fernandez MA. 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).

• Sainz T; Ortega-Hernandez A; Serrano-Villar S; Navarro ML; Rojo P; Ramos JT; Mellado MJ; Diaz L; Alvarez M; Estrada V; Gomez-Garre D; Munoz-Fernandez 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).
During the year 2014, the funding provided to the Fundación para la Investigación Biomédica del Hospital Gregorio Marañón by Janssen - Cilag SA to support the "Fellowship Program for Scientific Research" with the amount of €125,000, has helped to finance the development of the following research projects: "Design and evaluation of a computer tool for the detection of adverse effects", "Impact of a comprehensive quality program in Hospital Pharmacy (EFQM)" and "Project evaluation and improvement of pharmacotherapy impact on innovation in the area of Oncology."