

# Annual Scientific Report

# 2012

Instituto de Investigación Sanitaria Gregorio Marañón





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# 1

## Presentation





The presentation of our Scientific Report is one of the most important and satisfactory parts of the ongoing process of evaluating the scientific activity of the Instituto de Investigación Sanitaria del Hospital General Universitario Gregorio Marañón (IISGM [Health Research Institute of Hospital General Universitario Gregorio Marañón]).

Visibility and dissemination of our research activity is of paramount importance for 2 reasons. First, from an internal perspective, publication of the work of the IISGM is a clear recognition of the effort made by our research groups; the relevance of publication is clear in the field of health care, particularly during the current complex economic recession. Second, from an external perspective, we recognize the importance of presenting the research capacity of IISGM to other institutions and social agents.

This Report provides a detailed account of the scientific output and innovation of IISGM during the year 2012. As in the last 2 editions, the content has been organized around research areas and their groups, in contrast with the traditional structure, which focuses on departments and services. This approach, which is supported by the External Scientific Committee of the IISGM and the Instituto de Salud Carlos III (Carlos III Health Institute), presents the current state of research in a health care setting. Therefore, cooperation between different areas and groups is crucial, since it is the fastest way to generate knowledge and innovation that can be applied to clinical practice, the cornerstone of any health care research organization. Similarly, the recent 2013 call from the Proyectos Integrados de Excelencia (Integrated Excellence Projects) of the Acción Estratégica de Salud (AES [Strategic Action in Health Care]) highlights the enormous importance of interdepartmental synergy.

In quantitative terms, the scientific output of the IISGM for the year 2012 continues to rise in terms of both the number of publications and the most widely used bibliometric indicator, the impact factor. Thus, for the first time in its history, the IISGM has passed the 1600 mark. As we stress in the Report, the criteria for granting publications to the IISGM are extremely strict. Similarly, and despite the inclusion of various emerging groups, the increase in the number of publications in first-quartile and first-decile journals reflects the Institution's research potential. Moreover, the presence of an IISGM author as the first or last author in approximately 50% of the original articles published in 2012 is proof that researchers at the IISGM are leaders in their field.

Finally, the participation of researchers from the IISGM in a significant number of national and international clinical practice guidelines during 2012 reflects our ability to transfer the fruit of our research activity to the National Health System.

Despite the considerable efforts of the Instituto de Salud Carlos III, the current economic climate clearly affects—sometimes dramatically—the maintenance of research activity in centers belonging to the National Health System. However, even within such an unfavorable environment, the ability of the IISGM to obtain funding for its different research lines remained satisfactory in 2012. Therefore, it is very important to maintain, and even increase in quantitative terms, the ability of the groups of the IISGM to compete successfully in all types of calls, including international projects.

Without doubt, the IISGM, under the auspices of the Fundación para la Investigación Biomédica Hospital Gregorio Marañón [Biomedical Research Foundation of Hospital Gregorio Marañón]), is making a considerable effort to maintain the commitments made and the services offered to researchers of the IISGM, despite the complexity of the current economic climate. In fact, during 2013, thanks to the PROMIIS subsidy, which was awarded in 2012, our physical infrastructure will undergo a major overhaul, as will those areas used for research.

Furthermore, we must highlight our participation in several research groups in a variety of publicly funded cooperative structures and national networks of excellence, such as CIBER and RETIC. Also worthy of note is the fact that the scientific management of some CIBER networks, specifically CIBER de Salud Mental (CIBERSAM), as well as the management of RECAVA and the ITEMAS network, was undertaken by researchers who led IISGM research groups.

Maintaining the research capacity of IISGM at levels that are the same as—or better than—those of previous years requires enormous effort and continuous improvement. In fact, the key role of the Instituto de Salud Carlos III in funding health research institutes in a competitive environment makes it essential to maintain and increase the quality and rigor of the research performed at IISGM.

Once again, this forum provides me with a wonderful opportunity to express my heartfelt thanks to all the researchers of the IISGM for their efforts during such difficult times for scientific research in hospitals. Appropriate results can only be obtained through a common effort coupled with a suitable strategy aimed at improving the health of our patients.



Finally, we are indebted to all the Area Coordinators, Group Directors, research groups, and clinical services that have played such an important part in the development of the IISGM and in establishing its prestige as a research organization. Their intense and committed participation over the years has made the IISGM what it is today. This message is aimed particularly at our younger researchers, who, despite having to work under very difficult conditions, provide their talent and effort to develop scientific research in our Institute.

We would like to finish on an optimistic note. The complex and pessimistic nature of the current climate does not detract from our view of research as a core value of the IISGM; consequently, our expectations for growth are considerable. Few institutions can boast of a structure that brings together so harmoniously the

pillars of medical knowledge and their practical application to real health problems. Such a structure serves to ensure a combined response to the questions raised daily in medical practice. Therefore, in the coming years, we hope that the IISGM will reaffirm its position as a national and international research center of excellence.

Thank you.

**Rafael Bañares Cañizares**  
*Scientific Director, IISGM*

**Ricardo Herranz Quintana**  
*Manager, Hospital General Universitario Gregorio Marañón*

# 2

## Executive summary





# Global analysis

Analysis of the scientific production of IISGM and its bibliometric impact is an essential element in the evaluation of the Institute's research activity, given that both factors reflect the competitiveness of its researchers.

In order to prepare the research report, we analyzed journals indexed in *Web of Science* and, to a lesser extent, *Social Science* of the *ISI Web of Knowledge*.

Publications were assigned to the various areas and groups by considering only those in which 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.

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.

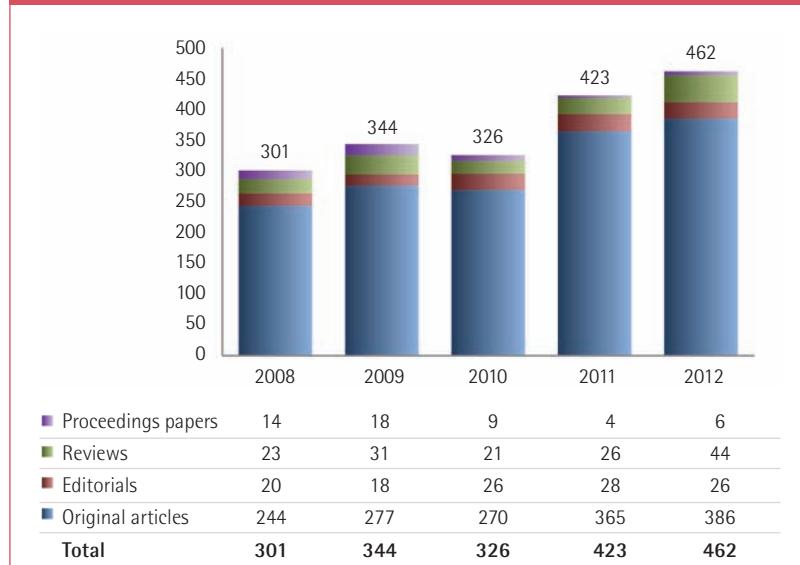
Publications involving different groups or areas of the Institute are counted individually in each group and area, although only once for the calculation of the total impact factor of the Institute.

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 2012 consolidates the growing trend observed in recent years, with a total of 462 indexed publications, representing a total impact factor of 1646 points, ie, 6.5% higher than in 2011.

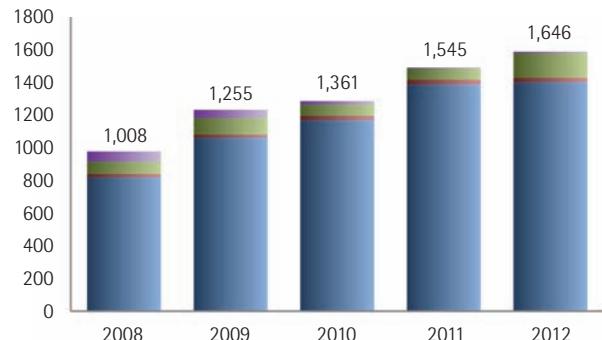
**Scientific production of IISGM in indexed journals with impact factor: number of publications by type**



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 93% of the total impact factor. It is important to note the increase in the number of editorials and reviews, which probably represents the growing importance of the scientific opinion of researchers from the IISGM.

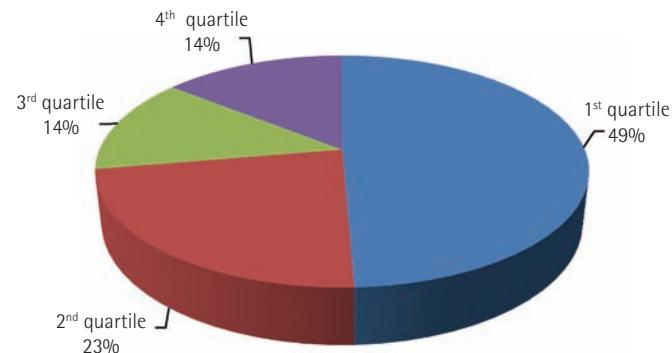


### Scientific production of IISGM: total impact factor by type of publication

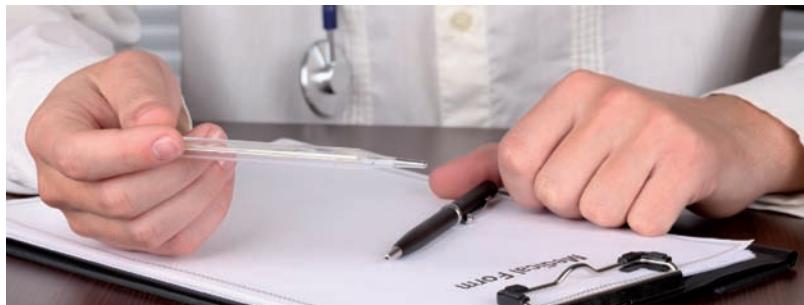


Proceedings papers	60	48	19	6	7
Reviews	75	100	68	66	149
Editorials	20	18	26	28	26
Original articles	807	1,047	1,153	1,369	1,382
<b>Total</b>	<b>1,008</b>	<b>1,255</b>	<b>1,361</b>	<b>1,545</b>	<b>1,646</b>

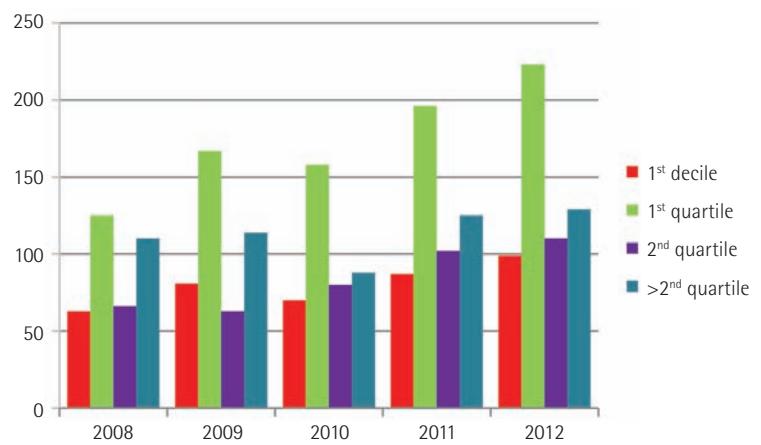
### Scientific production of IISGM in indexed journals with impact factor: distribution by quartiles (relative to 2012)

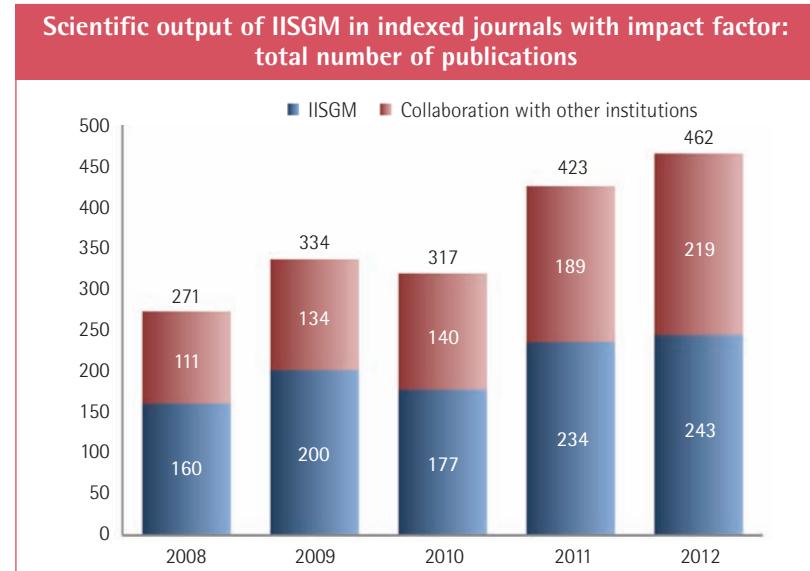
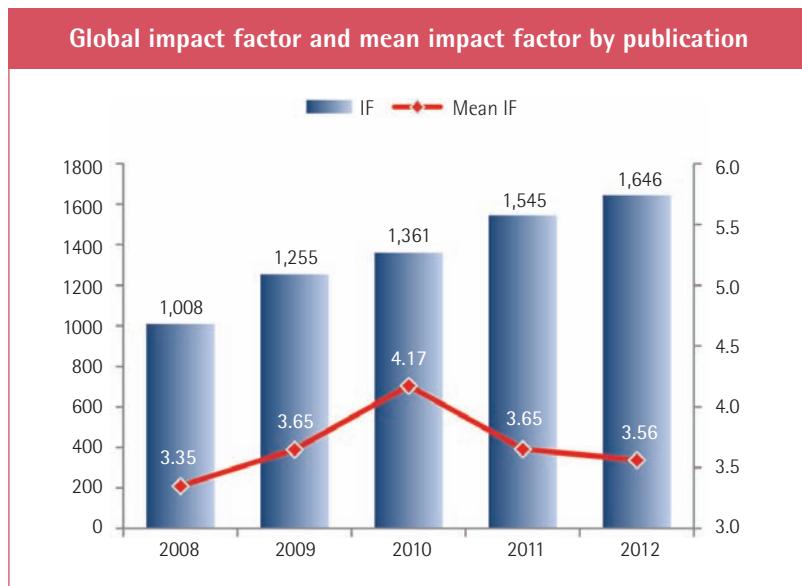


The distribution of IISGM publications according to quartile and decile is shown below. The number of first-decile and first-quartile publications continues to be greater than last year, although the percentage with respect to the total number of publications for the year was similar to that of 2011. The mean impact factor is also almost the same as last year's.



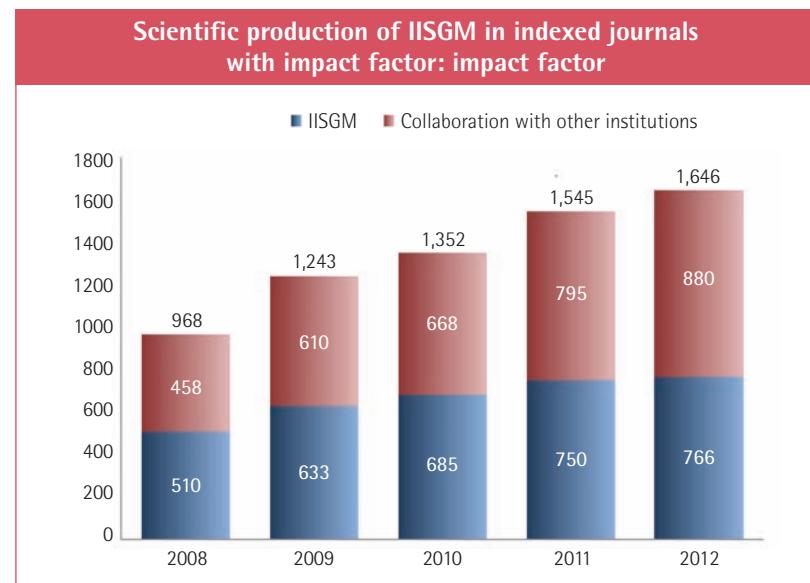
### Scientific output of IISGM in indexed journals with impact factor: distribution of publications by decile and quartile (absolute values)





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

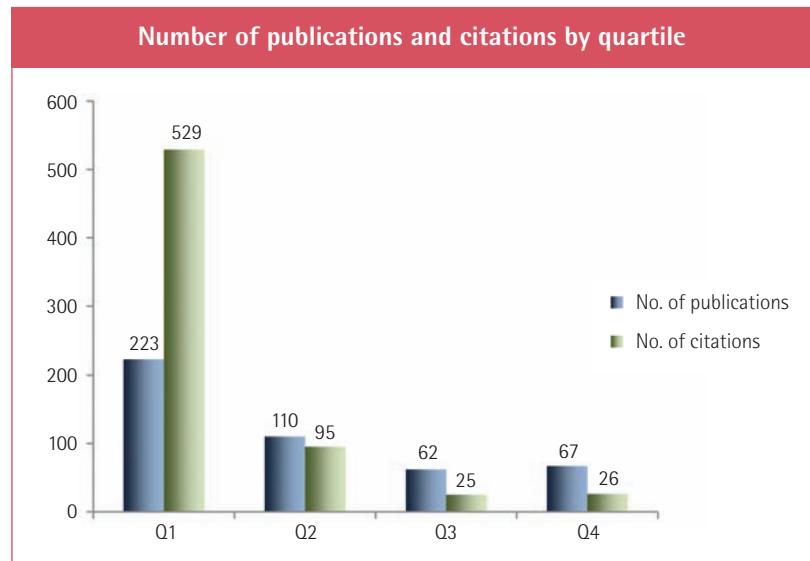
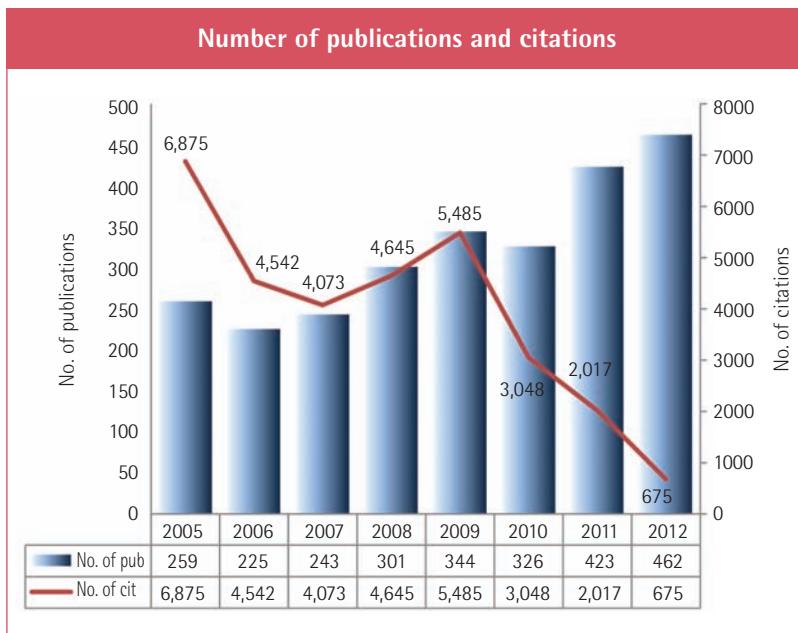
Approximately 50% of the scientific output of IISGM is accounted for by articles whose main authors belong to the Institute.





## GLOBAL ANALYSIS

The number of citations for Institute publications over time is logically greater in older publications, although the number of citations in relatively recent publications (2008, 2009, and 2010) is noteworthy, as is the number of first-quartile citations.



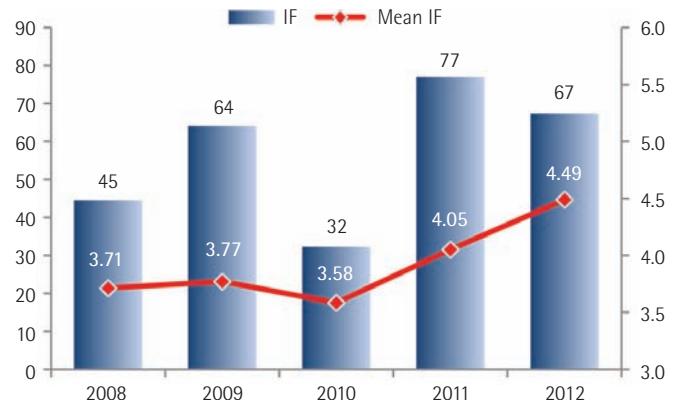
Finally, one of the most relevant elements within the scientific structure of research institutes is the grouping of research activity in priority areas, which are characterized by their scientific and social relevance and by their capacity for transferring knowledge to society.

IISGM has 7 priority research areas whose scientific activity is set out in detail in the 2 figures below: 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 quartile. Both figures show the scientific output for the last 5 years.



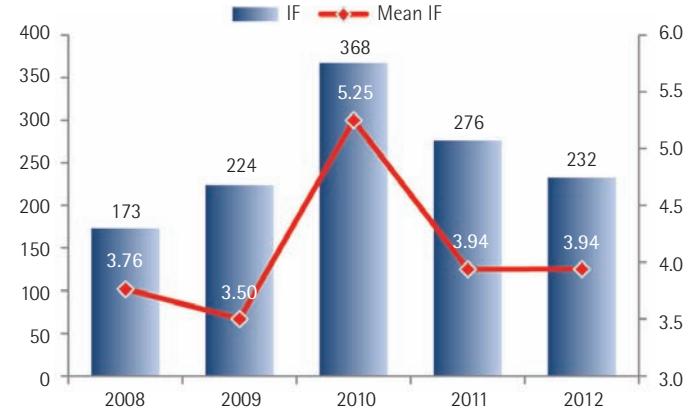
## AREA 1: BIOMEDICAL ENGINEERING

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

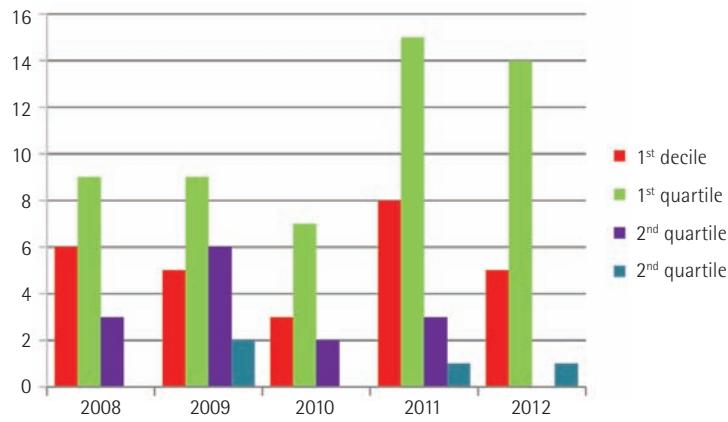


## AREA 2: CARDIOVASCULAR DISEASE

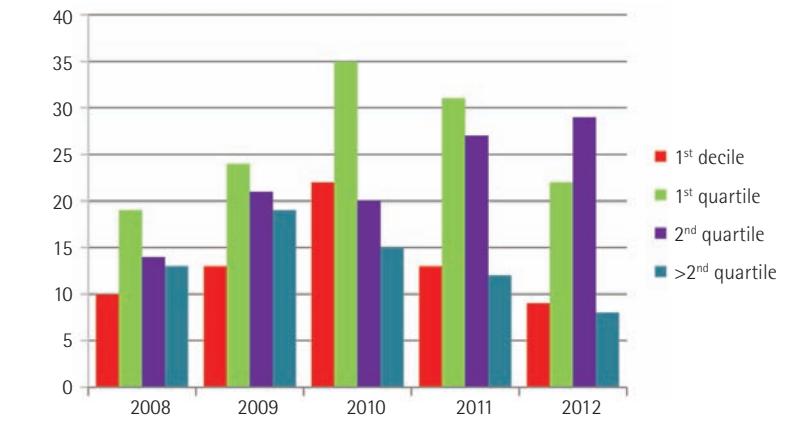
Scientific production of Area 2 in indexed journals with impact factor: total and mean impact factor



Scientific production of Area 1 in indexed journals with impact factor: distribution by quartile and first decile of published original articles

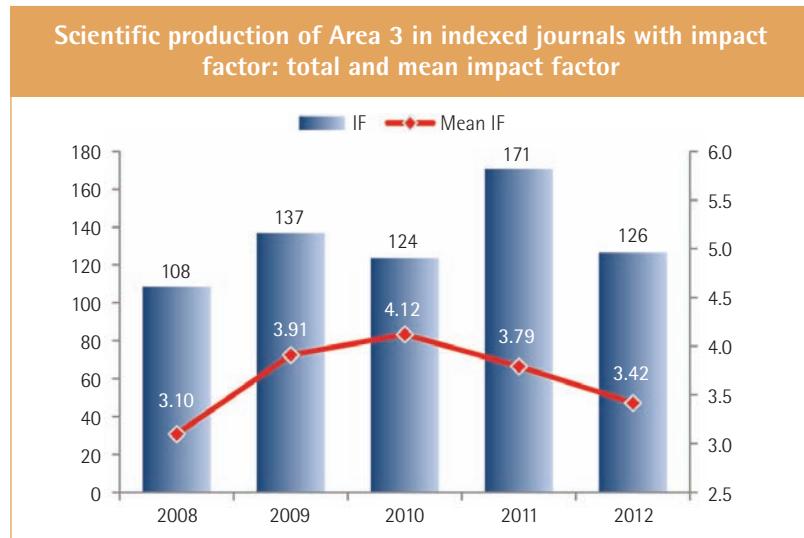


Scientific production of Area 2 in indexed journals with impact factor: distribution by quartile and first decile of published original articles

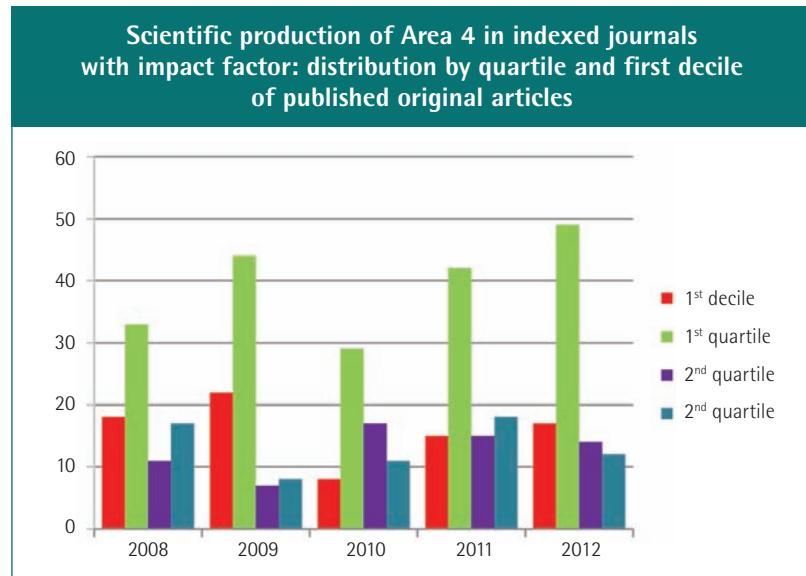
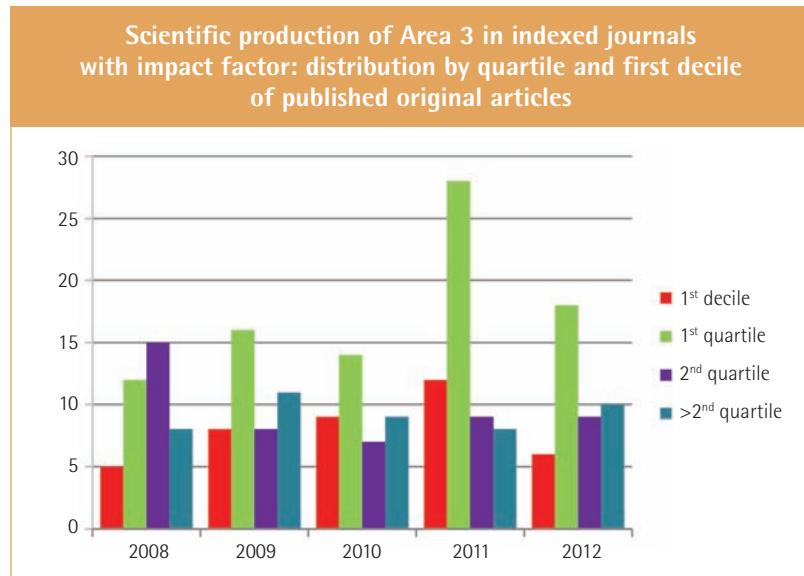
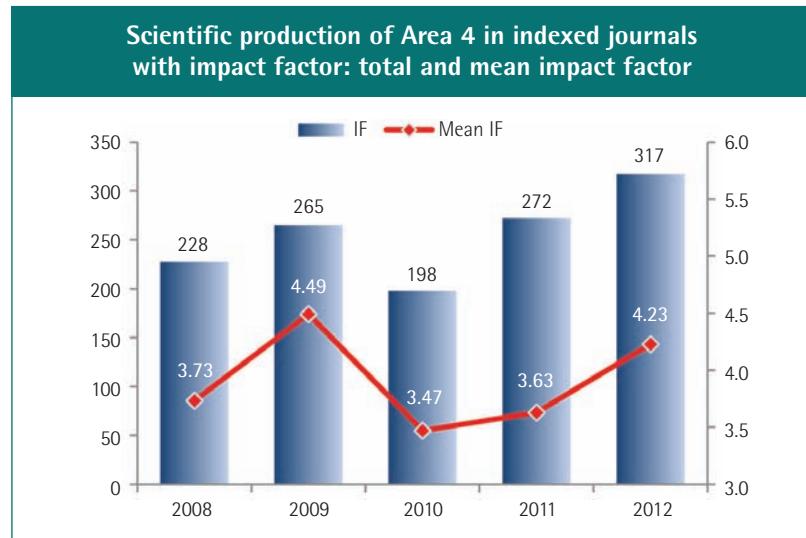




## AREA 3: NEUROSCIENCE AND MENTAL HEALTH



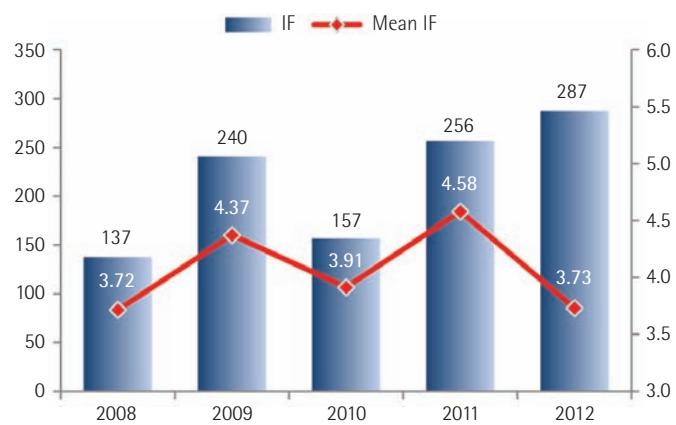
## AREA 4: INFECTIOUS DISEASES AND AIDS





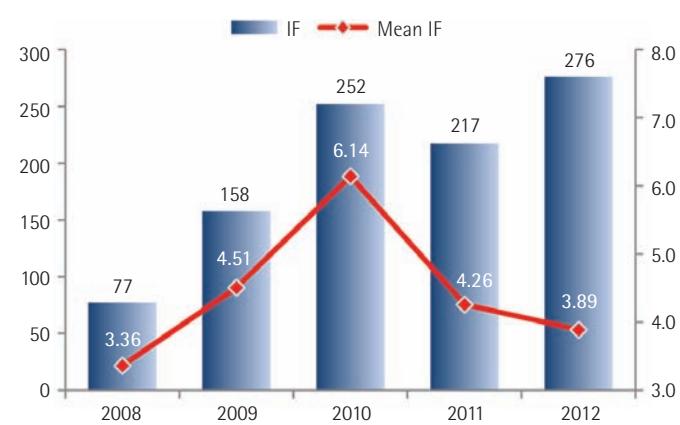
## AREA 5: DISEASES OF THE IMMUNE SYSTEM

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

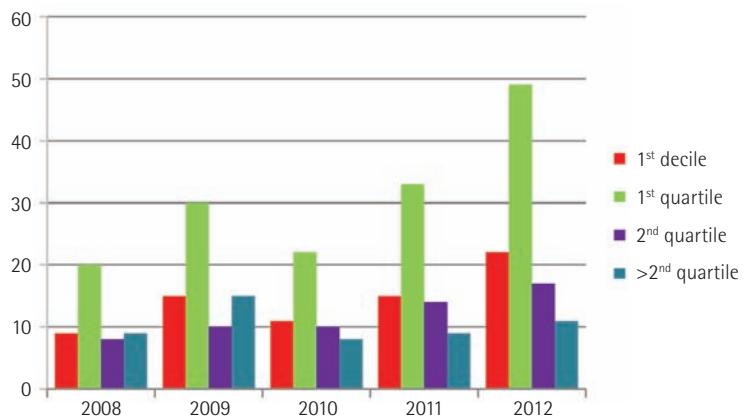


## AREA 6: TRANSLATIONAL ONCOLOGY

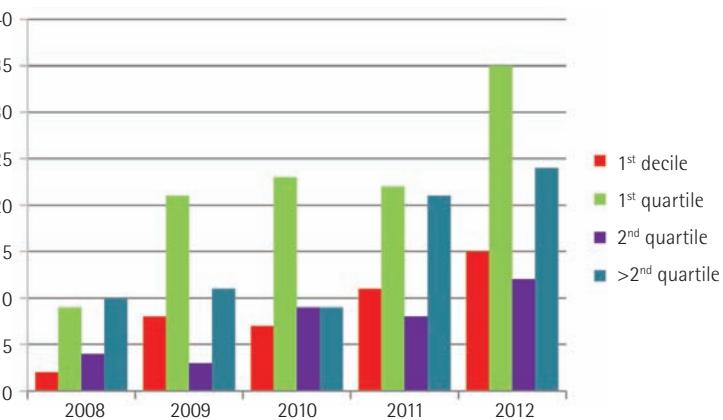
Scientific production of Area 6 in indexed journals with impact factor: total and mean impact factor



Scientific production of Area 5 in indexed journals with impact factor: distribution by quartile and first decile of published original articles



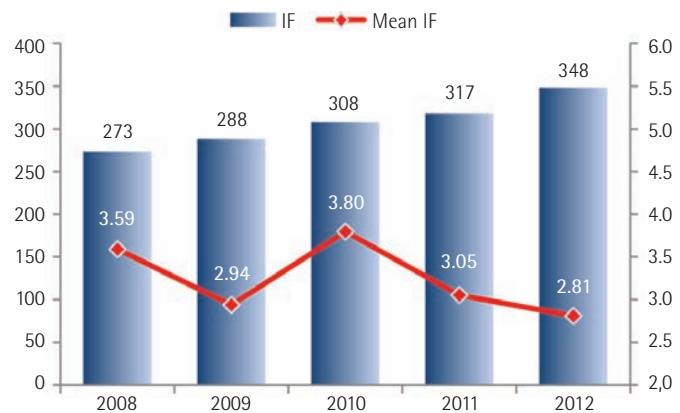
Scientific production of Area 6 in indexed journals with impact factor: distribution by quartile and first decile of published original articles



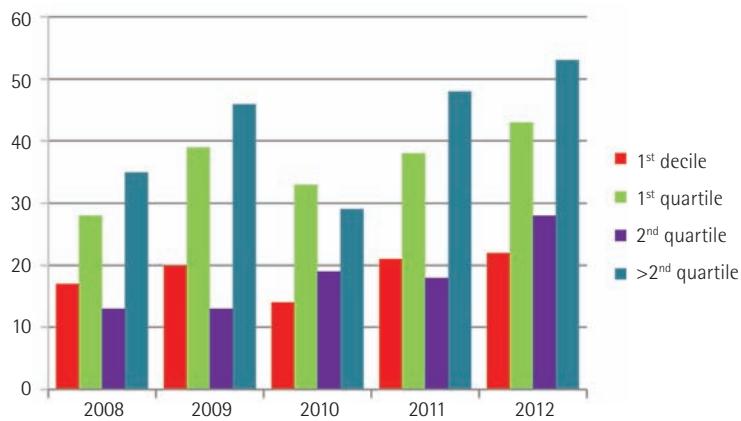


## AREA 7: SYSTEMIC DISEASES AND ORGAN TRANSPLANTATION

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



Scientific production of Area 7 in indexed journals with impact factor: distribution by quartile and decile of published original articles





# Organizational Structure

## GOVERNING COUNCIL

- **Chair:** Patricia Flores Cerdán.  
*Vice-Councilor of Health Care. Comunidad de Madrid.*
- **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. UCIII 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. *Science Director IISGM.*
- **Members:**
  - Miguel López-Bravo Bascán. *General Management of Research, Training, and Infrastructure. Public Health Department.*
  - Emilio Bouza Santiago. *FIBHGM trustee.*
  - Manuel Desco Menéndez. *FIBHGM trustee.*
  - Celso Arango López. *FIBHGM trustee.*
  - Javier Rodríguez Rodríguez. *FIBHGM trustee. Vice-Deacon of UCM Madrid.*
  - María Sanjurjo Sáez. *FIBHGM trustee.*
  - Francisco Fernández-Avilés Díaz. *FIBHGM trustee.*
  - Miguel Ángel Pozo García. *FIBHGM trustee. UCM Madrid.*
  - Carlos Balaguer Bernaldo de Quirós. *FIBHGM trustee. UCIII Madrid.*
- **Secretary:** Thierry Bardinet. *Director of FIBHGM.*

## EXECUTIVE COMMITTEE OF IISGM

- Ricardo Herranz Quintana. *Manager of Hospital General Universitario Gregorio Marañón.*
- Celso Arango López. *FIBHGM trustee.*
- Emilio Bouza Santiago. *FIBHGM trustee.*

- Javier Rodríguez Rodríguez. *FIBHGM trustee. Vice-Deacon of UCM Madrid.*
- Miguel Ángel Pozo García. *FIBHGM trustee. UCM Madrid.*
- Rafael Bañares Cañizares. *Science Director of IISGM.*
- Francisco Fernández-Avilés Díaz. *FIBHGM trustee.*
- Carlos Balaguer Bernaldo de Quirós. *FIBHGM trustee. UCIII 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 Enriquez de Salamanca. *Universidad Complutense de Madrid.*
- David García Dorado. *Instituto de Investigación Vall d'Hebrón. Barcelona.*
- Diego Gracia Guillén. *Universidad Complutense de Madrid.*
- Ángel Carracedo Álvarez. *Universidad de Santiago de Compostela.*
- Luis Valenciano Clavel. *Fundación Salud 2000 Madrid.*

## RESEARCH COMMITTEE

- **Chair:** Rafael Bañares Cañizares.
- **Vice-Chair:** Javier de Miguel Díez.
- **Secretary:** Luis Alberto Menchén Viso.
- **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, Pedro Luis Sánchez Fernández, Pascual Balsalobre López, Fernando Asensio Rubio, Ismael Buño Borde, Ana Mª García Pozo, Juana Gil Herrera, Paz Rodríguez Pérez, 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 Francisco Javier Rodríguez Rodriguez.



## ORGANIZATIONAL STRUCTURE

### CLINICAL RESEARCH ETHICS COMMITTEE

- **Chair:** Manuel Sánchez Luna.
- **Vice-Chair:** Felipe Atienza Fernández.
- **Secretary:** Fernando Díaz Otero.
- **Members:** Carlos Manuel González Fernández, M<sup>a</sup> Luisa Baeza Ochoa de Ocariz, M<sup>a</sup> 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, M<sup>a</sup> Begoña Quintana Villamandos and Andrés Jesús Muñoz Martín.
- **Technical Secretary:** Santos Puerta Cruz.

### ANIMAL EXPERIMENTATION ETHICS COMMITTEE

- **Chair:** Fernando Asensio Rubio.
- **Secretary:** Jesús López Herce Cid.
- **Members:** Carlos Simón Adiego, Laura Moreno Márquez, José Manuel Zubeldia Ortúño, Paz Rodríguez Pérez, Felipe Atienza Fernández, Ángel Sainz Rodríguez, Miguel Rellosa Cereceda and M<sup>a</sup> Luisa Soto Montenegro.

### 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:** Luis Fernández Vera.

### TRAINING

- **Person in charge of training:** Alberto Tejedor Jorge. *Lecturer. UCM Madrid.*

### RESEARCH SUPPORT SERVICES

- **Person in charge of research support services:** 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 Managers:** Laura Moreno Márquez, Miriam Arriaga García, 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 M<sup>a</sup> Isabel Olmedo Andueza.
- **Invoicing:** Marta Martín-Arriscado Arroba.
- **Legal Department/Purchasing:** Miguel Ángel Conejo Martín.
- **Secretary:** María Rosario Calle Benito.

### STRUCTURE OF THE AREAS AND RESEARCH GROUPS

#### AREA 1: Biomedical Engineering

Coordinator: Manuel Desco Menéndez

Group	Group director	Group type	Organization
Advanced technological applications and human health	Manuel Desco Menéndez	Consolidated	HGUGM-UCIII

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

**AREA 2: Cardiovascular Diseases**

Coordinator: Francisco Fernández-Avilés Díaz

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

**AREA 3: Neuroscience and Mental Health**

Coordinator: Celso Arango López

Group	Group director	Group type	Organization
Neurobiological and psychological bases of mental disorders. Disorders of neurodevelopment	Celso Arango López	Consolidated	HGUGM-UCM
Parkinson disease and movement disorders	Francisco Javier Grandas Pérez	Emerging	HGUGM
Clinical neurology	Dolores Mateo González †	Associated clinical	HGUGM
Clinical and etiopathogenic aspects of neuromuscular diseases	José Luis Muñoz Blanco	Emerging	HGUGM
Neuroimmunology	Clara de Andrés Frutos	Emerging	HGUGM
Biology of inflammation	María Concepción Guisasola Zulueta	Associated clinical	HGUGM

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

**AREA 4: Infectious Diseases and AIDS**

Coordinator: Emilio Bouza Santiago

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

**AREA 5: Diseases of the Immune System**

Coordinator: Eduardo Fernández-Cruz Pérez

Group	Group director	Group type	Organization
Pathophysiology and clinical research into chronic inflammatory and immunological diseases	Eduardo Fernández-Cruz Pérez	Consolidated	HGUGM
Molecular biology of HIV	Mª Ángeles Muñoz Fernández	Consolidated	HGUGM
Autoimmune systemic diseases	Luis Carreño Pérez	Consolidated	HGUGM
Immuno-oncology	Paloma Sánchez-Rubio Mateos	Consolidated	HGUGM
Pathogenesis of the immunoallergic response	José Manuel Zubeldia Ortuño	In process of consolidation	HGUGM
Immunology of HIV infection in pediatric patients	María Dolores Gurbido Gutiérrez	Consolidated	HGUGM
Infections in pediatric patients	María Luisa Navarro Gómez	Consolidated	HGUGM
Allergic diseases in pediatric patients	Elena Alonso Lebrero	Associated clinical	HGUGM

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



## ORGANIZATIONAL STRUCTURE

### AREA 6: Translational Oncology

Coordinator: Miguel Martín Jiménez

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

### AREA 7: Systemic Diseases and Organ Transplantation

Coordinator: Rafael Bañares Cañizares

Group	Group director	Group type	Organization
Vascular damage and inflammation in chronic kidney disease, dialysis, and kidney transplantation. Pathophysiology of the kidney	José Luño Fernández	Consolidated	HGUGM
Pathophysiology and natural history of liver and digestive diseases	Rafael Bañares Cañizares	Consolidated	HGUGM-UCM
Disease in the critically ill child	Jesús López-Herce Cid	Consolidated	HGUGM
Pathophysiology and clinical aspects of COPD	Luis Puente Maestu	In process of consolidation	HGUGM

(Cont.)

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

### AREA 7: Systemic Diseases and Organ Transplantation (cont.)

Group	Group director	Group type	Organization
Regenerative medicine in plastic surgery	Rosa Pérez Cano	Emerging	HGUGM
Kidney transplantation in the pediatric patient	Enrique Lledó García	Emerging	HGUGM
Pediatric endocrinology	María Dolores Rodríguez Arnao	Associated clinical	HGUGM
Regeneration and biomaterials in skeletal muscle damage	Francisco Javier Vaquero Martín	Associated clinical	HGUGM-UCM
Iron metabolism disorders	Alejandro del Castillo Rueda	Associated clinical	HGUGM
Emergency medicine	Javier Muñoz González	Associated clinical	HGUGM
Pathophysiology, outcome, and therapeutic strategies in chronic respiratory insufficiency and respiratory disorders of sleep	Pilar de Lucas Ramos	Associated clinical	HGUGM
Anesthesia in chest surgery	Ignacio Garutti Martínez	Emerging	HGUGM
Regenerative medicine and system development: cardiovascular and osteochondral	Begoña Quintana Villamandos	Emerging	HGUGM
Peritransplant evaluation (liver)	José María Pérez Peña	Associated clinical	HGUGM
Perianesthetic evaluation	Carmen Fernández Riveira	Associated clinical	HGUGM
Anesthesia, toxins, and arrhythmias	Matilde Zaballos García	Associated clinical	HGUGM
Biopathology of aging	José Antonio Serra Rexach	Consolidated	HGUGM
Pathophysiology of the neonate and developing child	Manuel Sánchez Luna	In process of consolidation	HGUGM
Hereditary diseases and pediatric endocrinology	Begoña Ezquieta Zubicaray	Emerging	HGUGM

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## AREA 7: Systemic Diseases and Organ Transplantation (cont.)

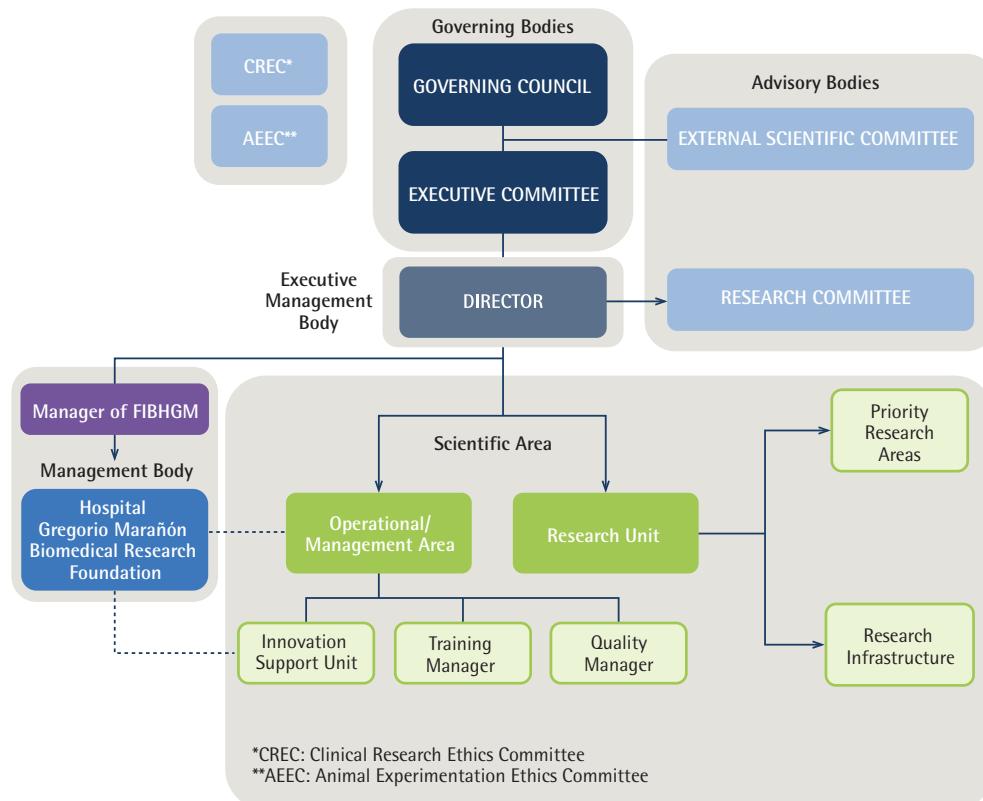
Group	Group director	Type of group	Organization
Artificial circulation laboratory	Juan Francisco del Cañizo López	Emerging	HGUGM-UCM
Evaluation of health services and clinical epidemiology	Maria Paz Rodríguez Pérez	Emerging	HGUGM
Hospital pharmacy and pharmacogenomics	Maria Sanjurjo Sáez	Emerging	HGUGM
Clinical nutrition	Pilar García Peris	Emerging	HGUGM

## NURSING RESEARCH GROUP

Coordinator: Ana García Pozo

Group	Group director	Organization
Research in nursing	Ana García Pozo	HGUGM

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





# Publicly funded research staff contracts

## FIXED CONTRACT RESEARCHERS AND TECHNICAL STAFF

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

## INSTITUTO DE SALUD CARLOS III Miguel Servet Contracts

Researcher	Area	Group
Rafael Correa Rocha	Diseases of the immune system	Immunology of HIV infection in the pediatric patient
Jesús Vicente Guinea Ortega	Infectious diseases and AIDS	Infectious diseases
Luis Andrés López Fernández	Systemic diseases and organ transplantation	Hospital pharmacy and pharmacogenomics
Miguel Reloso Cereceda	Diseases of the immune system	Molecular biology of HIV
Maria Luisa Soto Montenegro	Biomedical engineering	Advanced technological applications and human health



## Sara Borrell Contracts

Researcher	Area	Group
Marta Rapado Castro	Neuroscience and mental health	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders
Pilar Escribano Martos	Infectious diseases and AIDS	Infectious diseases
Verónica Briz Sebastián	Diseases of the immune system	Molecular biology of HIV
Sara Ferrando Martínez	Diseases of the immune system	Molecular biology of HIV
Daniel Tornero Prieto	Diseases of the immune system	Molecular biology of HIV
Alberto Lázaro Fernández	Systemic diseases and organ transplantation	Inflammation and vascular damage in chronic kidney disease, dialysis, and kidney transplant. Renal pathophysiology

## Río Hortega Contracts

Researcher	Area	Group
Teresa Aldamiz-Echevarría Lois	Infectious diseases and AIDS	Clinical and epidemiological aspects of HIV infection and associated conditions
María Guembe Ramírez	Infectious diseases and AIDS	Infectious diseases
Paula López Roa	Infectious diseases and AIDS	Infectious diseases
Maria Covadonga Martínez Díaz-Caneja	Neuroscience and mental health	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders
Mª Elena Martino Casado	Biomedical engineering	Advanced technological applications and human health
Ángel Luis Miracle Blanco	Cardiovascular diseases	Natural history of heart disease
Teresa Mombiela Ramírez De Gruya	Cardiovascular diseases	Natural history of heart disease
Maria del Palacio Tamarit	Diseases of the immune system	Molecular biology of HIV
Laura Pina Camacho	Neuroscience and mental health	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders

**Río Hortega Contracts (cont.)**

Researcher	Area	Group
Talia Sainz Costa	Diseases of the immune system	Molecular biology of HIV
María José Solana García	Systemic diseases and organ transplantation	Diseases of the critically ill child
Javier Urbano Villaescusa	Systemic diseases and organ transplantation	Diseases of the critically ill child
Elena Reigadas Ramírez	Infectious diseases and AIDS	Infectious diseases
Mª de las Candelas Pérez del Villar Moro	Cardiovascular diseases	Cardiovascular diseases
Maria Goretti Morón Nozaleda	Neuroscience and mental health	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders

**Support Contracts**

Researcher	Area	Group
Alexandra Francisco López	Biomedical engineering	Advanced technological applications and human health
Ana Estecha Palomero	Diseases of the immune system	Immuno-oncology
Maria Alonso Martínez	Infectious diseases and AIDS	Infectious diseases
Javier Sicilia Alonso	Animal facility	IISGM
Mª Isabel Clemente Mayoral	Diseases of the immune system	Molecular biology of HIV
Laura Díaz Muñoz	Diseases of the immune system	Molecular biology of HIV
Raquel Lorente Rodríguez	Diseases of the immune system	Molecular biology of HIV

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

Researcher	Area	Group
Joost Janssen	Neuroscience and mental health	Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders
Marjorie Pion	Diseases of the immune system	Molecular biology of HIV
Javier Vaquero Martín	Systemic diseases and organ transplantation	Pathophysiology and natural history of liver and gastroenterological diseases

**Juan de la Cierva Contracts**

Researcher	Area	Group
Laura Pérez García	Infectious diseases and AIDS	Infectious diseases
Claudia Palladino	Diseases of the immune system	Molecular biology of HIV

**Support contracts**

Researcher	Area	Group
Cristina Chavarrias Navas	Biomedical engineering	Advanced technological applications and human health



# Research support services in the IISGM

IISGM has organized research support services into various 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 necessary when investigating the "object" of biomedical research from different technological perspectives.

Five platforms have been developed, as follows:

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

Research Support Units				
Patient platform		Methodology and Biostatistics	UCAICEC/CAIBER	OTRI
Organ platform		Cell production unit	Artificial organ laboratory	Biological sample storage–Biobank
Animal model platform		Experimental operating room	Animal facility	Small animal imaging
Cell platform		Flow cytometry and cell sorting	Cell culture	Confocal microscopy
Molecular platform		Proteomics	Sequencing and genotyping	



## PATIENT PLATFORM

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

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

#### 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 trials (selection of CRO).
- Advice on the management of supplier contracts.

#### Contact person

Maria del Carmen de la Cruz Arguedas. Head of Unit  
E-mail: ucaicec@fibhgm.org  
Tel: (+34) 914 269 232

### 2. METHODOLOGY AND STATISTICS

Methodology and Statistics is a research support unit that provides statistical and methodological advice for all those researchers who require help in any aspect of their research project. It provides the necessary assistance for researchers to achieve their research objectives.

#### Services provided

##### *Methodological consultancy:*

- Most appropriate study type and design.
- Calculation of sample size.

- Most appropriate statistical techniques for 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 person

José María Bellón Cano. Head of Unit  
E-mail: josemaria.bellon@salud.madrid.org  
Tel: (+34) 915 866 454

### 3. INNOVATION SUPPORT UNIT/OFICINA DE TRANSFERENCIA DE RESULTADOS DE INVESTIGACIÓN (OTRI [Office for the Transfer of Research Findings])

The Innovation Support Unit is a research support unit whose main activity is based on the transfer of the results of research in health care. Its mission is to pass on the benefits of research to society in general and to the patient in particular. The OTRI is part of the Innovation Support Unit of IISGM.

#### Services provided

##### *Ongoing update of the scientific production of IISGM:*

- Identification of the results generated by IISGM research groups.
- Evaluation of transfer potential of the results and their dissemination in companies, either directly or in collaboration with the nearest associated groups.
- Collaboration with public administration and other social and financial agents to define mechanisms and draw up procedures that favor the link between science and technology and business.



## RESEARCH SUPPORT SERVICES IN THE IISGM

### *Assistance to contact companies for R&D groups of the IISGM:*

- Advice provided to associated companies in the sector that require solutions to their technology needs and information on financial aid for R&D and R&D&I projects in Spain and Europe.

### *Support for IISGM scientific structure:*

- Preparation and processing of contracts, agreements, and donations.
- Advice for R&D groups on sourcing of funds for health research projects obtained through regional, national, and European calls.
- Publication of R&D&I calls.
- Advice on intellectual and industrial property.
- Publication of the FIBHGM/IISGM patent portfolio.

### **Contact person**

Luis J. Fernández Vera. Head of OTRI-FIBHGM/IISGM

E-mail: [lfernandez@fibhgm.org](mailto:lfernandez@fibhgm.org)

Isabel Ballesteros. Innovation Manager. OTRI-FIBHGM/IISGM

Email: [iballesteros@fibhgm.org](mailto:iballesteros@fibhgm.org)

Tel: (+34) 914 265 115

OTRI: (+34) 915 868 698

Fax: (+34) 914 008 156



## 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: 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 371 CO<sub>2</sub> incubator.
- Axiovert 40 fluorescence microscope.
- Sepax (Biosafe) for cell separation and refrigerated centrifuge 5810R (Eppendorf).
- Research support service – Organ Platform: Cell Therapy Unit

#### *Cell Production Unit:*

- BIO II-A and II-A-P laminar flow hoods (TELSTAR).
- Thermo 371 CO<sub>2</sub> 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 person**

M<sup>a</sup> Eugenia Fernández Santos. Scientific Director

E-mail: [mariuge@fibhgm.org](mailto: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 by co-culture of decellularized matrices.
- 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) Keratinocyte-derived iPS cells.
  - b) Keratinocyte-derived iPS cells.
  - c) Mesenchymal cells derived from keratinocyte-derived iPS cells.
- Academic and training platform.

### Contact person

M<sup>a</sup> Eugenia Fernández Santos. Scientific Director  
E-mail: mariuge@fibhgm.org

## 3. BIOLOGICAL SAMPLE STORAGE

### 3.1. Biobank

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

The Biobank was established as a biological sample bank (blood, plasma, DNA, tissue, and biopsy specimen) 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

The Biobank offers the following services:

- Management, preparation, publication, and follow-up of all the documentation necessary for deposition of samples in the Biobank (reception, processing, cryopreservation, and loan).
- Reception, processing, and cryopreservation of biological material from different cohorts (previous 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 the 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.
- Incubator.
- Thermostatic bath.
- Thermal cycler.
- Seven -80°C cyclers.
- Four nitrogen tanks.
- Telephonic alarms and computers.

#### Contact person

M<sup>a</sup> Angeles Muñoz. Scientific Director  
E-mail: 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 multi-center studies.



## ANIMAL MODEL PLATFORM

### 1. ANIMAL FACILITY

The mission of the animal facility of the Experimental Medicine and Surgery Unit 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 well-being.

#### Equipment/Facilities

The animal facility comprises both a housing area and a common area.

The housing area comprises the following sections:

- Two minipig rooms.
- Four rodent rooms.
- One rabbit room with 3 shelves and 18 cages.

The animal facility has the following equipment:

- Isolation cabinet for animals in quarantine with 8/16 boxes (Euro Aire-VAP 110).
- Ventilated rack with a HEPA-ULPA filter: 25 cages (Tecniplast).
- Racks for conventional cages and cages with an air filter.
- Rack for metabolic studies: capacity for 12 animals (Panlab).
- Compatible ventilated rack for housing of rats and mice: 30 boxes (Allentown).
- Animal transport cage (Allentown).
- Compatible ventilated rack for housing of rats and mice that can be used as an animal transport unit (ATU) (Allentown).
- Class II biological safety unit (Euro Aire).

#### Contact person

Fernando Asensio Rubio. Doctor in Veterinary Medicine. Head of the Animal Facility.  
E-mail: fernandoasensio.rubio@gmail.com  
Tel: 915 866 452/8102

## 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 insufflator (BCM).
- Pressure monitor (Jostra, Siemens).
- Closed general monitor for various signals (Datex; RGB).

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

#### Contact person

Juan F. Del Cañizo López. Head of Surgical Area.  
 E-mail: canizo@mce.hggm.es  
 Tel: 914 265 015 / 915 868 103

### 3. EXPERIMENTAL SMALL-ANIMAL IMAGING TECHNOLOGY

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

#### Equipment/Facilities

- a) The 7-tesla small-animal magnetic resonance imaging equipment has the following characteristics:
- Bruker 7/210 USR magnet (Ultra Shielded) with a principal 7-tesla magnetic field.
  - Open bore diameter of 210 mm, useful imaging diameter of 72 mm.
  - Four reception channels for parallel or multinuclear imaging.
  - Gradient unit fed to 500 V and 300 A, 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.

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.



## Contact person

Head of Unit: Manuel Desco Menéndez. Scientific Director.  
E-mail: desco@mce.hggm.es  
Tel: 914 265 015/ 915 868 103



## CELL PLATFORM

### 1. CELL CULTURE

The mission of this research support unit is to assist research studies requiring ex vivo experimentation with primary cell cultures from both human tissue (healthy or diseased) and experimental animals (rat, mouse, and pig) or with cell lines already generated in culture (immortalized cell lines, tumor cell lines).

#### Services provided

The technical staff ensure appropriate maintenance and functioning of the facilities according to current legislation for this type of facility and the principles of Good Laboratory Practice. Similarly, they support and supervise researchers from the center who require cell cultures for the performance of their research projects.

For example, experiments on protection against nephrotoxic drugs are performed by determining the extent of cell death (apoptosis). Experiments are also performed to measure transepithelial resistance in intestinal epithelial cells, stimulate these cells with proinflammatory molecules, and assess the effect of specific drugs on the inflammatory cascade. The growth of hepatocytes in response to different growth factors is also studied.

#### Equipment

- Flow cabinets (2) (Telstar BioSafety II).
- Cell incubators (2) (Heraeus).
- Microscopes:
  - Inverted (Leitz fluovert FS).
  - Slide (Nikon).
- Freezer (1) (Fagor).

## Contact person

Paloma Sánchez Mateos. Scientific Director  
E-mail: rsanchezma.hgugm@salud.madrid.org  
Tel: (+34) 915 868 624

## 2. FLOW CYTOMETRY AND CELL SORTER

The Flow Cytometry Unit provides assistance to research studies requiring the analysis of 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 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.
- 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 lasers (blue 488 nm, red 638 nm, and violet 405 nm), computer-controlled, with rapid start and stabilization system.
  - 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 (biorisk group 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.
  - Acquisition rate greater than 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 Nikin CFI60 optical system).

## Contact person

Laura Díaz Muñoz. Technical Director.  
 E-mail: lauradiaz@gmail.com  
 Tel: (+34) 915 866 454

## 3. CONFOCAL MICROSCOPY

The confocal microscopy service provides support to research studies requiring visualization of tissues, cells, and/or internal structures, including live cell dynamics.

### Services provided

#### *Fixed-sample microscopy:*

Visualization and acquisition of high-resolution images for the following:

- Cellular and subcellular markers and colocalization studies.
- Panoramic microscopy of cell cultures and histology slides.

- Samples of up to 1 mm in thickness: cell matrices or superficial organ layers.

#### *Live cell microscopy:*

- Visualization and acquisition of images of live cells, since the system offers environmental control of temperature and CO<sub>2</sub>.
- FRAP and FRET analysis using the 'Microlab' application.

## Technology

#### *Inverted confocal fluorescence microscope (LEICA-SP2):*

- Confocal module:
  - High-sensitivity multiband with AOBS
  - Independent and adjustable internal fluorescence detectors (PMT) and an internal detector for differential interference contrast (DIC).
  - Digitalization of images: 4096 x 4096 pixels, 12 bits per channel.
  - Laser sweeping system with AOTF: maximum 2000 lines/s. ROI scan under varying conditions for each region.
  - Lambda line-switching sweeping technology.
  - Multidimensional (7D) acquisition that can be regulated according to image area, height, time, rotation, wavelength, and intensity.

- Laser module:
  - Multiple laser configuration with 8 excitation lines:
    - o Ar/ArKr laser: 458, 476, 488, 496, and 514 nm.
    - o He-Ne lasers: 594 and 633 nm.
    - o Gre-Ne laser: 561 nm.
    - o Blue diode laser: 405 nm.

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#### *Inverted motorized microscope (DM IRE2 Fluo TCS):*

- Objective lenses:
  - HC PL-APO 10x/numerical aperture of 0.4.
  - HC PL-APO 20x/0.70 multi-immersion Lambda Blue.
  - HCX PL-APO 40x/1.25-0.75 oil immersion.
  - HCX PL-APO 63x/1.4-0.6 oil immersion.
  - PL-APO 63x/1.3 glycerol immersion.
- Fluorescence filters in the blue, green, red, and ultraviolet excitation bands.
- Motorized galvanometric stage with control in Z and XY.



## RESEARCH SUPPORT SERVICES IN THE IISGM

- Environmental control (temperature and CO<sub>2</sub>) for cell experiments and tissues ex vivo.

### *Computer equipment:*

- HP computer running Windows XP.
- Software: LCS version 15.37 and Microlab software license for FRAP and FRET.

### *Processing station:*

- HP computer running Windows XP.
- Software: LCS version 15.37 and Microlab software license for FRAP and FRET.

### **Contact person**

Rafael Samaniego García. Technical Director.  
E-mail: confocal@hggm.es  
Tel: (+34) 915 868 739



## MOLECULAR PLATFORM

### 1. SEQUENCING AND GENOTYPING

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

#### **Services provided**

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

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

- Analysis of single-nucleotide polymorphisms (SNP): ddNTP primer extension. Fluorochromes: dR6G, dTAMRA, dR110, and dROX.

Response time is 24-48 hours. Priorities can be set with the researcher.

##### *Genome studies and high-throughput genotyping:*

- Researcher needs analysis not envisaged: 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
- Additional equipment
- Computer:
  - Software: Data Manager v 3.0, Sequencing Analysis v 5.1, Variant Reporter v1.0, and GeneMapper v4.0.

#### **Contact person**

Milagros González Rivera. Scientific Director  
E-mail: mgonzalezrivera@salud.madrid.org



## 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.



# Innovation Support Unit

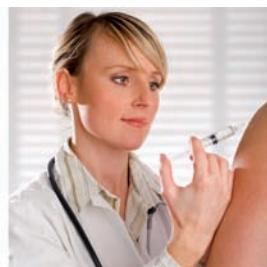
The objectives of the IISGM include the development of innovation within the organization by promoting the transfer of the scientific results obtained by its professionals to society, the health system, the scientific community, and the financial system.

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 (Experimental Medicine and Surgery Unit), 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 are as follows:

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



The Unit is composed of the following members:

- Coordinator: Manuel Desco Menéndez - desco@hggm.es
- Information and communication technology: Javier Pascau González-Garzón - jpascau@hggm.es
- Electronics: Juan José Vaquero López - juanjo@hggm.es
- Biomedical experimentation: María Luisa Soto Montenegro - marisa@hggm.es
- Surgery: Juan Francisco del Cañizo López - canizo@hggm.es
- Innovation managers:
  - Marco A. Rivas Fernández - mrivas@hggm.es
  - M<sup>a</sup> Isabel Ballesteros López- iballesteros@fibhgm.org
- OTRI: Luis J. Fernández Vera - ljfernandez@fibhgm.org
- Technical staff:
  - Mónica Abella García - mabella@hggm.es
  - Juan Felipe Pérez-Juste Abascal - jabascal@hggm.es
  - Verónica García Vázquez - vgarcia@hggm.es
  - Rigoberto Chil Pérez - rchil@hggm.es
  - Alejandro Sisniega Crespo - asisniega@hggm.es
  - José M<sup>a</sup> Mateos Pérez - jmmateos@hggm.es
  - Joost Janssen jjanssen@hggm.es

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 also promotes training activities, develops management procedures, and provides consultancy services.

The Committee is formed by the following members:

- Steering Committee:
  - Chair: Rafael Bañares (Director of the Institute).
  - Vice-Chair: Manuel Desco (Director of the Innovation Support Unit).
- Members at large:
  - Thierry Bardinet (Manager of the Foundation).
  - Francisco Fernández-Avilés Diaz (Head of Cardiology).
  - Emilio Bouza Santiago (Head of Microbiology and Infectious Diseases).
  - Pascual Balsalobre López (Hematology Service).

- Paloma Domingo García (Director of the Science Park of Universidad Carlos III).
- Attendees: Isabel Ballesteros López (Innovation Support Unit).
- Secretary: Luis J. Fernández Vera (Head of OTRI).

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

In this context, the intense activity of IISGM in the field of technology transfer can be seen in the number of patents and intellectual property registrations applied for and in the companies set up by professionals from the IISGM.

Finally, Manuel Desco is the coordinator of the network **Red de Innovación en Tecnologías Médicas y Sanitarias (Red ITEMAS)**, of which IISGM forms part. This network is promoted by Instituto de Salud Carlos III (ISCIII) as a component of its integral vision of innovation in its environment. Red ITEMAS aims to promote innovation in health care technology as a basic tool for making the National Health System more sustainable, by supporting the development of the necessary culture of innovation to facilitate integration of the scientific-industrial sector in the field of medical technology. The core of ITEMAS is currently composed of the innovation support units of the 14 large hospitals of the National Health System and more than 30 cooperating bodies.

Similarly, within the Subprograma de Apoyo a la Función Transferencia en Centros de Investigación (*Subprograma INNCIDE [Subprogram for Support of Transfer in Research Centers]*), the OTRI received funding for its project "**Fomento de actividades de transferencia de resultados de investigación de la Fundación para la Investigación Biomédica del Hospital Gregorio Marañón**" (PETRA-FIBHGM [*Promotion of transfer activity at the Biomedical Research Foundation of Hospital Gregorio Marañón*]) led by Dr. Rafael Bañares Cañizares as Principal Investigator. The project has a duration of 4 years.





# Projects obtained in 2012

	Convening body	Number
National and international public competitive projects	Instituto Carlos III	22
	Ministry of Health and Social Policy	2
	European Commission	2
National and international private competitive projects	Fundación MAPFRE	3
	Fundación Mutua Madrileña	4

PROJECTS ACTIVE DURING 2012		
	Active research projects funded through public competitive calls	Active research projects funded through private competitive calls
Year 2011	200	78
Year 2012	186	46

CLINICAL AND OBSERVATIONAL STUDIES 2012		
	Clinical trials signed	Observational studies signed
Year 2011	99	48
Year 2012	120	67



During the year 2012, a total of 471 clinical studies (clinical trials and observational studies) were active in our hospital, ie, a 21% increase in new studies in comparison with the previous year. More than 80% of the clinical trials started during the year 2012 were phase II and III studies. By research area, almost 40% of the clinical studies were led by the Translational Oncology Area.

ACTIVE CLINICAL STUDIES	
Year 2012	471

NEW CLINICAL STUDIES	
Year 2011	157
Year 2012	190

NEW CLINICAL STUDIES		
	Clinical trials	Observational studies
Year 2012	127	63

DISTRIBUTION OF CLINICAL TRIALS SIGNED BY PHASE		
	2011 (%)	2012 (%)
Phase I	2.1	3.2
Phase II	28.1	36.2
Phase III	53.1	45
Phase IV	16.6	11.8
Other (health care products, vaccines)	1.0	3.8

DISTRIBUTION OF CLINICAL STUDIES SIGNED IN 2012 National/International		
	No.	(%)
National	119	62.6
International	71	37.4

**DISTRIBUTION OF CLINICAL STUDIES SIGNED IN 2012 BY AREA**

	No.	(%)
Area 1	1	0.52
Area 2	14	7.36
Area 3	10	5.26
Area 4	15	7.89
Area 5	18	9.46
Area 6	74	38.32
Area 7	38	19.98
Nursing area	1	0.52
Other	19	9.99

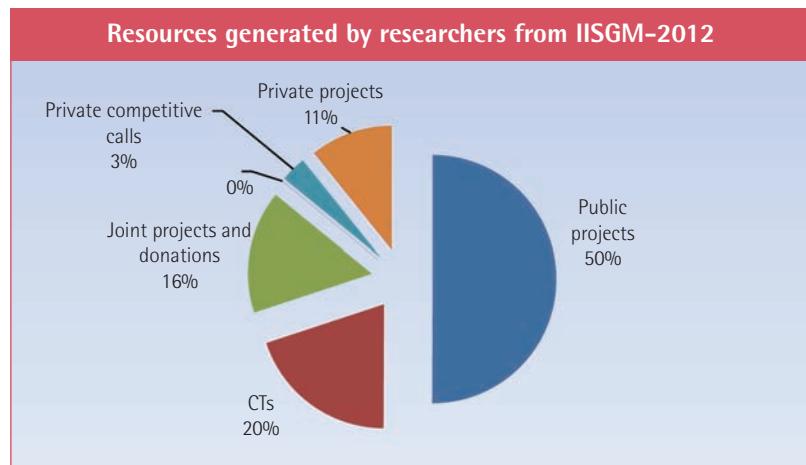




# Funding of the IISGM in 2012

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.



However, in the case of individual information provided by each group, 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 IISGM obtains its funding through the research activity of its groups. In 2012, these resources amounted to € 11,057,370, with 50% coming from public calls. The remaining 50% comes from private competitive calls (3%), private research projects (11%), joint projects and donations (16%), and clinical trials and observational studies (20%).

Compared with 2011, public funding has remained constant, whereas the relative importance of clinical trials and observational studies has grown considerably from 19% in 2011 to 30.7% at present, albeit at the expense of private funding activity.

The resources generated by investigators from the IISGM are managed by the Hospital Gregorio Marañón Biomedical Research Foundation, thus making it possible to generate more than € 614,000 of additional income, which has been earmarked for support and development of the groups' research activity.



# Scientific publications

The list presented below shows all the referenced publications in which investigators from the IISGM participated in during 2012. 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 have been taken into account, namely, original articles, reviews, editorials, proceedings papers. Other types of publication (eg, letters to the editor and case studies) have not been included.

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

Journal	IF	No.	Sum of IF	Q
Acta Cytologica	0.693	1	0.693	4
Actas Urológicas Españolas	1.144	2	2.288	4
Aids	6.407	6	38.442	1
Aids Research and Human Retroviruses	2.705	1	2.705	2
Alimentary Pharmacology & Therapeutics	4.548	1	4.548	1
American Heart Journal	4.497	1	4.497	1
American Journal of Nephrology	2.623	1	2.623	2
American Journal of Physiology-Gastrointestinal and Liver Physiology	3.649	1	3.649	1
American Journal of Reproductive Immunology	3.317	1	3.317	1
American Journal of Respiratory Cell and Molecular Biology	4.148	1	4.148	1
American Journal of Transplantation	6.192	2	12.384	1
Anales De Pediatría	0.867	6	5.202	4
Annals of Hematology	2.866	1	2.866	2

(Cont.)

Journal	IF	No.	Sum of IF	Q
Annals of Oncology	7.384	5	36.920	1
Annals of the Rheumatic Diseases	9.111	3	27.333	1
Antimicrobial Agents and Chemotherapy	4.565	9	41.085	1
Antiviral Research	3.925	1	3.925	1
Antiviral Therapy	3.073	1	3.073	2
Archives of Disease in Childhood	3.051	2	6.102	1
Archives of General Psychiatry	13.772	1	13.772	1
Archivos de Bronconeumología	1.372	7	9.604	4
Artificial Intelligence in Medicine	1.355	1	1.355	2
Atención Farmacéutica	0.125	3	0.375	4
Atención Primaria	0.957	1	0.957	3
Best Practice & Research Clinical Endocrinology & Metabolism	4.912	1	4.912	1
Biology of Blood and Marrow Transplantation	3.940	2	7.880	1
Biomaterials	7.604	1	7.604	1
Biomedical Signal Processing and Control	1.074	1	1.074	3
Bipolar Disorders	4.621	1	4.621	1
Blood	9.060	2	18.120	1
Blood Cancer Journal	1.400	1	1.400	4
BMC Cancer	3.333	1	3.333	2
BMC Medical Genomics	3.466	1	3.466	2
BMC Musculoskeletal Disorders	1.875	1	1.875	2
BMC Nephrology	1.644	1	1.644	3
BMC Psychiatry	2.233	1	2.233	2
BMC Public Health	2.076	2	4.152	2
Bone Marrow Transplantation	3.541	1	3.541	2
Breast Cancer Research and Treatment	4.469	2	8.938	1
British Journal of Dermatology	3.759	1	3.759	1
British Journal of Haematology	4.942	1	4.942	1
British Journal of Psychiatry	6.606	1	6.606	1

(Cont.)



## SCIENTIFIC PUBLICATIONS

Journal	IF	No.	Sum of IF	Q
Canadian Journal of Anesthesia-Journal Canadien d'Anesthésie	2.127	1	2.127	3
Cancer	5.201	3	15.603	1
Cancer Treatment Reviews	6.024	1	6.024	1
Cardiology in the Young	0.948	1	0.948	3
Cardiovascular Research	5.940	2	11.880	1
<b>Cell Metabolism</b>	<b>14.619</b>	<b>1</b>	<b>14.619</b>	<b>1</b>
Cell Stress & Chaperones	2.484	1	2.484	3
Cerebrovascular Diseases	2.814	2	5.628	2
Chest	5.854	2	11.708	1
<b>Circulation</b>	<b>15.202</b>	<b>2</b>	<b>30.404</b>	<b>1</b>
Circulation-Arrhythmia and Electrophysiology	5.947	1	5.947	1
Cirugía Española	0.871	5	4.355	3
Clinical and Translational Oncology	1.276	6	7.656	4
Clinical and Experimental Medicine	2.397	1	2.397	2
Clinical and Experimental Rheumatology	2.655	2	5.310	2
Clinical and Vaccine Immunology	2.598	1	2.598	2
Clinical Cancer Research	7.837	2	15.674	1
Clinical Drug Investigation	1.915	1	1.915	3
Clinical Gastroenterology and Hepatology	6.648	1	6.648	1
Clinical Infectious Diseases	9.374	4	37.496	1
Clinical Microbiology and Infection	4.578	8	36.624	1
Clinical Neurophysiology	3.144	1	3.144	2
Clinical Transplantation	1.634	3	4.902	2
Comprehensive Psychiatry	2.376	2	4.752	2
Computer Methods and Programs in Biomedicine	1.555	1	1.555	1
Criminal Behaviour and Mental Health	1.923	1	1.923	1
Critical Care	4.718	1	4.718	1
Critical Care Medicine	6.124	2	12.248	1
Critical Reviews in Oncology Hematology	4.637	1	4.637	1

(Cont.)

Journal	IF	No.	Sum of IF	Q
Current Biology	9.494	1	9.494	1
Current HIV Research	2.033	1	2.033	3
Current Medicinal Chemistry	4.070	5	20.350	1
Current Opinion in Infectious Diseases	4.870	1	4.870	1
Cytokine	2.518	1	2.518	3
Cytometry Part A	3.711	1	3.711	1
Dalton Transactions	3.806	2	7.612	1
Diagnostic Microbiology and Infectious Disease	2.260	1	2.260	3
Discovery Medicine	2.965	1	2.965	2
Ejso	2.614	2	5.228	1
Emergencias	2.578	1	2.578	1
Endocrinology	4.717	1	4.717	1
Endoscopy	5.735	1	5.735	1
Enfermedades Infecciosas y Microbiología Clínica	1.478	6	8.868	4
EuroIntervention	3.173	1	3.173	2
Europace	2.765	1	2.765	2
European Child & Adolescent Psychiatry	3.699	1	3.699	1
<b>European Heart Journal</b>	<b>14.097</b>	<b>3</b>	<b>42.291</b>	<b>1</b>
European Journal of Cancer	5.061	2	10.122	1
European Journal of Cardio-Thoracic Surgery	2.674	1	2.674	1
European Journal of Clinical Microbiology & Infectious Diseases	3.024	3	9.072	2
European Journal of Clinical Pharmacology	2.741	1	2.741	2
European Journal of Dermatology	1.756	1	1.756	2
European Journal of Gastroenterology & Hepatology	1.915	2	3.830	3
European Journal of Heart Failure	5.247	1	5.247	1
European Journal of Integrative Medicine	0.559	1	0.559	4
European Journal of Internal Medicine	2.049	2	4.098	2
European Journal of Medicinal Chemistry	3.499	1	3.499	1
European Journal of Neurology	4.162	2	8.324	1
European Journal of Obstetrics & Gynecology and Reproductive Biology	1.843	2	3.686	2

(Cont.)

<b>Journal</b>	<b>IF</b>	<b>No.</b>	<b>Sum of IF</b>	<b>Q</b>
European Journal of Ophthalmology	0.912	1	0.912	4
European Journal of Pediatrics	1.907	1	1.907	2
European Neuropsychopharmacology	4.595	1	4.595	1
European Psychiatry	3.285	2	6.570	1
European Respiratory Journal	6.355	2	12.710	1
<b>European Urology</b>	<b>10.476</b>	<b>1</b>	<b>10.476</b>	<b>1</b>
Experimental Physiology	2.790	1	2.790	2
Expert Opinion on Drug Safety	2.621	1	2.621	2
Family Practice	1.828	1	1.828	1
Future Oncology	3.202	1	3.202	2
Gaceta Sanitaria	1.116	1	1.116	3
Gastroenterología y Hepatología	0.567	2	1.134	4
<b>Gastroenterology</b>	<b>12.821</b>	<b>1</b>	<b>12.821</b>	<b>1</b>
Gene	2.196	1	2.196	3
Genes and Immunity	3.675	1	3.675	2
Health and Quality of Life Outcomes	2.272	1	2.272	2
Heart	5.014	1	5.014	1
<b>Hepatology</b>	<b>12.003</b>	<b>1</b>	<b>12.003</b>	<b>1</b>
HIV Medicine	3.155	1	3.155	2
Human Molecular Genetics	7.692	1	7.692	1
Human Pathology	2.843	1	2.843	2
Ieee Transactions on Nuclear Science	1.219	1	1.219	1
Implant Dentistry	1.404	1	1.404	2
Inflammatory Bowel Diseases	5.119	1	5.119	1
Injury-International Journal of the Care of the Injured	1.931	1	1.931	1
International Journal of Antimicrobial Agents	4.415	1	4.415	1
International Journal of Artificial Organs	1.759	1	1.759	2
International Journal of Clinical Pharmacy	0.859	1	0.859	4
International Journal of Medical Informatics	2.061	1	2.061	1
International Journal of Molecular Sciences	2.464	1	2.464	2

(Cont.)

<b>Journal</b>	<b>IF</b>	<b>No.</b>	<b>Sum of IF</b>	<b>Q</b>
International Journal of Radiation Oncology Biology Physics	4.524	1	4.524	1
International Journal of Stroke	2.748	2	5.496	2
International Journal of Surgical Pathology	0.756	1	0.756	4
International Journal of Technology Assessment in Health Care	1.551	1	1.551	3
International Review of Psychiatry	1.608	1	1.608	3
Jaids-Journal of Acquired Immune Deficiency Syndromes	4.653	3	13.959	1
Journal of Agricultural and Food Chemistry	2.906	1	2.906	1
Journal of Alzheimer's Disease	4.174	1	4.174	2
Journal of Analytical Atomic Spectrometry	3.155	1	3.155	1
Journal of Antimicrobial Chemotherapy	5.338	4	21.352	1
Journal of Autism and Developmental Disorders	3.723	2	7.446	1
Journal of Biomedical Nanotechnology	5.256	1	5.256	1
Journal of Biomedical Optics	2.881	1	2.881	1
Journal of Cardiovascular Electrophysiology	3.475	2	6.950	2
Journal of Cardiovascular Translational Research	3.062	1	3.062	2
Journal of Chemotherapy	0.825	1	0.825	4
Journal of Child Psychology and Psychiatry	5.422	1	5.422	1
Journal of Clinical Endocrinology & Metabolism	6.430	1	6.430	1
Journal of Clinical Immunology	3.382	1	3.382	2
Journal of Clinical Microbiology	4.068	9	36.612	1
Journal of Clinical Neuroscience	1.253	1	1.253	4
Journal of Clinical Pharmacy and Therapeutics	2.104	1	2.104	3
Journal of Controlled Release	7.633	2	15.266	1
Journal of Craniofacial Surgery	0.686	1	0.686	4
Journal of Drug Delivery Science and Technology	1.088	1	1.088	4
Journal of Hospital Infection	2.855	2	5.710	2
Journal of Immunology	5.520	2	11.040	1
Journal of Infection	4.073	3	12.219	1
Journal of Infectious Diseases	5.848	1	5.848	1

(Cont.)



## SCIENTIFIC PUBLICATIONS

Journal	IF	No.	Sum of IF	Q
Journal of Investigational Allergology and Clinical Immunology	1.887	5	9.435	3
Journal of Leukocyte Biology	4.568	1	4.568	1
Journal of Maternal-Fetal & Neonatal Medicine	1.518	1	1.518	3
Journal of Nephrology	2.015	1	2.015	2
Journal of Neuroscience Research	2.974	1	2.974	2
Journal of Nuclear Medicine	5.774	1	5.774	1
Journal of Pediatric Orthopaedics	1.163	1	1.163	3
Journal of Pharmacy & Pharmaceutical Sciences	2.198	2	4.396	2
Journal of Proteomics	4.088	1	4.088	1
Journal of Psychiatric Research	4.066	1	4.066	1
Journal of Rheumatology	3.258	1	3.258	2
Journal of Sleep Research	3.043	1	3.043	2
Journal of the American Medical Informatics Association	3.571	1	3.571	1
Journal of the American Society of Nephrology	8.987	1	8.987	1
Journal of the International Neuropsychological Society	2.697	1	2.697	2
Journal of the Neurological Sciences	2.243	2	4.486	2
Journal of Ultrasound in Medicine	1.402	3	4.206	2
Journal of Vascular Research	2.434	1	2.434	2
Journal of Virology	5.076	1	5.076	1
Journals of Gerontology Series A: Biological Sciences and Medical Sciences	4.314	1	4.314	1
Kidney International	7.916	1	7.916	1
Laboratory Animals	1.257	1	1.257	2
<b>Lancet Oncology</b>	<b>25.117</b>	<b>1</b>	<b>25.117</b>	<b>1</b>
<b>Leukemia</b>	<b>10.164</b>	<b>1</b>	<b>10.164</b>	<b>1</b>
Leukemia & Lymphoma	2.301	1	2.301	3
Leukemia Research	2.764	1	2.764	2
Liver Transplantation	3.944	3	11.832	1
Medicina Clínica	1.399	9	12.591	2

(Cont.)

Journal	IF	No.	Sum of IF	Q
Medicina Intensiva	1.323	2	2.646	4
Medicina Oral. Patología Oral y Cirugía Bucal	1.017	1	1.017	3
Medicina Paliativa	0.326	1	0.326	4
Medicine	4.233	2	8.466	1
Microbial Drug Resistance	2.364	1	2.364	2
Minerva Anestesiologica	2.818	1	2.818	2
Molecular Biology of the Cell	4.604	1	4.604	2
Molecular Imaging and Biology	3.095	1	3.095	1
Molecular Immunology	2.645	1	2.645	3
Molecular Pharmaceutics	4.570	1	4.570	1
<b>Nature Neuroscience</b>	<b>15.251</b>	<b>1</b>	<b>15.251</b>	<b>1</b>
Nefrologia	1.274	4	5.096	4
Nephrology Dialysis Transplantation	3.371	4	13.484	1
Neurochemistry International	2.659	2	5.318	3
Neurocirugia	0.343	2	0.686	4
Neurología	1.322	2	2.644	3
Neurology	8.249	1	8.249	1
New Journal of Chemistry	2.966	2	5.932	2
Nutricion Hospitalaria	1.305	11	14.355	3
Oncogene	7.357	1	7.357	1
Oncologist	4.095	2	8.190	2
Oncology	2.165	1	2.165	3
Oncology Letters	0.237	1	0.237	4
Oral Oncology	2.695	2	5.390	1
Pain Practice	2.605	1	2.605	2
Pediatric Allergy and Immunology	3.376	1	3.376	1
Pediatric Anesthesia	2.436	1	2.436	1
Pediatric Hematology and Oncology	0.895	1	0.895	3
Pediatric Infectious Disease Journal	3.569	7	24.983	1
Pediatric Nephrology	2.939	1	2.939	1

(Cont.)

Journal	IF	No.	Sum of IF	Q
Pediatric Research	2.673	1	2.673	1
Pharmacoepidemiology and Drug Safety	2.897	1	2.897	2
Pharmacogenomics	3.857	1	3.857	1
Pharmacological Research	4.346	1	4.346	1
Pharmacology	1.603	1	1.603	3
Physics in Medicine and Biology	2.701	3	8.103	1
Pigment Cell & Melanoma Research	5.839	1	5.839	1
Plos One	3.730	12	44.760	1
Postgraduate Medical Journal	1.608	1	1.608	2
Radiation Protection Dosimetry	0.909	1	0.909	2
Renal Failure	0.941	1	0.941	4
Reproductive Toxicology	3.141	1	3.141	2
Respiratory Care	2.030	1	2.030	3
Respiratory Medicine	2.585	2	5.170	2
Resuscitation	4.104	4	16.416	1
Reviews in Medical Virology	7.615	1	7.615	1
Revista de Neurología	1.179	4	4.716	4
Revista de Psiquiatría y Salud Mental	0.667	3	2.001	4
Revista Española de Cardiología	3.204	9	28.836	2
Revista Española de Quimioterapia	0.836	3	2.508	4
Rheumatology	4.212	3	12.636	1
Scandinavian Journal of Gastroenterology	2.156	1	2.156	3
Schizophrenia Bulletin	8.486	1	8.486	1
Schizophrenia Research	4.590	2	9.180	1
Signal Processing	1.851	1	1.851	1
Substance Use & Misuse	1.109	1	1.109	3
Supportive Care in Cancer	2.649	1	2.649	1
Surgical Oncology Clinics of North America	1.222	1	1.222	3
Thoracic and Cardiovascular Surgeon	0.925	1	0.925	3
Thrombosis and Haemostasis	6.094	1	6.094	1

(Cont.)

Journal	IF	No.	Sum of IF	Q
Tissue Antigens	2.934	1	2.934	1
Transfusion and Apheresis Science	1.225	1	1.225	4
Transplant Infectious Disease	1.984	3	5.952	3
Transplant International	3.155	1	3.155	1
Transplantation Proceedings	0.952	4	3.808	3
Tuberculosis	3.033	2	6.066	2
Tumori	0.922	1	0.922	4
Urologia Internationalis	1.065	1	1.065	4
Urologic Oncology - Seminars and Original Investigations	3.647	1	3.647	1
Virus Research	2.745	1	2.745	2
World Journal of Biological Psychiatry	3.571	1	3.571	1
<b>General total</b>		<b>462</b>	<b>1645.6</b>	

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



# Clinical practice guidelines

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

The place of the IISGM in the field of clinical research is clear. The Institute has the objective of ensuring the full commitment of its researchers in the development of clinical research.

The clinical practice guidelines in which researchers from the IISGM have participated are set out in detail below.



CLINICAL PRACTICE GUIDELINES 2012			
Authors	Title	Publication	Area
Grupo de trabajo de la GPC sobre Trastorno Bipolar (Miembros del grupo participantes: Celso Arango López y Carmen Moreno Ruiz)	Guía de práctica clínica sobre trastorno bipolar.	Universidad de Alcalá de Henares y Asociación Española de Neuropsiquiatría (eds.)	3
Vivancos J, Giló F, Frutos R, Maestre J, García-Pastor A, Quintana F, Roda JM, Ximénez-Carrillo A; por el Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la SEN.; Díez Tejedor E, Fuentes B, Alonso de Leciñana M, Álvarez-Sabín J, Arenillas J, Calleja S, Casado I, Castellanos M, Castillo J, Dávalos A, Díaz-Otero F, Egido JA, Fernández JC, Freijo M, Gállego J, Gil-Núñez A, Irimia P, Lago A, Masjuan J, Martí-Fàbregas J, Martínez-Sánchez P, Martínez-Vila E, Molina C, Morales A, Nombela F, Purroy F, Ribó M, Rodríguez-Yáñez M, Roquer J, Rubio F, Segura T, Serena J, Simal P, Tejada J.	Clinical management guidelines for subarachnoid haemorrhage. Diagnosis and treatment.	Neurología. 2012 Oct 6. doi:pii: S0213-4853(12)00249-6. 10.1016/j.nrl.2012.07.009	2
Alonso de Leciñana M, Egido JA, Casado I, Ribó M, Dávalos A, Masjuan J, Caniego JL, Martínez Vila E, Díez Tejedor E; por el Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la SEN.; Fuentes Secretaría B, Álvarez-Sabín J, Arenillas J, Calleja S, Castellanos M, Castillo J, Díaz-Otero F, López-Fernández JC, Freijo M, Gállego J, García-Pastor A, Gil-Núñez A, Giló F, Irimia P, Lago A, Maestre J,	Guidelines for the treatment of acute ischaemic stroke.	Neurología. 2011 Dec 6	2

(Cont.)



CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area
(Cont.) Martí-Fábregas J, Martínez-Sánchez P, Molina C, Morales A, Nombela F, Purroy F, Rodríguez-Yáñez M, Roquer J, Rubio F, Segura T, Serena J, Simal P, Tejada J, Vivancos J	Guidelines for the treatment of acute ischaemic stroke.	Neurología. 2011 Dec 6	2
Fuentes B, Gállego J, Gil-Nuñez A, Morales A, Purroy F, Roquer J, Segura T, Tejada J, Lago A, Díez-Tejedor E, Alonso de Leciñana M, Álvarez-Sabín J, Arenillas J, Calleja S, Casado I, Castellanos M, Castillo J, Dávalos A, Díaz-Otero F, Egido JA, López-Fernández JC, Freijo M, García Pastor A, Giló F, Irimia P, Maestre J, Masjuan J, Martí-Fábregas J, Martínez-Sánchez P, Martínez-Vila E, Molina C, Nombela F, Ribó M, Rodríguez-Yáñez M, Rubio F, Serena J, Simal P, Vivancos J; Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la SEN.	Guidelines for the preventive treatment of ischaemic stroke and TIA (I). Update on risk factors and life style.	Neurología. 2012 Nov-Dec;27(9):560-74	2
Fuentes B, Gállego J, Gil-Nuñez A, Morales A, Purroy F, Roquer J, Segura T, Tejada J, Lago A, Díez-Tejedor E; por el Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la SEN.; Alonso de Leciñana M, Álvarez-Sabín J, Arenillas J, Calleja S, Casado I, Castellanos M, Castillo J, Dávalos A, Díaz-Otero F, Egido JA, López-Fernández JC, Freijo M, García Pastor A, Giló F, Irimia P, Maestre J, Masjuan J, Martí-Fábregas J, Martínez-Sánchez P, Martínez-Vila E, Molina C, Nombela F, Ribó M, Rodríguez-Yáñez M, Rubio F, Serena J, Simal P, Vivancos J	Guidelines for the preventive treatment of ischaemic stroke and TIA (II). Recommendations according to aetiological sub-type.	Neurología. 2011 Sep 19	2

(Cont.)

CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area
Steg PG, James SK, Atar D, Badano LP, Blömstrom-Lundqvist C, Borger MA, Di Mario C, Dickstein K, Drocq G, Fernández-Aviles F, Gershlick AH, Giannuzzi P, Halvorsen S, Huber K, Juni P, Kastrati A, Knutti J, Lenzen MJ, Mahaffey KW, Valgimigli M, van 't Hof A, Widimsky P, Zahger D	ESC guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation.	Eur Heart J. 2012 Oct;33(20):2569-619	2
Hamm CW, Bassand JP, Agewall S, Bax J, Boersma E, Bueno H, Caso P, Dudek D, Gielen S, Huber K, Ohman M, Petrie MC, Sonntag F, Uva MS, Storey RF, Wijns W, Zahger D	ESC guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation. The Task Force for the management of acute coronary syndromes (ACS) in patients presenting without persistent ST-segment elevation of the European Society of Cardiology (ESC).	G Ital Cardiol (Rome). 2012 Mar;13(3):171-228	2
Fernández-Ortiz A, Pan M, Alfonso F, Arós F, Barrabés JA, Bodí V, Cequiera A, García-Moll X, Jiménez-Candil J, López-Palop R, Peña C, Worner F; Comité de Guías de Práctica Clínica de SEC, Alonso Gómez AM, Anguita M, Cequier A, Comín J, Fernández-Ortiz A, Pan M, Worner F, Alonso J, Bardaji A, Barón-Esquivias G, Bover R, Angel-Ferrer J, Goicoealde J, Gómez-Doblas JJ, Íñiguez A, Mainar V, Marín F, Pedreira M, Roldán I, Sabaté M, Sánchez PL, Sanchis J	Comments on the ESC guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation. A report of the Task Force of the Clinical Practice Guidelines Committee of the Spanish Society of Cardiology.	Rev Esp Cardiol (Engl Ed). 2012 Feb;65(2):125-30	2

(Cont.)



# CLINICAL PRACTICE GUIDELINES

CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area
Anguita M, Worner F, Domenech P, Marín F, Ortigosa J, Pérez-Villacastín J, Fernández-Ortíz A, Alonso A, Cequier A, Comin J, Heras M, Pan M, Alzueta J, Arenal A, Barón G, Borrás X, Bover R, de la Figuera M, Escobar C, Fiol M, Herreros B, Merino JL, Mont L, Murga N, Pedrote A, Quesada A, Ripoll T, Rodríguez J, Ruiz M, Ruiz R	New evidence, new controversies: a critical review of the European Society of Cardiology 2010 clinical practice guidelines on atrial fibrillation.	Rev Esp Cardiol (Engl Ed). 2012 Jan;65(1):7-13	2
Mª Begoña Quintana Villamandos	Guía Plasmalyte.		7
Miravittles M, Soler-Cataluña JJ, Calle M, Molina J, Almagro P, Quintano JA, Riesco JA, Trigueros JA, Piñera P, Simón A, López-Campos JL, Soriano JB, Ancochea J	Guía de Práctica Clínica para el Diagnóstico y Tratamiento de Pacientes con Enfermedad Pulmonar Obstructiva Crónica (EPOC) - Guía Española de la EPOC (GesEPOC).	Arch Bronconeumol. 2012 Jul;48(7):247-57. PMID:22561012	7
Soler-Cataluña JJ, Cosío B, Izquierdo JL, López-Campos JL, Marín JM, Agüero R, Balóira A, Carrizo S, Esteban C, Galdriz JB, González MC, Miravittles M, Monsó E, Montemayor T, Morera J, Ortega F, Pece-Barba G, Puente L, Rodríguez JM, Sala E, Sauleda J, Soriano JB, Viejo JL	Consensus Document on the Mixed Asthma-COPD Phenotype in COPD.	Arch Bronconeumol. 2012 Sep;48(9):331-7. PMID:22341911	7
Morosini MI, Cercenado E, Ardanuy C, Torres C	Phenotypic detection of resistance mechanisms in gram-positive bacteria.	Enferm Infect Microbiol Clin	4
Munoz P, Fernández NS, Farinas MC	Epidemiology and risk factors of infections after solid organ transplantation.	Enferm Infect Microbiol Clin	4

(Cont.)

CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area
Rodríguez-Bano J, Pano-Pardo JR, Álvarez-Rocha L, Asensio A, Calbo E, Cercenado E, Cisneros JM, Cobo J, Delgado O, Garnacho-Montero J, Grau S, Horcajada JP, Hornero A, Murillas-Angotij J, Oliver A, Padilla B, Pasquau J, Pujol M, Ruiz-Garbajosa P, San Juan R, Sierra R	Programas de optimización de uso de antimicrobianos (PROA) en hospitales españoles: documento de consenso GEIH-SEIMC, SEFH y SEMPSPH.	Enferm Infect Microbiol Clin	4
Bouza E, Burillo A, Lebras J, Peigne-Lafeuille H, Poyert C	Services around the clock in microbiology.	European Society of Clinical Microbiology and Infectious Diseases. (ESCMID)	4
Bouza E, Burillo A, de Briel D	Catheter-related infections.	European Society of Clinical Microbiology and Infectious Diseases. (ESCMID)	4
Soledad Alonso, Eva Arranz, Celina Benavente, Carmen Burgaleta, María Calbacho, Marta Callejas, Teresa Cedena, Patricia Font, Valle Gómez García de Soria, José Ángel Hernández-Rivas, Javier Menárguez, Asunción Mora, Carolina Muñoz, Santiago Osorio, Raquel de Paz, Jaime Pérez de Oteyza, María José Requena, Ángeles Sanz, Carlos Soto, Lucía Villalón, Ana Villegas. (Asociación Madrileña de Hematología y Hemoterapia)	Guía Madrileña de Síndromes Mielodisplásicos.	ISBN: 978-84-8473-974-6. Depósito Legal: M-42736-2011. © 2012 Egon	6
Bosch J, Abraldes JG, Albillos A, Aracil C, Banares R, Berzigotti A, Calleja JL, de la Pena J, Escorsell A, García-Pagán JC, Genesca J, Hernández-Guerra M, Ripoll C, Planas R, Villanueva C	Portal hypertension: Recommendations for evaluation and treatment Consensus document sponsored by the Spanish Association for the Study of the Liver (AEEH) and the Biomedical Research Network Center for Liver and Digestive Diseases (CIBERehd).	Gastroenterología y Hepatología; 2012, 6(35): 421-450	7

(Cont.)



CLINICAL PRACTICE GUIDELINES 2012 (Cont.)			
Authors	Title	Publication	Area
Aisa AP, Nuevo J, Morante AAL, Galilea AG, de Argila CM, Arreal DA, Feu F, Celaya FB, Gisbert JP, Roldán FP, Sorribes JMG, Azorín JMP, Romero MP, Fernández MC, Rodríguez MVC, Montañes SG, Calvet X, Sáez LR, Huguet MM, Méndez YG, Hernández AS, Hernández ES	Current management of nonvariceal upper gastrointestinal bleeding in Spain.	Gastroenterología y Hepatología; 2012, 7(35): 468-475	7



# Innovation, transfer and application

Innovation is undoubtedly a key element in the development of research activity, especially in the health care sector. As set out above in the section on the Innovation Support Unit of IISGM, the Institute has made a full commitment to this activity; therefore, its structure is designed to facilitate the work of researchers from the original innovative idea to its ultimate development. The current innovation portfolio of the IISGM is presented below. The information was obtained from the OTRI, which is part of the structure of the Innovation Support Unit.

PATENTS				
Name	Reference number	Owner	Inventor	IISGM group
Matriz artificial de gel de fibrina endotelizada superproductora de factores proangiogénicos	P200501182 PCT/ES2006/070059	FIBHGM	José María Lasso Vázquez, Paola Nava Pérez	Regenerative medicine in plastic surgery
Aparato de Tomografía Multimodalidad	P200502612 PCT/ES2006/070160 US2009213983	FIBHGM SUINSA MEDICAL SYSTEMS, S.A.	Juan José Vaquero López, Manuel Desco Menéndez	Advanced technology applications and human health
Método y Aparato de Hemodiafiltración	PCT/ES2007/070081 EP2140889 US2010187176	FIBHGM	Juan Francisco del Cañizo López	Artificial circulation laboratory
Incubadora para Imagen con Radiación No Ionizante	PCT/ES2007/070214 EP2221035 US2011125010	FIBHGM	Juan José Vaquero, Manuel Desco Menéndez, Manuel Sánchez Luna	Advanced technology applications and human health. Neonatal and developmental pathophysiology

(Cont.)

PATENTS (Cont.)				
Name	Reference number	Owner	Inventor	IISGM group
Uso de la Cilastatina para reducir la nefrotoxicidad en distintos compuestos	EP2143429 US2011165264	FIBHGM	Alberto Tejedor Jorge, Alberto Lázaro Fernández, Sonia Camaña Páez, Ana María Torres Redondo, José Antonio Lázaro Manero, Manuela Castilla Barba, María del Carmen de Lucas Collantes	Inflammation and vascular damage in chronic kidney disease, dialysis, and kidney transplant. Renal pathophysiology
Procedimiento mejorado para evaluar el riesgo cardiovascular	P200901923	FIBHGM	María Concepción Guisasola Zulueta, Elena Dulín Íñiguez	Biology of inflammation
Aparato de adquisición de datos para tomografía computerizada por emisión de radiación gamma y su funcionamiento	P200702836	FIBHGM - UPM	Juan José Vaquero López, Manuel Desco Menéndez, Pedro Guerra Gutiérrez, Andrés Santos y Lleo, Giancarlo Sportelli	Advanced technology applications and human health
Procedimiento y Dispositivo para la Detección y Discriminación de Eventos Válidos en Detectores de Radiación Gamma	P2011290029 PCT/ES2009/070456	FIBHGM	Eduardo Lage Negro, Gustavo Tapias Gil, José Antonio Sánchez González, Javier del Pino Vaquero, Juan José Vaquero López, Manuel Desco Menéndez	Advanced technology applications and human health
Método para visualizar la información contenida en imágenes tridimensionales del corazón	P201000363 PCT/ES2011/000069 US20130069945	FIBHGM - UPM	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 Guiuernau	Natural history of heart disease. Advanced technology applications and human health. Neonatal and developmental pathophysiology

(Cont.)

PATENTS (Cont.)				
Name	Reference number	Owner	Inventor	IISGM group
Dendrimeros carboxilos cationicos obtenidos mediante "click chemistry", su preparacion y sus usos	P201130804	FIBHGM-UAH, Instituto Cientifico y Tecnologico de Navarra, S.A.	Francisco Javier de la Mata, Rafael Gómez Ramírez, Eduardo Arnaiz Garrido, Sandra García Gallego, José Luis Copa Patiño, Juan Soliveri de Carranza, José Manuel Hernández Ros, M Ángeles Muñoz-Fernández, Verónica Briz Sebastián, M Jesús Serramia Lobera, Conchita Tros de llarduya	Molecular biology of HIV
Método de Diagnóstico de Insuficiencia Renal	P201131506	FIBHGM, UAH, Fundación PUIGVERT	Ricardo Bosch Martínez, Arancha Ortega de Mues, Jordi Bover San Juan, Alberto Lázaro Fernández, Alberto Tejedor Jorge	Inflammation and vascular damage in chronic kidney disease, dialysis, and kidney transplant. Renal pathophysiology
Dispositivo de Asistencia Ventricular	P201230211	FIBHGM	Juan Francisco del Cañizo López, Manuel Ruiz Hernández	Artificial circulation laboratory
Sistema de planificación para radioterapia intraoperatoria y procedimiento para llevar a cabo dicha planificación	PCT/ES2008/000240	GMV Aerospace and Defense S.A. Desarrollada por la FIBHGM	Manuel Desco Menéndez, Javier Pascau González-Garzón, Felipe Calvo Manuel, Juan José Vaquero López, Manlio Fabio Valdivieso Cacique, Carlos Guillermo Illana Alejandro	Advanced technology applications and human health. Oncologic radiotherapy

(Cont.)

PATENTS (Cont.)				
Name	Reference number	Owner	Inventor	IISGM group
Dendrimeros carbosilanos con un núcleo polifenólico y su uso como antivirales	P201030450 CN102858851 AU2011217142 WO2011101520	UAH - HGUGM	Francisco Javier de la Mata, Rafael Gómez Ramírez, Javier Sánchez-Nieves Fernández, Paula Ortega López, M Ángeles Muñoz-Fernández, Louis Chonco Jiménez, M Jesús Serramia Lobera	Molecular biology of HIV
Dendrimeros carbosilanos y su uso como antivirales	P201030233 WO2011101520	UAH - HGUGM	Francisco Javier de la Mata, Rafael Gómez Ramírez, M Ángeles Muñoz-Fernández, D. Javier Sánchez-Nieves Fernández, D. Beatriz Rasines Moreno, D. Louis Chonco Jiménez, D. Eduardo Arnaiz Garrido, M Jesús Serramia Lobera	Molecular biology of HIV
Compuestos dendríticos carbosilanos homo y hetero-funcionalizados	P201231187	UAH - HGUGM	Francisco Javier de la Mata, D. Rafael Gómez Ramírez, M Ángeles Muñoz-Fernández, D. Javier Fernández Sánchez-Nieves, D. José Luis Jiménez Fuentes, D. Silvia Fernández Soriano, D. Marta Galán Herranz, D. Raquel Lorente Rodríguez, D. Elena Fuentes Paniagua, D. Javier Sánchez Rodríguez, D. Cornelia Peña González, D. M Jesús Serramia Lobera, Rosa Reguera	Molecular biology of HIV

(Cont.)



PATENTS (Cont.)				
Name	Reference number	Owner	Inventor	IISGM group
Dispositivo, sistema y procedimiento simulador para entrenamiento de profesionales sanitarios en el manejo de pacientes críticamente enfermos que precisen procedimientos de depuración extrarrenal venenosa continua	P201330340	FIBHGM - SERGAS	Jesús López-Herce Cid, Santiago Mencia Bartolomé, Antonio Rodríguez Núñez	Diseases of the critically ill child
Simulador de sutura uterina de compresión para hemorragia puerperal	U201230998	FIBHGM	Óscar Martínez Pérez, Ignacio Cueto Hernández, Blanca González Garzón de Zumárraga	Obstetrics and gynecology
Simulador de utero para emergencias obstétrica	P201330161	FIBHGM	Óscar Martínez Pérez, Ignacio Cueto Hernández, Blanca Gonzalez Garzón de Zumarraga, María del Mar García Rezola, Ana Isabel Casas García	Obstetrics and gynecology

(Cont.)

PATENTS (Cont.)				
Name	Reference number	Owner	Inventor	IISGM group
Dispositivo para bombeo de sangre formado por una cámara rígida, una membrana tubular elástica interior y válvulas en los extremos de entrada y salida, con una consola de comando que controla la aspiración de la sangre por aplicación de vacío alrededor de la membrana elástica y su impulsión conectando la cámara con la atmósfera	P9501070	SERMAS - HGUGM	Juan Francisco del Cañizo López	Artificial circulation laboratory

INTELLECTUAL PROPERTY REGISTRATIONS				
Name	Reference	Owner	Authors	IISGM group
MANGOOSE	Registration No. 02/2010/4412	FIBHGM	Javier Pascau González-Garzón, Manuel Desco Menéndez, Mónica Abellá García, Alejandro Sisniega Crespo, Juan José Vaquero López	Advanced technology applications and human health
CUSQ: CARDIO US/Quantification	Number: M-003351/2008	FIBHGM - UPM	Manuel Desco Menéndez, María Jesús Ledesma Carbayo, Andrés Santos Lleó	Advanced technology applications and human health

(Cont.)



INTELLECTUAL PROPERTY REGISTRATIONS (Cont.)				
Name	Reference	Owner	Authors	IISGM group
FIRST (Fast Iterative Reconstruction Software for Tomography)	Registered	FIBHGM - UCM	José Manuel Udías Moinelo, Joaquín López Herraiz, Samuel España Palomares, Manuel Desco Menéndez, Juan José Vaquero López	Advanced technology applications and human health
QuTIS (Quantification Tool for in vivo Spectroscopy)	Registered	FIBHGM	Manuel Desco Menéndez, Juan José Vaquero	Advanced technology applications and human health
Herramienta informática para la Gestión Electrónica de la Agenda de Transplante Hematopoyético "gesTHrónica"	Number: M-006478/2004 Registration number: 16/2008/7735	FIBHGM	Pascual Balsalobre, Ismael Buño, José Luis Díez	Genetics and clinical features of hematologic malignancy and hematopoietic cell transplant
MMWKS	Registered	FIBHGM	Manuel Desco Menéndez, Juan José Vaquero	Advanced technology applications and human health
Estudio de impacto clínico de un plan docente de formación continuada sobre las infecciones asociadas a dispositivos intravasculares	Application No.: M-003545/2013	FIBHGM	Emilio Bouza, María Guembe, Patricia Muñoz, M. Eugenia González, M. Jesús Pérez, M. del Mar San Segundo	Infectious diseases

TECHNOLOGY COMPANIES
Ambiox Biotech, S.L.
<ul style="list-style-type: none"> <li>Description: Ambiox Biotech is characterized by its entrepreneurial spirit, capacity for innovation, and social commitment. Its mission is to apply innovative developments in biomedical nanotechnology, 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.</li> <li>The company was created as a spin-off at Universidad de Alcalá de Henares. Its team includes M. Ángeles Muñoz, Director of the HIV Molecular Biology Group of the IISGM.</li> </ul>



# Doctoral theses

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

The table below presents the 22 doctoral theses defended during 2012.

Student	Title	Director	University	Area
Juan Aguirre Bueno	Estudios sobre la Tomografía Óptica Difusiva de Fluorescencia	JJ Vaquero López, J Ripoll Lorenzo	Universidad Carlos III de Madrid	Area 1
Gonzalo López Montoya	Estudio del efecto de la autoadministración de morfina y endomorfina-2 en animales con distinta vulnerabilidad a las acciones reforzantes de los opiáceos	E Ambrosio, ML Soto Montenegro	UNED	Area 1
Esther Vicente Torrico	Caracterización, mejora y diseño de escáneres PET preclínicos	JM Udiás, J López, JJ Vaquero	Universidad Complutense de Madrid	Area 1
Adolfo Villa Arranz	Estudio de la seguridad a corto y largo plazo del implante intracoronario de células mononucleadas de médula ósea autóloga tras un infarto agudo de miocardio	Pedro Luis Sánchez Fernández, Francisco Jesús Fernández-Avilés Díaz	Universidad Complutense de Madrid	Area 2

(Cont.)

Student	Title	Director	University	Area
Ana Viana Tejedor	Evolución temporal del tratamiento del infarto agudo de miocardio en pacientes ancianos y su impacto en la supervivencia a corto y largo plazo	Héctor Bueno, Francisco Fernández-Avilés	Universidad Complutense de Madrid	Area 2
Ángel Arenal Maiz	Identificación del sustrato de las taquicardias ventriculares monomórficas sostenidas durante ritmo sinusal en pacientes con infarto previo de miocardio. Implicaciones para la ablación de TV no cartografiadas	Esteban González Torrecilla, Francisco Fernández-Avilés	Universidad Complutense de Madrid	Area 2
Rita Cabeza Martínez	Epidemiología y prevención del cáncer cutáneo en pacientes con trasplante renal y cardíaco del Hospital General Universitario Gregorio Marañón	Pablo Lázaro Ochaita, Jesús Millán Núñez-Cortés y José Antonio Avilés Izquierdo	Universidad Complutense de Madrid	Area 2 y 6
Carmen Moreno Ruiz	Dificultades diagnósticas y de tratamiento del trastorno bipolar de inicio temprano: estudio multipoblacional	Celso Arango López; Carlos Blanco Jerez	Universidad Complutense de Madrid	Area 3

(Cont.)

Student	Title	Director	University	Area
Francisco Javier Hortal Iglesias	Neumonía asociada a la ventilación mecánica en el postoperatorio de pacientes sometidos a cirugía mayor: Estudios paneuropeos	Emilio Bouza	Universidad Complutense de Madrid	Area 3
Maddalena Giannella	Neumonía en los Servicios de Medicina Interna en España	Emilio Bouza	Universidad Complutense de Madrid	Area 3
Felipe González Martínez	Estudio (epidemiológico, clínico y microbiológico) de niños con enfermedad neumocócica invasora (ENI) de un hospital terciario de Madrid entre 1998-2009	Teresa Hernández Sanpelayo	Universidad Complutense de Madrid	Area 5
Rosángela Obregón Reina	Radioterapia intraoperatoria (RIO) en el carcinoma de esófago y estómago localmente avanzados dentro de un programa de tratamiento multimodal	Jose Luis García Sabrido; Felipe Calvo Manuel	Universidad Complutense de Madrid	Area 6
Pedro Álvarez de Sierra Hernández	Tratamiento de los tumores pélvicos avanzados primarios y recidivados con cirugía extendida y radioterapia infraoperatoria: resultados interdisciplinares de 15 años	Jose Luis García Sabrido; Felipe Calvo Manuel	Universidad Complutense de Madrid	Area 6

(Cont.)

Student	Title	Director	University	Area
Fernando Corella Montoya	Ligamentoplastia artroscópica para inestabilidad escafoidular: estudio en cadáver y aplicabilidad clínica	Javier Vaquero Martín; Miriam Nohemi Vázquez García; Ricardo Larrainzar Garijo	Universidad Complutense de Madrid	Area 7
Patricia Duque González	Impacto de la técnica quirúrgica y anestésica sobre la respuesta inflamatoria y angiogénica en cirugía de tumor colorrectal	Elena Vara Ameigeiras; Ignacio Garutti	Universidad Complutense de Madrid	Area 7
Patricia Cruz Pardos	Efectos del modo ventilatorio utilizado durante la ventilación unipulmonar en la oxigenación arterial intraoperatoria y postoperatoria ventilación controlada por volumen	Ignacio Garutti; Fernando Gilsanz	Universidad Autónoma de Madrid	Area 7
Diego Jesús García Rodríguez	Efectos de la utilización de membrana amniótica en fresco en la regeneración condral en ovejas	Javier Vaquero Martín; Francisco Forriol Campos	Universidad Complutense de Madrid	Area 7
Blanca Humanes Sánchez	Cilastatina, una nueva alternativa terapéutica en la nefrotoxicidad aguda inducida por cisplatino	Alberto Lázaro Fernández; Alberto Tejedor Jorge	Universidad Autónoma de Madrid	Area 7

(Cont.)



## DOCTORAL THESES

### EXECUTIVE SUMMARY

Student	Title	Director	University	Area
Simona Alexandru	Estudio sobre la etiología de la hiponatremia postquirúrgica	Alberto Tejedor Jorge	Universidad Autónoma de Madrid	Area 7
Carmen Fernández Riveira	Efecto del bloqueo beta1 adrenérgico en la regresión precoz del remodelado ventricular. Estudio experimental en un modelo de rata hipertensa	Mª Begoña Quintana Villamandos; Mª Jesús Delgado Martos	Universidad Autónoma de Madrid	Area 7
Alberto Touza	Placa de crecimiento: alotrasplante simple y alotrasplante combinado con hueso. Estudio experimental en rata	Mª Jesús Delgado Martos	Universidad Autónoma de Madrid	Area 7
Julio Hernández Vázquez	Tratamiento del síndrome de apnea obstructiva del sueño asociado a síndrome de hipovenilación-obesidad. Presión positiva continua versus ventilación con presión positiva bi-nivel	Javier de Miguel Díez	Universidad Complutense de Madrid	Area 7



# Cooperative Research

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

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

IISGM 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 TEMÁTICA DE INVESTIGACIÓN EN ENFERMEDADES CARDIOVASCULARES (RECAVA [*COOPERATIVE NETWORK FOR RESEARCH ON CARDIOVASCULAR DISEASES*])

General coordinator: Francisco Fernández-Avilés Diaz

RECAVA 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).

RECAVA is organized around 4 priority areas:

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

RECAVA organizes 29 research groups and more than 20 associated or clinical care groups.



## 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*]) promoted by Instituto de Salud Carlos III (ISCIII) as a component of its global vision for innovation in its environment. 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 to facilitate the integration of science and industry in the field of medical technology. The core of ITEMAS comprises the Innovation Support Units of the 14 main hospitals in the National Health System.

The ITEMAS Network was created in 2010 to promote biomedical innovation outside the pharmaceutical sector. It is composed of multidisciplinary groups that collaborate on the task of identifying areas for improvement to ensure the development of a solid culture of innovation in the sector. These groups are composed of hospital innovation units, technology centers, scientific societies, companies, and research groups, all of which work together to improve communication channels and establish synergies between the various components of the system.

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

ITEMAS is composed of 15 members from throughout Spain and brings together many of the certified Health Research Institutes.

Its basic objective is to establish a forum for communication between the different stakeholders in the innovation process (hospitals, universities, and industry). By establishing contacts and alliances, it aims to create tools to facilitate real-time knowledge of hospital technological innovation.

Therefore, the vision of the network is to facilitate transmission and transfer of health-related, medical, and scientific knowledge to promote innovation in the field of healthcare and medical technology, in terms of efficiency and value for the health system and society.

Finally, IISGM research groups participate in different cooperative structures (see below):

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

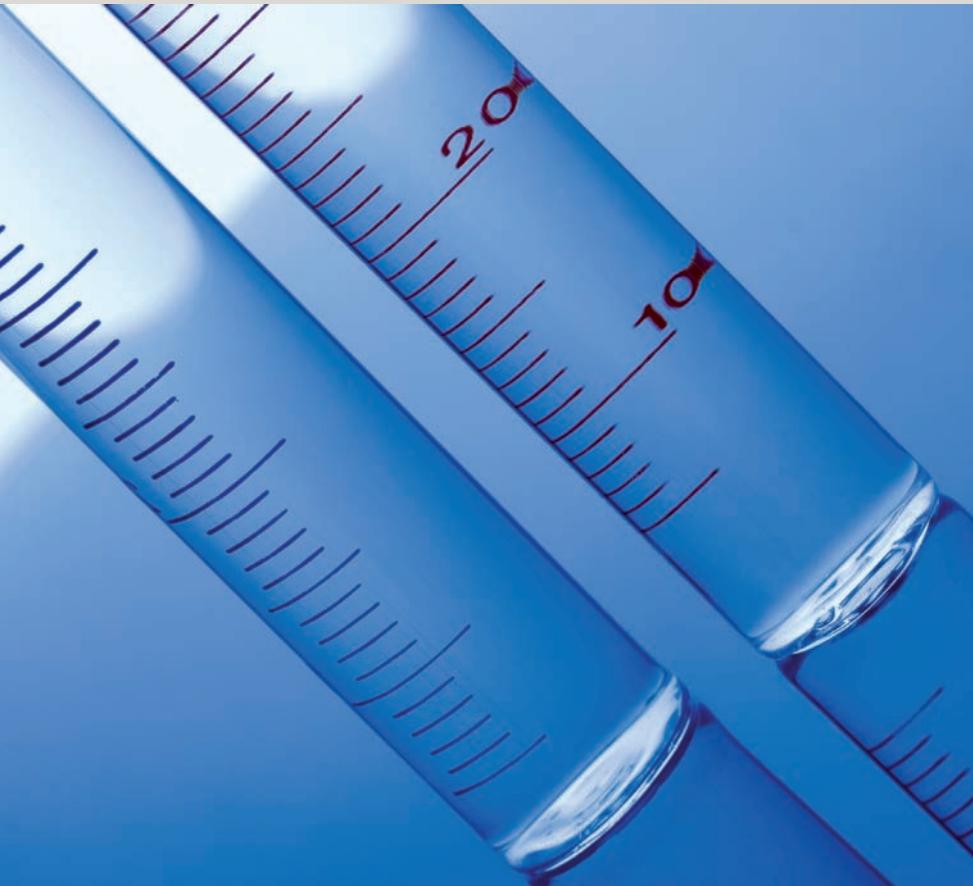
(Cont.)



Structure	Group	Group Director	Area	Role
CIBEREHD	Pathophysiology and natural history of liver and gastroenterological diseases	Rafael Bañares	Systemic diseases and organ transplantation	Research group
Red Nacional de Biobancos (National Biobank Network)	Molecular immunobiology. Molecular biology of HIV	Mª Ángeles Muñoz Fernández	Diseases of the immune system	Collection of biological samples related to: <ul style="list-style-type: none"><li>• Histopathology</li><li>• Patients with HIV infection</li><li>• Maternal-fetal medicine</li><li>• Pediatrics</li></ul> HIV Biobank
Red de terapia celular (TERCEL) (Cell Therapy Network)	Natural history of heart disease	Francisco Fernández-Avilés	Cardiovascular diseases	Research group
Red SAMID (Red de salud materno infantil y del desarrollo)	Diseases of the critically ill child	Jesús López-Herce Cid	Systemic diseases and organ transplantation	Research group
RETICC	Genetics and clinical features of hematologic malignancy and hematopoietic cell transplantation	José Luis Díez	Translational oncology	Research group
CAIBER	Neonatal and developmental pathophysiology	Manuel Sánchez-Luna	Systemic diseases and organ transplantation	Research group
CAIBER	Infectious diseases	Emilio Bouza	Infectious diseases and AIDS	Research group
RESITRA	Infectious diseases	Emilio Bouza	Infectious diseases and AIDS	Research group
RETICEF	Biopathology of aging	J. Antonio Serra	Systemic diseases and organ transplantation	Research group

# 3

## Group Scientific Activity by Areas



Area 1. Biomedical Engineering

Area 2. Cardiovascular Diseases

Area 3. Neuroscience and Mental Health

Area 4. Infectious Disease and AIDS

Area 5. Diseases of the Immune System

Area 6. Translational Oncology

Area 7. Systemic Diseases and Organ  
Transplantation

Nursing Group

# AREA 1

Area coordinator:  
Dr. Manuel Desco Menéndez

## Biomedical Engineering

The Area of Biomedical Engineering is a particularly interesting facet of the Instituto de Investigación Sanitaria Gregorio Marañón (IISGM [*Gregorio Marañón Health Research Institute*]). It provides a complementary and clearly enriching vision of the type of research traditionally carried out in biomedicine. Its emphasis on technology, transferability, and immediacy of application, as well as its clear orientation towards innovation, make 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 objectives of the strategic axes in this area are to consolidate collaboration with Universidad Carlos III, to define and strengthen the area's role in teaching, to complete the strategic development of the Innovation Support Unit of Hospital General Universitario Gregorio Marañón (HGUGM), and to intensify 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 educational activities in Universidad Carlos III. These activities will facilitate the participation of other technology groups in the Institute, promote multidisciplinary research capacity and rapid knowledge transfer, and, in short, respond effectively to key issues in the field of biomedicine.



# Research axes and lines

## Strategic axes

- ✓ A1: Consolidation of collaboration with Universidad Carlos III, by defining stakeholders, a framework for collaboration, and criteria for sharing resources.
- ✓ A2: Defining academic collaboration between the Institute and Universidad Carlos III in the teaching component of the Degree in Biomedical Engineering.
- ✓ A3: Consolidation and development of the Institute's Innovation Support Unit.
- ✓ A4: Intensification of the clinical research support line, starting with its extension to other hospitals and institutions of the Comunidad de Madrid.

## Strategic lines

### 1. Clinical research support

*Strategic objectives:*

- ✓ Intensify the 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.
- ✓ Complete the development of a preclinical hybrid optical CT system.

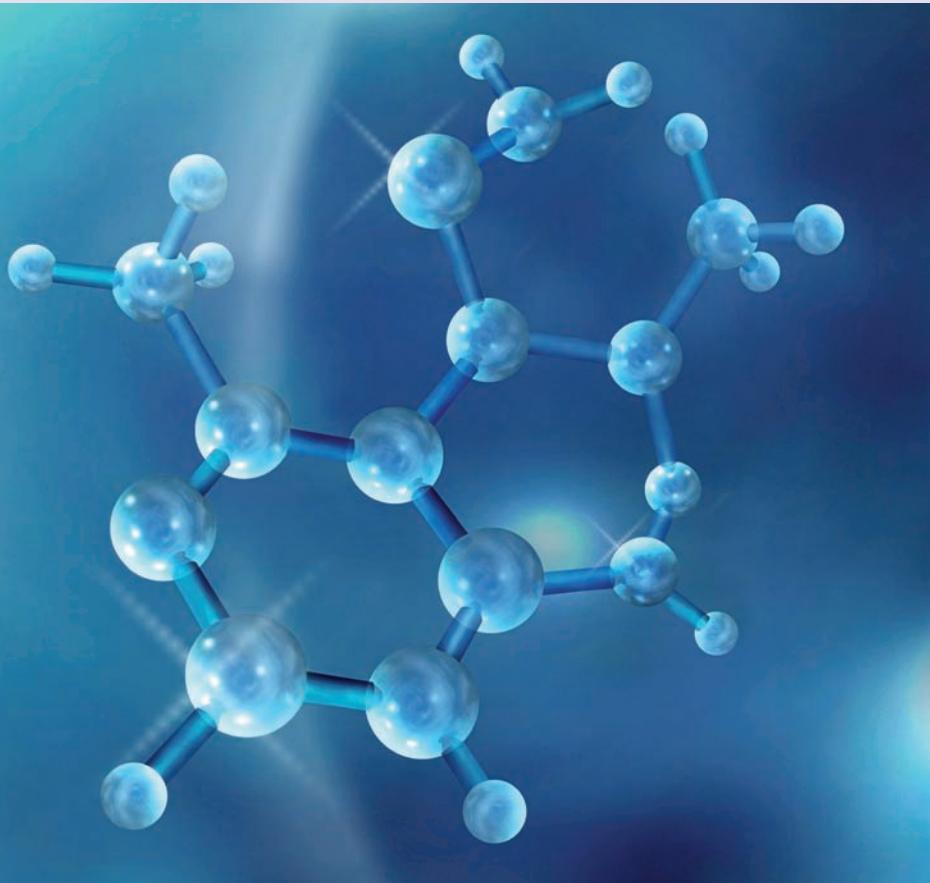
### 3. Biomedical experimentation

*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 neuro-imaging.

# Structure of AREA 1

Biomedical Engineering



- Advanced technological applications and human health

# Advanced technological applications and human health

Group director: **Manuel Desco Menéndez**

Group type: CONSOLIDATED

## Research lines

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

## Group members (researchers and support staff)

- **Mónica Abella García:** Postdoctoral
- **Yasser Alemán Gómez:** Predoctoral
- **Fidel Alfaro Almagro:** Predoctoral
- **Iván Balsa Lozano:** Predoctoral
- **Judit Chamorro Servent:** Predoctoral
- **Cristina Chavarrías Navas:** Support Technician
- **Lorena Cussó Mula:** Predoctoral
- **Claudia de Molina Gómez:** Predoctoral
- **Manuel Desco Menéndez:** Group Director
- **Alexandra de Francisco López:** ISCIII support
- **Verónica García Vázquez:** Predoctoral
- **Mª Carmen García-Villalba Navaridas:** Predoctoral
- **Rosa Trajana Garrido Huerta:** Administrative Manager
- **Mª Victoria Gómez Gaviro:** Postdoctoral
- **María La Calle Auriolés:** Predoctoral
- **Luisa María López Sánchez:** Río Hortega
- **Eugenio Daniel Marinetto Carrillo:** Predoctoral
- **María Elena Martino Casado:** Postdoctoral
- **José María Mateos Pérez:** Predoctoral



- **Paula Montesinos Suárez de la Vega:** Predoctoral
- **Francisco Javier Navas Sánchez:** PFIS
- **Aurora María Olmo Castillo:** Predoctoral
- **Ana Ortega Gil:** Predoctoral
- **Javier Pascau González-Garzón:** Principal Investigator
- **Santiago Peña Zalbidea:** Predoctoral
- **Juan Felipe Pérez-Juste Abascal:** Postdoctoral
- **Jorge Ripoll Lorenzo:** Principal Investigator
- **Marco Antonio Rivas Fernández:** Predoctoral
- **Alejandro Sisniega Crespo:** Technician
- **María Luisa Soto Montenegro:** Miguel Servet
- **Juan José Vaquero López:** Principal Investigator

## Research Projects - Competitive Calls

- Principal investigator: María Luisa Soto Montenegro  
Title: "Obesidad: tratamiento mediante estimulación cerebral profunda en un modelo experimental".  
Funding body: F. Mapfre Medicina  
Start date: 2012  
End date: 2013
- Principal investigator: Juan José Vaquero López  
Title: "Hybrid fluorescence molecular tomography and x-ray computed tomography system and method (FMT-XCT)".  
Funding body: European Commission  
Start date: 2008  
End date: 2012
- Principal investigator: Javier Pascau González-Garzón  
Title: "Simulación y tratamiento guiado por imagen en radioterapia".  
Funding body: Ministry of Economy and Competitiveness  
Start date: 2010  
End date: 2013
- Principal investigator: Manuel Desco Menéndez  
Title: "Describing pathophysiology to promote focal therapy in treatment of schizophrenia".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: María 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: Manuel Desco Menéndez  
Title: "Coordinador RETIC de innovación en tecnologías médicas y sanitarias".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2013
- Principal investigator: Juan José Vaquero López  
Title: "Artemis: imagen médica multimodal avanzada en el tiempo real".  
Funding body: Consejería de Educación  
Start date: 2010  
End date: 2013
- Principal investigator: Manuel Desco Menéndez  
Title: "Imagen médica multimodal en tiempo real para escenarios complejos de tratamiento (MITRA)".  
Funding body: Ministry of Economy and Competitiveness  
Start date: 2011  
End date: 2013
- Principal investigator: Manuel Desco Menéndez  
Title: "Diseño y desarrollo de un nuevo sistema de adquisición de imagen molecular para aplicaciones pre-clínicas (SAIM)".  
Funding body: Ministry of Economy and Competitiveness  
Start date: 2010  
End date: 2012

## Publications

**Total impact factor: 67.35**

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

- Pascau J; Vaquero JJ; Chamorro-Servent J; Rodriguez-Ruano A; Desco M. *A method for small-animal PET/CT alignment calibration.* PHYSICS IN MEDICINE AND BIOLOGY. 2012; 57(12) N199-N207. IF: 2.701. Quartile: 1.



- Arango C; Rapado-Castro M; Reig S; Castro-Fornieles J; Gonzalez-Pinto A; Otero S; Baeza I; Moreno C; Graell M; Janssen J; Parellada M; Moreno D; Bargallo N; Desco M. *Progressive Brain Changes in Children and Adolescents With First-Episode Psychosis*. ARCHIVES OF GENERAL PSYCHIATRY. 2012; 69(1) 16-26. IF: 13.772. Quartile: 1.
- Goertzen AL; Bao QN; Bergeron M; Blankemeyer E; Blinder S; Canadas M; Chatzioannou AF; Dinelle K; Elhami E; Jans HS; Lage E; Lecomte R; Sossi V; Surti S; Tai YC; Vaquero JJ; Vicente E; Williams DA; Laforest R. *NEMA NU 4-2008 Comparison of Preclinical PET Imaging Systems*. JOURNAL OF NUCLEAR MEDICINE. 2012; 53(8) 1300-1309. IF: 5.774. Quartile: 1.
- Abella M; Vaquero JJ; Sisniega A; Pascau J; Udias A; Garcia V; Vidal I; Desco M. *Software architecture for multi-bed FDK-based reconstruction in X-ray CT scanners*. COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE. 2012; 107(2) 218-232. IF: 1.555. Quartile: 1.
- Tapias G; Villena JL; Kreuger R; Lage E; Beekman FJ. *Multiplexed Eighty Channel PMT List-Mode Data Acquisition System for 27-511 keV Gamma Ray Imaging*. IEEE TRANSACTIONS ON NUCLEAR SCIENCE. 2012; 59(3) 545-551. IF: 1.219. Quartile: 1.
- Abella M; Vicente E; Rodriguez-Ruano A; Espana S; Lage E; Desco M; Udias JM; Vaquero JJ. *Misalignments calibration in small-animal PET scanners based on rotating planar detectors and parallel-beam geometry*. PHYSICS IN MEDICINE AND BIOLOGY. 2012; 57(22) 7493-7518. IF: 2.701. Quartile: 1.
- Elvira G; Garcia I; Benito M; Gallo J; Desco M; Penades S; Garcia-Sanz JA; Silva A. *Live Imaging of Mouse Endogenous Neural Progenitors Migrating in Response to an Induced Tumor*. PLOS ONE. 2012; 7(9) -. IF: 3.73. Quartile: 1.
- Fraguas D; Gonzalez-Pinto A; Mico JA; Reig S; Parellada M; Martinez-Centgotibengoa M; Castro-Fornieles J; Rapado-Castro M; Baeza I; Janssen J. *Decreased glutathione levels predict loss of brain volume in children and adolescents with first-episode psychosis in a two-year longitudinal study*. SCHIZOPHRENIA RESEARCH. 2012; 137(1-3) 58-65. IF: 4.59. Quartile: 1.
- Janssen J; Aleman-Gomez Y; Reig S; Schnack HG; Parellada M; Graell M; Moreno C; Moreno D; Mateos-Perez JM; Udias JM; Arango C. *Regional specificity of thalamic volume deficits in male adolescents with early-onset psychosis*. BRITISH JOURNAL OF PSYCHIATRY. 2012; 200(1) 30-36. IF: 6.606. Quartile: 1.
- Vaquero JJ; Gao DW; Garcia-Villaba C; Bacharach S; VanBrocklin H; Fang QZ; Desco M; Lee R; Dae M. *Approach to Assessing Myocardial Perfusion in Rats Using Static [13N]-Ammonia Images and a Small-Animal PET*. MOLECULAR IMAGING AND BIOLOGY. 2012; 14(5) 541-545. IF: 3.095. Quartile: 1.
- Abella M; Alessio AM; Mankoff DA; MacDonald LR; Vaquero JJ; Desco M; Kinahan PE. *Accuracy of CT-based attenuation correction in PET/CT bone imaging*. PHYSICS IN MEDICINE AND BIOLOGY. 2012; 57(9). IF: 2.701. Quartile: 1.
- Mateos-Perez JM; Redondo R; Nava R; Valdiviezo JC; Cristobal G; Escalante-Ramirez B; Ruiz-Serrano MJ; Pascau J; Desco M. *Comparative evaluation of autofocus algorithms for a real-time system for automatic detection of Mycobacterium tuberculosis*. CYTOMETRY PART A. 2012; (3) 213-221. IF: 3.711. Quartile: 1.
- Balaban E; Desco M; Vaquero JJ. *Waking-like Brain Function in Embryos*. CURRENT BIOLOGY. 2012; 22(10) 852-861. IF: 9.494. Quartile: 1.
- Pascau J; Miranda JAS; Calvo FA; Bouche A; Morillo V; Gonzalez-San Segundo C; Ferrer C; Tarjuelo JL; Desco M. *An Innovative Tool for Intraoperative Electron Beam Radiotherapy Simulation and Planning: Description and Initial Evaluation by Radiation Oncologists*. INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS. 2012; 83(2) E287-E295. IF: 4.524. Quartile: 1.
- Lopez-Miranda V; Soto-Montenegro ML; Vera G; Herradon E; Desco M; Abalio R. *Resveratrol: a neuroprotective polyphenol in the Mediterranean diet*. Revista de Neurologia. 2012; 54(6) 349-356. IF: 1.179. Quartile: 4.

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

- Sotolongo-Grau O; Rodriguez-Perez D; Sotolongo-Costa O; Antoranz JC. A Nonextensive Model for Radiobiology. 5TH EUROPEAN CONFERENCE OF THE INTERNATIONAL FEDERATION FOR MEDICAL AND BIOLOGICAL ENGINEERING, PTS 1 AND 2. 2012; 37: 367-370.

## Theses

Doctoral student	Title	Director	University
Juan Aguirre Bueno	Estudios sobre la Tomografía Óptica Difusiva de Fluorescencia	JJ Vaquero López, J Ripoll Lorenzo	Universidad Carlos III de Madrid
Gonzalo López Montoya	Estudio del efecto de la autoadministración de morfina y endomorfina-2 en animales con distinta vulnerabilidad a las acciones reforzantes de los opiáceos	E Ambrosio, ML Soto Montenegro	UNED
Esther Vicente Torrico	Caracterización, mejora y diseño de escáneres PET preclínicos	JM Udías, J López, JJ Vaquero	Universidad Complutense de Madrid

## Patents and Intellectual Property Registrations

- Title: Aparato de Tomografía Multimodalidad  
Reference: P200502612 PCT/ES2006/070059  
Owner: FIBHGM - SUINSA MEDICAL SYSTEMS, S.A.  
Inventors: Manuel Desco Menéndez, Juan José Vaquero López
- Title: Incubadora para Imagen con Radiación No Ionizante  
Reference: PCT/ES2007/070214  
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: PCT/ES2009/070456  
Owner: FIBHGM  
Inventors: Eduardo Lage Negro, Gustavo Tapias Gil, José Antonio Sánchez González, Javier del Pino Vaquero, Juan José Vaquero López, Manuel Desco Menéndez
- Title: Método para visualizar la información contenida en imágenes tridimensionales del corazón  
Reference: P201000363, PCT/ES2011/000069  
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 Guiuernau



- 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: Registration number 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 Lleó
- Title: FIRST (Fast Iterative Reconstruction Software for Tomography)  
Reference: Registered  
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: Registered  
Owner: FIBHGM  
Authors: Manuel Desco Menéndez, Juan José Vaquero
- Title: MMWKS  
Reference: Registered  
Owner: FIBHGM  
Inventors: Manuel Desco Menéndez, Juan José Vaquero

	Number of Documents	IF
Own publications	11	54.10
Joint publications	4	13.25
First-decile publications	5	40.17
First-quartile publications	14	66.17
Second-quartile publications	0	0
Third-quartile publications	0	0
Fourth-quartile publications	1	1
Nonindexed publications	1	-
Total publications	16	67.40

# AREA 2

Area coordinator:  
Dr. Francisco Fernández-Avilés Díaz

## Cardiovascular Diseases

**C**ardiovascular diseases constitute a major health problem in western countries, both because of their prevalence and incidence and because of their severity; hence the importance of a research area dedicated to 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 Temática de Investigación Cooperativa en Enfermedades Cardiovasculares (RECAVA [*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 is the coordination during the last year of the only cardiovascular research network in Spain, which resulted from the amalgamation of the previous groups. In addition, this area includes basic research groups belonging to the Universidad Complutense and envisages wide-ranging agreements with American universities for the development of an ambitious program for the generation of artificial organs (SABIO Project).

In addition to such important ongoing projects, the Area of Cardiovascular Diseases has forged an ambitious set of objectives for the coming years, including promotion of basic research laboratories, increased funding from the EU's Seventh Framework Programme for Research and Technological Development, and development of a model for the evaluation and identification of intellectual property products.

Finally, the Area of Cardiovascular Diseases places particular emphasis on undergraduate education and, importantly, training for research personnel.



# Research axes and lines

## 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 area of basic research

*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

## 4. Maintenance and consolidation of scientific production

*Strategic objectives:*

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

## 5. Diversification of funding sources by consolidating a series of principal investigators

*Strategic objectives:*

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

## Axis 2: Consolidation of training

### 1. Increase in the offer for postgraduate training

*Strategic objective:*

- ✓ Promote preparation of doctoral theses.

### 2. Promote temporary training periods for researchers in prestigious laboratories

## Axis 3: Consolidation of infrastructure

### 1. Distribution and equipment of the Bioartificial Organ Laboratory

## Axis 4: R&D&I

### 1. Development of a model for evaluating and identifying intellectual property products

### 2. Development of spin-off models with the hospital and the university

# Structure of AREA 2

## Cardiovascular Diseases



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

# Natural history of heart disease

Group director: Francisco Fernández Avilés

Group 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 (researchers and support staff)

- Manuel Abeytua Jiménez: Postdoctoral
- Judit Rebeca Acebes Gonzalo: Support Technician
- Ángel Arenal Maíz: Principal Investigator
- Felipe Atienza Fernández: Principal Investigator
- Javier Bermejo Thomas: Principal Investigator
- Héctor Bueno Zamora: Principal Investigator
- Tomás Datino Romaniega: Postdoctoral
- Jaime Elizaga Corrales: Postdoctoral
- María Ángeles Espinosa Castro
- Ana María Fernández Baza: Group Manager
- Lucía Fernández Pena: Data manager
- M<sup>a</sup> Eugenia Fernández Santos: Principal Investigator
- Francisco Jesús Fernández-Avilés Díaz: Group Director
- Juan Fernández-Yáñez García-Monge: Predoctoral
- José Antonio García Robles: Predoctoral

- Ana González Mansilla: Postdoctoral
- Ángel González Pinto: Postdoctoral
- Esteban González Torrecilla: Postdoctoral
- M<sup>a</sup> Ángeles González-Nicolás González: Support Technician
- Enrique Gutiérrez Ibañes: Predoctoral
- Miriam Juárez Fernández: Postdoctoral
- María José Lorenzo Hernández: Data Manager
- Manuel Martínez Selles: Principal Investigator
- Teresa Mombiela Ramírez de Ganuza: Predoctoral
- Jesús Palomo Álvarez: Postdoctoral
- Esther Pérez David: Postdoctoral
- Virginia Plasencia Martín: Support Technician
- Raquel Prieto Arévalo: Postdoctoral
- Pedro Luis Sánchez Fernández: Principal Investigator
- Ricardo Sanz Ruiz: Predoctoral
- Fernando Sarnago Cebada: Postdoctoral
- Jorge Solís Martín: Postdoctoral
- Javier Soriano Triguero: Postdoctoral
- Susana Suárez Sancho: Predoctoral
- María Eugenia Vázquez Álvarez: Predoctoral
- Alexandra Vázquez Castaño: Data Manager
- Pilar Velasco Sevillano: Support Technician
- Ana Teresa Viana Tejedor: Postdoctoral
- Adolfo Villa Arranz: Predoctoral
- Eduardo Villacorta Argüelles: Predoctoral
- Raquel Yotti Álvarez: Principal Investigator
- Eduardo Zatarain Nicolás: Predoctoral



## Research Projects - Competitive Calls

- Principal investigator: Francisco Jesús Fernández-Avilés Díaz  
Title: "The effect of intracoronary reinfusion of bound marrow derived mono-nuclear cells (BM-MNC) on all cause mortality in acute myocardial infarction".  
Funding body: European Commission  
Start date: 2011  
End date: 2016
- Principal investigator: Felipe Atienza Fernández  
Title: "Radiofrequency ablation of drivers of atrial fibrillation".  
Funding body: Centro Nacional de Investigaciones Cardiovasculares  
Start date: 2007  
End date: 2012
- Principal investigator: Pedro Luis Sánchez Fernández  
Title: "Decelularización de corazones humanos para el desarrollo de matrices cardíacas que sirvan como soporte a la bioingeniería de tejidos cardíacos funcionales".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz  
Title: "Desarrollo de corazones y tejidos cardíacos funcionales a partir de matrices cardíacas y fuentes celulares autólogas".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: Esther Pérez David  
Title: "Utilidad de la fusión de angiografía y resonancia magnética y de la proteómica cardiaca para la caracterización del miocardio disfuncionante".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: Raquel Yotti Álvarez  
Title: "Análisis de intensidad de ondas en la hipertensión pulmonar asociada a cardiopatía izquierda".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2015
- Principal investigator: Javier Bermejo Thomas  
Title: "Caracterización de las propiedades diastólicas intrínsecas del ventrículo izquierdo y derecho mediante nuevos métodos de análisis de señal e imagen cardiovascular".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2016
- Principal investigator: Mª Eugenia Fernández Santos  
Title: "Laboratorio de control de calidad de la unidad de producción celular GMP de la Fundación para la Investigación".  
Funding body: Ministry of Economy and Competitiveness  
Start date: 2009  
End date: 2012
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz  
Title: "Terapias regenerativas con células madre para el fallo cardíaco".  
Funding body: Ministry of Economy and Competitiveness  
Start date: 2009  
End date: 2012
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz  
Title: "Investigación traslacional para el desarrollo de un banco de matrices de órganos y de órganos y tejidos bioartificiales autólogos para trasplante. SABIO".  
Funding body: Ministry of Economy and Competitiveness  
Start date: 2009  
End date: 2012

- Principal investigator: Raquel Yotti Álvarez  
Title: "Interacción ventrículo-válvula-vascular en la estenosis aórtica: implicaciones diagnósticas y fisiopatológicas".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012
- Principal investigator: Javier Bermejo Thomas  
Title: "Caracterización de la dinámica de fluidos intraventriculares mediante técnicas de imagen cardiovascular".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz  
Title: "Red cardiovascular".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2013
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz  
Title: "Una nueva generación de medicamentos celulares más eficaces y seguros".  
Funding body: Comunidad de Madrid  
Start date: 2012  
End date: 2015
- Principal investigator: Francisco Jesús Fernández-Avilés Díaz  
Title: "Estudio clínico de factibilidad, seguridad y eficacia del trasplante intracoronario de células madre mononucleares de médula ósea y de terapia de estimulación cardiaca en pacientes con infarto agudo de miocardio (TECAM-PACING)".  
Funding body: Ministry of Health, Social Services and Equality  
Start date: 2010  
End date: 2012

## Publications

**Total Impact Factor: 136.30**

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

- Almenar L; Segovia J; Crespo-Leiro MG; Palomo J; Arizón JM; González-Vilchez F; Delgado J. Spanish Registry on Heart Transplantation. *23rd Official Report of the Spanish Society of Cardiology Working Group on Heart Failure and Heart Transplantation (1984-2011).* REVISTA ESPAÑOLA DE CARDIOLOGÍA. 2012; 65(11) 1030-1038. IF: 3.204. Quartile: 2.
- Anguita M; Worner F; Domenech P; Marín F; Ortigosa J; Pérez-Villacastín J; Fernández-Ortiz A; Alonso A; Cequier A; Comin J; Heras M; Pan M; Alzueta J; Arenal A; Baron G; Borras X; Bover R; de la Figuera M; Escobar C; Fiol M; Herreros B; Merin JL; Mont L. *New Evidence, New Controversies: a Critical Review of the European Society of Cardiology 2010 Clinical Practice Guidelines on Atrial Fibrillation.* REVISTA ESPAÑOLA DE CARDIOLOGÍA. 2012; 65(1) 7-13. IF: 3.204. Quartile: 2.
- Steg G; James SK; Atar D; Badano LP; Blomstrom-Lundqvist C; Borger MA; Di Mario C; Dickstein K; Ducrocq G; Fernandez-Aviles F; Gershlick AH; Gianuzzi P; Halvorsen S; Huber K; Juni P; Kastrati A; Knuuti J; Lenzen MJ; Mahaffey KW; Valgimigli M; van't Hof A. *ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation.* EUROPEAN HEART JOURNAL. 2012; 33(20) 2569-2619. IF: 14.097. Quartile: 1.
- Diaz-Castro O; Lopez-Palop R; Datino T; Martinez-Selles M. *Update on Geriatric Cardiology.* REVISTA ESPAÑOLA DE CARDIOLOGÍA. 2012; 65: 91-99. IF: 3.204. Quartile: 2.
- Martin MJP; Almenar L; Brossa V; Crespo-Leiro MG; Segovia J; Palomo J; Delgado J; Gonzalez-Vilchez F; Manito N; Lage E; Garcia-Guereta L; Rodriguez-Lambert JL; Albert DC. *Transplantation for complex congenital heart disease in adults: a subanalysis of the Spanish Heart Transplant Registry.* CLINICAL TRANSPLANTATION. 2012; 26(5) 755-763. IF: 1.634. Quartile: 2.



- Jimenez JD; Bonet LA; Martin MJP; Bueno MG; Yanez JF; del Prado JMA; Peiro TB; Galan LD; Bravo IPG; Crespo-Leiro MG. *Influence of Steroid Dosage, Withdrawal, and Reinstatement on Survival After Heart Transplantation: Results From the RESTCO Study.* TRANSPLANTATION PROCEEDINGS. 2012; 44(9) 2679-2681. IF: 0.952. Quartile: 3.
- Bueno H; Fernandez-Aviles F. Use of risk scores in acute coronary syndromes. HEART. 2012; 98(2) 162-168. IF: 5.014. Quartile: 1.
- Sanchis J; Bardaji A; Bosch X; Loma-Osorio P; Marin F; Sanchez PL; Nunez J; Carratala A; Barabes JA. *Usefulness of high-sensitivity troponin T for the evaluation of patients with acute chest pain and no or minimal myocardial damage.* AMERICAN HEART JOURNAL. 2012; 164(2) 194. IF: 4.497. Quartile: 1.
- Arenal A; Hernandez J; Perez-David E; Rubio-Guivernau JL; Ledesma-Carbayo MJ; Fernandez-Aviles F. *Do the spatial characteristics of myocardial scar tissue determine the risk of ventricular arrhythmias?* CARDIOVASCULAR RESEARCH. 2012; 94(2) 324-332. IF: 5.94. Quartile: 1.
- Avila P; Perez-David E; Fernandez-Aviles F. *An unusual cause of systolic murmur.* EUROPEAN HEART JOURNAL. 2012; 33(13) 1605-1605. IF: 14.097. Quartile: 1.
- Martinez-Selles M; Doughty RN; Poppe K; Whalley GA; Earle N; Tribouilloy C; McMurray JV; Swedberg K; Kber L; Berry C; Squire I. *Gender and survival in patients with heart failure: interactions with diabetes and aetiology. Results from the MAGGIC individual patient meta-analysis.* EUROPEAN JOURNAL OF HEART FAILURE. 2012; 14(5) 473-479. IF: 5.247. Quartile: 1.
- Atienza F; Martins RP; Jalife J. *Translational Research in Atrial Fibrillation A Quest for Mechanistically Based Diagnosis and Therapy.* CIRCULATION-ARRHYTHMIA AND ELECTROPHYSIOLOGY. 2012; 5(6) 1207-1215. IF: 5.947. Quartile: 1.
- Bejarano JML; Garcia CH; Gonzalez-Gonzalez Al; Rodriguez AC; Sanchez SD; Maroto JC; Rodriguez-Barrientos R; Garcia-Fernandez MA. *Validity and usefulness of B-type natriuretic peptide (BNP) for early detection of left ventricular dysfunction in high-risk patients in Primary Care.* ATENCIÓN PRIMARIA. 2012; 44(1) 13-19. IF: 0.957. Quartile: 3.
- Torres EC; Aviles FF; de Sa El; Benitez JCM; Montej JC; Reyes RM; Cervantes RS. *Prehospital induction of moderate hypothermia after cardiac resuscitation can increase survival without increasing neurologic impairment: a case-control study.* EMERGENCIAS. 2012; 24(1) 7-12. IF: 2.578. Quartile: 1.
- Carbone J; Lario N; Gallego A; Kern F; Navarro J; Munoz P; Alonso R; Catalan P; Fernandez-Yanez J; Palomo J; Ruiz M; Fernandez-Cruz E. *Simultaneous Monitoring of Cytomegalovirus-Specific Antibody and T-cell levels in Sero-positive Heart Transplant Recipients.* JOURNAL OF CLINICAL IMMUNOLOGY. 2012; 32(4) 809-819. IF: 3.382. Quartile: 2.
- Gomez-Gaviro MV; Lovell-Badge R; Fernandez-Aviles F; Lara-Pezzi E. *The Vascular Stem Cell Niche.* JOURNAL OF CARDIOVASCULAR TRANSLATIONAL RESEARCH. 2012; 5(5) 618-630. IF: 3.062. Quartile: 2.
- Soriano LC; Bueno H; Johansson S; Rodriguez LAG. *Predictors and time trends in clopidogrel and proton pump inhibitor coprescription with low-dose acetylsalicylic acid.* PHARMACOEPIDEMIOLOGY AND DRUG SAFETY. 2012; 21(5) 463-469. IF: 2.897. Quartile: 2.
- Sanz-Ruiz R; Fernandez-Aviles F. *Stimulating factors for cardiac repair: when the ischemic myocardium asks for help.* MEDICINA CLÍNICA. 2012; 138(10) 435-437. IF: 1.399. Quartile: 2.

- Sarmiento E; del Pozo N; Gallego A; Fernandez-Yanez J; Palomo J; Villa A; Ruiz M; Munoz P; Rodriguez C; Rodriguez-Molina J; Navarro J. *Decreased levels of serum complement C3 and natural killer cells add to the predictive value of total immunoglobulin G for severe infection in heart transplant recipients.* TRANSPLANT INFECTIOUS DISEASE. 2012; 14(5) 526-539. IF: 1.984. Quartile: 3.
- Sanchez PL; Fernandez-Aviles F. *Catheterization laboratories open 24 hours a day, every day: does stable non-ST-elevation acute coronary syndrome need the offer.* EUROPEAN HEART JOURNAL. 2012; 33(16) 1992-1995. IF: 14.097. Quartile: 1.
- Valor L; Sarmiento E; Navarro J; Gallego A; Fernandez-Yanez J; Fernandez-Cruz E; Carbone J. *Evaluation of Lymphoproliferative Responses by Carboxy Fluorescein Succinimidyl Ester Assay in Heart Recipients With Infections.* TRANSPLANTATION PROCEEDINGS. 2012; 44(9) 2649-2652. IF: 0.952. Quartile: 3.
- Sanroman-Junquera M; Mora-Jimenez I; Caamano AJ; Almendral J; Atienza F; Castilla L; Garcia-Alberola A; Rojo-Alvarez JL. *Digital recovery of biomedical signals from binary images.* SIGNAL PROCESSING. 2012; 92(1) 43-53. IF: 1.851. Quartile: 1.
- Fraguas D; Gonzalez-Pinto A; Mico JA; Reig S; Parellada M; Martinez-Cen-gotitabengoa M; Castro-Fornieles J; Rapado-Castro M; Baeza I; Janssen J;. *Decreased glutathione levels predict loss of brain volume in children and adolescents with first-episode psychosis in a two-year longitudinal study.* SCHIZOPHRENIA RESEARCH. 2012; 137(1-3) 58-65. IF: 4.59. Quartile: 1.
- Almendral J; Atienza F; Everss E; Castilla L; Gonzalez-Torrecilla E; Ormaetxe J; Arenal A; Ortiz M; Sanroman-Junquera M; Mora-Jimenez I; Bellon JM; Rojo JL. *Implantable Defibrillator Electrograms and Origin of Left Ventricular Impulses: An Analysis of Regionalization Ability and Visual Spatial Resolution.* JOURNAL OF CARDIOVASCULAR ELECTROPHYSIOLOGY. 2012; 23(5) 506-514. IF: 3.475. Quartile: 2.
- Boon R; Gaviro MVG; Rochais F; Tocchetti CG; Fasano T; Antonopoulos AS; Sonestedt E; Maas C; Cuello F. *A Day in the Life of a Young Investigator.* CIRCULATION. 2012; 125(25) F145-F150. IF: 15.202. Quartile: 1.
- Heredero A; Perez-Caballero R; Otero J; Rodriguez-Martinez D; Quintana-Villamandos B; Rodriguez-Bernal G; Gonzalez-Pinto A; Ruiz-Fernandez M. *Synchrony relationships between the left ventricle and a left ventricular assist device: an experimental study in pigs.* INTERNATIONAL JOURNAL OF ARTIFICIAL ORGANS. 2012; 35(4) 272-278. IF: 1.759. Quartile: 2.
- Carbone J; Sarmiento E; Del Pozo N; Rodriguez-Molina JJ; Navarro J; Fernandez-Yanez J; Palomo J; Villa A; Munoz P. *Restoration of humoral immunity after intravenous immunoglobulin replacement therapy in heart recipients with post-transplant antibody deficiency and severe infections.* CLINICAL TRANSPLANTATION. 2012; 26(3) E277-E283. IF: 1.634. Quartile: 2.
- Calvo D; Atienza F; Jalife J; Martinez-Alzamora N; Bravo L; Almendral J; Gonzalez-Torrecilla E; Arenal A; Bermejo J. *High-rate pacing-induced atrial fibrillation effectively reveals properties of spontaneously occurring paroxysmal atrial fibrillation in humans.* EUROPACE. 2012; 14(11) 1560-1566. IF: 2.765. Quartile: 2.
- Andrade JG; Macle L; Khairy P; Khaykin Y; Mantovan R; De Martino G; Chen J; Morillo CA; Novak P; Guerra PG; Nair G; Torrecilla EG; Verma A. *Incidence and Significance of Early Recurrences Associated with Different Ablation Strategies for AF: A STAR-AF Substudy.* JOURNAL OF CARDIOVASCULAR ELECTROPHYSIOLOGY. 2012; 23(12) 1295-1301. IF: 3.475. Quartile: 2.
- Barba I; Villacorta E; Bratos-Perez MA; Antolin M; Varela E; Sanchez PL; Tornos P; Garcia-Dorado D. *Aortic Valve-derived Calcifying Nanoparticles: No Evidence of Life.* REVISTA ESPAÑOLA DE CARDIOLOGÍA. 2012; 65(9) 813-818. IF: 3.204. Quartile: 2.



## Publications in nonindexed journals in the Journal Citation Reports:

- Hamm CW; Bassand JP; Agewall S; Bax J; Boersma E; Bueno H; Caso P; Dudek D; Gielen S; Huber K; Ohman M; Petrie MC; Sonntag F; Uva MS; Storey RF; Wijns W; Zahger D. *ESC guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation. The Task Force for the management of acute coronary syndromes (ACS) in patients presenting without persistent ST-segment elevation.* G Ital Cardiol (Rome). 2012; 13(3):171-228.

## Theses

Doctoral Student	Title	Director	University
Adolfo Villa Arranz	Estudio de la seguridad a corto y largo plazo del implante intracoronario de células mononucleadas de médula ósea autóloga tras un infarto agudo de miocardio	Pedro Luis Sánchez Fernández, Francisco Jesús Fernández-Avilés Díaz	Universidad Complutense de Madrid
Ana Viana Tejedor	Evolución temporal del tratamiento del infarto agudo de miocardio en pacientes ancianos y su impacto en la supervivencia a corto y largo plazo	Héctor Bueno, Francisco Fernández-Avilés	Universidad Complutense de Madrid
Ángel Arenal Maíz	Identificación del sustrato de las taquicardias ventriculares monomórficas sostenidas durante ritmo sinusal en pacientes con infarto previo de miocardio. Implicaciones para la ablación de TV no cartografiadas	Esteban González Torrecilla, Francisco Fernández-Avilés	Universidad Complutense de Madrid

## Clinical Practice Guidelines

Authors	Title	Publication
Steg PG, James SK, Atar D, Badano LP, Blömstrom-Lundqvist C, Borger MA, Di Mario C, Dickstein K, Ducrocq G, Fernández-Avilés F, Gershlick AH, Giannuzzi P, Halvorsen S, Huber K, Juni P, Kastrati A, Knuuti J, Lenzen MJ, Mahaffey KW, Valgimigli M, van 't Hof A, Widimsky P, Zahger D	ESC guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation	Eur Heart J. 2012 Oct;33(20):2569-619
Hamm CW, Bassand JP, Agewall S, Bax J, Boersma E, Bueno H, Caso P, Dudek D, Gielen S, Huber K, Ohman M, Petrie MC, Sonntag F, Uva MS, Storey RF, Wijns W, Zahger D	ESC guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation. The Task Force for the management of acute coronary syndromes (ACS) in patients presenting without persistent ST-segment elevation of the European Society of Cardiology (ESC)	G Ital Cardiol (Rome). 2012 Mar;13(3):171-228
Anguita M, Worner F, Domenech P, Marín F, Ortigosa J, Pérez-Villacastín J, Fernández-Ortiz A, Alonso A, Cequier A, Comín J, Heras M, Pan M, Alzueta J, Arenal A, Barón G, Borrás X, Bover R, de la Figuera M, Escobar C, Fiol M, Herreros B, Merino JL, Mont L, Murga N, Pedrote A, Quesada A, Ripoll T, Rodríguez J, Ruiz M, Ruiz R.	New evidence, new controversies: a critical review of the European Society of Cardiology 2010 clinical practice guidelines on atrial fibrillation	Rev Esp Cardiol (Engl Ed). 2012 Jan;65(1):7-13

Authors	Title	Publication
Fernández-Ortiz A, Pan M, Alfonso F, Arós F, Barrabés JA, Bodí V, Cequier A, García-Moll X, Jiménez-Candil J, López-Palop R, Peña C, Worner F; Comité de Guiás de Práctica Clínica de SEC, Alonso Gómez AM, Anguita M, Cequier A, Comín J, Fernández-Ortiz A, Pan M, Worner F, Alonso J, Bardaji A, Barón-Esquivias G, Bover R, Ángel-Ferrer J, Goicolea J, Gómez-Doblas JJ, Íñiguez A, Mainar V, Marín F, Pedreira M, Roldán I, Sabaté M, Sánchez PL, Sanchis J	Comments on the ESC guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation. A report of the Task Force of the Clinical Practice Guidelines Committee of the Spanish Society of Cardiology	Rev Esp Cardiol (Engl Ed). 2012 Feb;65(2):125-30

## Patents

- Title: Método para visualizar la información contenida en imágenes tridimensionales del corazón  
Reference: P201000363, PCT/ES2011/000069  
Owner: FIBHGM - UPM  
Inventors: Esther Pérez David, Ángel Arenal Maíz, Javier Bermejo Thomas, Francisco Fernández Avilés, Manuel Desco Menéndez, MªJesús Ledesma Carballo, Andrés de Santos Lleó, José Luis Rubio Guivernau



	Number of Documents	IF
Own publications	9	55.90
Joint publications	21	80.40
First-decile publications	6	69.38
First-quartile publications	12	93.16
Second-quartile publications	14	38.29
Third-quartile publications	4	4.84
Fourth-quartile publications	0	0
Nonindexed publications	1	-
Total publications	31	136.30

# Cardiac cellular electrophysiology

Group director: **Eva Delpón Mosquera**

Group type: CONSOLIDATED

## Research lines

- ✓ L1. Electrical remodeling in chronic atrial fibrillation.
- ✓ L2. Comparison of electrical remodeling in the left and right atria.
- ✓ L4. Role of endogenous mediators and receptors in the control of electrical activity and remodeling of atrial fibrillation.
- ✓ L5. Identification of therapeutic targets for the treatment of atrial fibrillation.
- ✓ L6. Molecular determinants of block of inwardly rectifying K channels (Kir).
- ✓ L7. Molecular determinants of voltage-dependent channel block.
- ✓ L8. Modulation by endogenous mediators (eg, cannabinoids, nitric oxide) and miRNAs of human cardiac ion channel activity.

## Group members (researchers and support staff)

- **Irene Amorós García:** Predoctoral
- **Ricardo Caballero Collado:** Senior Investigator
- **Eva Delpón Mosquera:** Group Director
- **Pablo Dolz Gaitón:** Predoctoral
- **Marcos Matamoros Campos:** Predoctoral
- **Mercedes Núñez Lozano:** Postdoctoral ISCIII



**Publications****Total Impact Factor: 5.59**

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

- Tamargo J; Caballero R; Delpon E. *Drug-induced atrial fibrillation.* EXPERT OPINION ON DRUG SAFETY. 2012; 11(4) 615-634. IF: 2.6e21. Quartile: 2.
- Tamargo J; Caballero R; Delpon E. *Drug-induced Atrial Fibrillation: Does It Matter.* DISCOVERY MEDICINE. 2012; 78. 295-299. IF: 2.965. Quartile: 2.

	Number of Documents	IF
Own publications	2	5.59
Joint publications	0	0
First-decile publications	0	0
First-quartile publications	0	0
Second-quartile publications	2	5.58
Third-quartile publications	0	0
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	2	5.59

# Cardiovascular pathophysiology

Group director: Victoria Cachofeiro Ramos

Group 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 different risk factors (eg, hypertension, obesity, dyslipidemia, aging, and diabetes). The group is a pioneer in the study of endothelial function.

One of the group's key areas is its translational and integrated approach to the study of the impact of various risk factors on the cardiovascular system. During the last 15 years, its range of interest has expanded to include cardiac damage assessed through experimentation and by participating in various clinical studies. Its most noteworthy recent collaborations were with the University of São Paulo (Brazil), Inserm (Nancy, France), Instituto de Cardiología de Bucaramanga (Colombia), Universidad Autónoma de Madrid, Hospital Clínico San Carlos, and ICCC-CSIC San Pau (Barcelona, Spain), as well as with other groups from the Institute. The fruits of this cooperation can be seen in the numerous publications in prestigious journals both within and outside the field of cardiovascular disease, for example, International Journal of Cardiology, Cardiovascular Research, Journal of Hypertension, British Journal of Pharmacology, Endocrinology, Kidney International, and Atherosclerosis, Thrombosis, and Vascular Biology.

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



## Group members (researchers and support staff)

- Sandra Ballesteros Rodrígálvarez: Support Technician
- María Visitación Bartolomé Pascual: Postdoctoral
- Victoria Cachofeiro Ramos: Group Director
- Natalia de las Heras Jiménez: Postdoctoral
- Raquel Jurado López: Support Technician
- Vicente Lahera Juliá: Principal Investigator
- Beatriz Martín Fernández: Postdoctoral
- Ernesto Martínez Martínez: Predoctoral
- María Miana Ortega: Postdoctoral
- María Valero Muñoz: Predoctoral

**Publications****Total Impact Factor: 33.18**

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

- Luaces M; Martinez-Martinez E; Medina M; Miana M; Gonzalez N; Fernandez-Perez C; Cachofeiro V. *The impact of bariatric surgery on renal and cardiac functions in morbidly obese patients.* NEPHROLOGY DIALYSIS TRANSPLANTATION. 2012; 27. iv53-iv57. IF: 3.371. Quartile: 1.
- Luaces M; Cachofeiro V; Garcia-Munoz-Najar A; Medina M; Gonzalez N; Cancer E; Rodriguez-Robles A; Canovas G; Antequera-Perez A. *Anatomical and Functional Alterations of the Heart in Morbid Obesity. Changes After Bariatric Surgery.* REVISTA ESPAÑOLA DE CARDIOLOGÍA. 2012; 65(1) 14-21. IF: 3.204. Quartile: 2.
- Ruiz-Hurtado G; Gomez-Hurtado N; Fernandez-Velasco M; Calderon E; Smani T; Ordóñez A; Cachofeiro V; Bosca L; Diez J; Gomez AM; Delgado C. *Cardiotrophin-1 induces sarcoplasmic reticulum Ca-2 leak and arrhythmogenesis in adult rat ventricular myocytes.* CARDIOVASCULAR RESEARCH. 2012; 96(1) 81-89. IF: 5.94. Quartile: 1.
- de las Heras N; Aller MA; Martin-Fernandez B; Miana M; Ballesteros S; Regadera J; Cachofeiro V; Arias J; Lahera V. *A wound-like inflammatory aortic response in chronic portal hypertensive rats.* MOLECULAR IMMUNOLOGY. 2012; 51(2) 177-187. IF: 2.645. Quartile: 3.
- Munoz-Pacheco P; Ortega-Hernandez A; Miana M; Cachofeiro V; Fernandez-Cruz A; Gomez-Garre D. *Ezetimibe inhibits PMA-induced monocyte/macrophage differentiation by altering microRNA expression: A novel anti-atherosclerotic mechanism.* PHARMACOLOGICAL RESEARCH. 2012; 66(6) 536-543. IF: 4.346. Quartile: 1.
- Martin R; Miana M; Jurado-Lopez R; Martinez-Martinez E; Gomez-Hurtado N; Delgado C; Bartolome MV; San Roman JA; Cordova C; Lahera V; Nieto ML; Cachofeiro V. *DIOL Triterpenes Block Profibrotic Effects of Angiotensin II and Protect from Cardiac Hypertrophy.* PLOS ONE. 2012; 7(7). IF: 3.73. Quartile: 1.
- Martin-Fernandez B; de las Heras N; Miana M; Ballesteros S; Valero-Munoz M; Vassallo D; Davel AP; Rossoni LV; Cachofeiro V; Lahera V. *Spironolactone prevents alterations associated with cardiac hypertrophy produced by isoproterenol in rats: involvement of serum- and glucocorticoid-regulated kinase type 1.* EXPERIMENTAL PHYSIOLOGY. 2012; 97(6) 710-718. IF: 2.79. Quartile: 2.
- Alvarez G; Bartolome MV; Miana M; Jurado-Lopez R; Martin R; Zuluaga P; Martinez-Martinez E; Nieto ML; Alvarez-Sala LA; Millan J; Lahera V. *The Effects of Adiponectin and Leptin on Human Endothelial Cell Proliferation: A Live-Cell Study.* JOURNAL OF VASCULAR RESEARCH. 2012; 49(2) 111-122. IF: 2.434. Quartile: 2.
- Gomez-Hernandez A; Otero YF; de las Heras N; Escribano O; Cachofeiro V; Lahera V; Benito M. *Brown Fat Lipodystrophy and Increased Visceral Adiposity through a Concerted Adipocytokines Overexpression Induces Vascular Insulin Resistance and Dysfunction.* ENDOCRINOLOGY. 2012; 153(3) 1242-1255. IF: 4.717. Quartile: 1.

	Number of Documents	IF
Own publications	5	14.97
Joint publications	4	18.21
First-decile publications	1	5.94
First-quartile publications	5	22.10
Second-quartile publications	3	8.42
Third-quartile publications	1	2.64
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	9	33.18

# Cardiology and heart transplant in children

Group director: Constancio Medrano López

Group 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.

The Pediatric Cardiology group has developed its main research lines in the fields of familial cardiomyopathy and cardiopathy through the MyEstela project, which was 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 most important research lines of this group include the respiratory infection line and respiratory syncytial virus and the continuation of the CIVIC study with the CIVIC5 study and Risk21, which will be developed during the next 2 years. These lines also include specialized echocardiography (Speckle Tracking, 3D) in myocardiopathy, transplantation, and structural heart disease, as well as the line associated with cardiovascular drugs and transplantation.

Finally, it is noteworthy that this group has initiated a new research line on cellular 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, and infant heart surgery, as well as with the cell regeneration laboratory.



## Group members (researchers and support staff)

- **Teresa Álvarez Martín:** Predoctoral
- **Olga Arroyo Riaño:** Predoctoral
- **Fernando Ballesteros Tejerizo:** Predoctoral
- **Manuela Camino López:** Predoctoral
- **Mirian Centeno Jiménez:** Predoctoral
- **Susana Cobos Hinojal:** Postdoctoral
- **Nuria Gil Villanueva:** Predoctoral
- **Enrique Maroto Álvaro:** Postdoctoral
- **Constancio Medrano López:** Group Director
- **Gloria Isabel Pinero Díaz:** Postdoctoral
- **Cristina Relaño García:** Postdoctoral
- **Raydel Rodríguez Caro:** Predoctoral
- **Alejandro Rodríguez Ogando:** Predoctoral
- **María Carmen Vázquez Álvarez:** Predoctoral
- **Samantha Wilkinson:** Support Technician
- **José Luis Zunzúñegui Martínez:** Predoctoral



## Research Projects - Competitive Calls

- Principal investigator: Enrique Maroto Álvaro  
Title: "Ensayo clínico de factibilidad y seguridad de la inyección intramiocárdica de células madre autólogas procedentes de médula ósea en niños con síndrome de ventrículo izquierdo hipoplástico. Estudio TABH".  
Funding body: Ministry of Health, Social Services and Equality  
Start date: 2012  
End date: 2013
- 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
- Principal investigator: Constancio Medrano López  
Title: "Estudio genético y con nuevas técnicas ecocardiográficas de las miocardiopatías de la infancia: correlación genotipo-fenotipo, búsqueda de nuevos factores pronósticos e impacto familiar".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012
- Principal investigator: Enrique Maroto Álvaro  
Title: "Red cardiovascular".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2013

## Publications

**Total Impact Factor: 10.56**

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

- Tikkkanen AU; Oyaga AR; Riano OA; Alvaro EM; Rhodes J. *Paediatric cardiac rehabilitation in congenital heart disease: a systematic review.* CARDIOLOGY IN THE YOUNG. 2012; 22(3) 241-250. IF: 0.948. Quartile: 3.
- Medrano-Lopez C; Fouron JC. *Fetal Cardiology, the Frontier of Pediatric Cardiovascular Medicine.* REVISTA ESPAÑOLA DE CARDIOLOGIA. 2012; 65(8) 700-704. IF: 3.204. Quartile: 2.
- Subirana MT; Oliver JM; Saez JM; Zunzunegui JL. *Pediatric Cardiology and Congenital Heart Disease: From Fetus to Adult.* REVISTA ESPAÑOLA DE CARDIOLOGIA. 2012; 65. 50-58. IF: 3.204. Quartile: 2.
- Ezquieta B; Santome JL; Carcavilla A; Guillen-Navarro E; Perez-Aytes A; del Pozo JS; Garcia-Minaur S; Castillo E; Alonso M; Vendrell T; Santana A; Maroto E; Galbis L. *Alterations in RAS-MAPK Genes in 200 Spanish Patients With Noonan and Other Neuro-Cardio-Facio-Cutaneous Syndromes. Genotype and Cardiopathy.* REVISTA ESPAÑOLA DE CARDIOLOGIA. 2012; 65(5) 447-455. IF: 3.204. Quartile: 2.

	Number of Documents	IF
Own publications	2	6.41
Joint publications	2	4.15
First-decile publications	0	0
First-quartile publications	0	0
Second-quartile publications	3	9.61
Third-quartile publications	1	0.94
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	4	10.56

# Blood lipids and cardiovascular risk

Group director: Luis Antonio Álvarez-Sala Walther

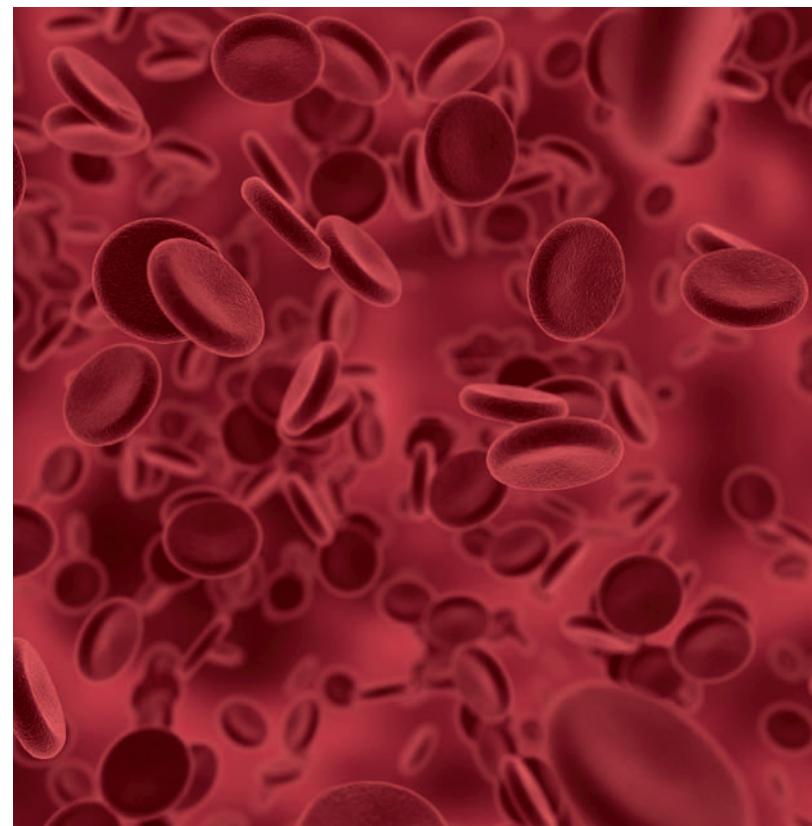
Group type: EMERGING

## Research lines

- ✓ L1. Epidemiology of cardiovascular risk.

## Group members (researchers and support staff)

- Luis Antonio Álvarez-Sala Walther: Group Director
- Elena Bello Martínez: Postdoctoral
- Francisco Javier Cabrera Aguilar: Predoctoral
- Pedro Conthe Gutiérrez: Postdoctoral
- José M<sup>a</sup> de Miguel Yanes: Postdoctoral
- Jorge del Toro Cervera: Predoctoral
- Jesús Millán Núñez-Cortés: Principal Investigator
- Carlos Pérez de Oteyza: Postdoctoral
- Gloria Pérez Rus: Predoctoral
- Carlos Recarte García-Andrade: Predoctoral
- Francisco Javier Rodríguez Rodríguez: Postdoctoral
- Ana Torres do Rego: Predoctoral
- Inés Valdés Gross: Data Manager





## Theses

Doctoral Student	Title	Director	University	Doctoral Student
Rita Cabeza Martínez	Epidemiología y prevención del cáncer cutáneo en pacientes con trasplante renal y cardíaco del Hospital General Universitario Gregorio Marañón	Pablo Lázaro Ochaíta, Jesús Millán Núñez-Cortés y José Antonio Avilés Izquierdo	Universidad Complutense de Madrid	Area 2 and 6

## Publications

**Total Impact Factor: 28.54**

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

- Millan J; Pedro-Botet J; Munoz A; Corbella E; Mangas A; Zuniga M; Hernandez-Mijares A; Pinto X. *Residual lipid profile in recurrent ischemic cardiopathy.* MEDICINA CLÍNICA. 2012; 138(6) 238-241. IF: 1.399. Quartile: 2.
- Alvarez G; Bartolome MV; Miana M; Jurado-Lopez R; Martin R; Zuluaga P; Martinez-Martinez E; Nieto ML; Alvarez-Sala LA; Millan J; Lahera V. *The Effects of Adiponectin and Leptin on Human Endothelial Cell Proliferation: A Live-Cell Study.* JOURNAL OF VASCULAR RESEARCH. 2012; 49(2) 111-122. IF: 2.434. Quartile: 2.
- Porcel JM; Casademont J; Conthe P; Pinilla B; Pujol R; Garcia-Alegria J. *Core competencies in Internal Medicine.* EUROPEAN JOURNAL OF INTERNAL MEDICINE. 2012; 23(4) 338-341. IF: 2.049. Quartile: 2.

- Perez A; Franch J; Cases A; Juanatey JRG; Conthe P; Gimeno E; Matai A. *Relationship between the degree of glycemic control and diabetes characteristics and hyperglycemia treatment in type 2 diabetes. DIABES Study.* MEDICINA CLÍNICA. 2012; 138(12) 505-511. IF: 1.399. Quartile: 2.

- Robak T; Windyga J; Trelinski J; Prondzinski MV; Giagounidis A; Doyen C; Janssens A; Alvarez-Roman MT; Jarque I; Loscertales J; Rus GP; Hellmann A; Jedrzejczak WW; Kuliczkowski K; Golubov. *Rozrolimupab, a mixture of 25 recombinant human monoclonal RhD antibodies, in the treatment of primary immune thrombocytopenia.* BLOOD. 2012; 120(18) 3670-3676. IF: 9.06. Quartile: 1.

- Puente-Maestu I; Tejedor A; Lazaro A; de Miguel J; Alvarez-Sala L; Gonzalez-Aragoneses F; Simon C; Agusti A. *Site of Mitochondrial Reactive Oxygen Species Production in Skeletal Muscle of Chronic Obstructive Pulmonary Disease and Its Relationship with Exercise Oxidative Stress.* AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY. 2012; 47(3) 358-362. IF: 4.148. Quartile: 1.

- del-Castillo-Rueda A; Moreno-Carralero MI; Cuadrado-Grande N; Alvarez-Sala-Walther LA; Enriquez-de-Salamanca R; Mendez M; Moran-Jimenez MJ. *Mutations in the HFE, TFR2, and SLC40A1 genes in patients with hemochromatosis.* GENE. 2012; 508(1) 15-20. IF: 2.196. Quartile: 3.

- Almagro P; Cabrera FJ; Diez J; Boixeda R; Ortiz MBA; Murio C; Soriano JB. *Comorbidities and Short-term Prognosis in Patients Hospitalized for Acute Exacerbation of COPD The EPOC en Servicios de Medicina Interna (ESMI) Study.* CHEST. 2012; 142(5) 1126-1133. IF: 5.854. Quartile: 1.

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

- Fernandez-Herranz J; de Miguel-Diez J; del Castillo-Rueda A; Bellon-Cano JM; Jimenez-Garcia R; Alvarez-Sala-Walther LA. *Influence of systemic corticosteroid administration in the prognosis of patients with community-acquired pneumonia.* REVISTA CLÍNICA ESPAÑOLA. 2012; 212(7) 337-343.

- Macho JT; de Casasola GG; Gutierrez PC. *Focused cardiac ultrasound in Internal Medicine*. REVISTA CLÍNICA ESPAÑOLA. 2012; 212(3) 141-146.
- Almagro P; Lopez F; Cabrera FJ; Portillo J; Fernandez-Ruiz M; Zubillaga E; Diez J; Roman P; Murcia-Zaragoza J; Boixeda R; Murió C; Soriano JB. *Comorbidities in patients hospitalized due to chronic obstructive pulmonary disease. A comparative analysis of the ECCO and ESMI studies*. REVISTA CLÍNICA ESPAÑOLA. 2012; 212(6) 281-286.
- de Isla LP; Cerezo AS; Vitale G; Timon BG; Do Rego AT; Walther LAAS. *Prevalence of inappropriate LDL cholesterol levels in patients with coronary disease and/or type 2 diabetes*. REVISTA CLÍNICA ESPAÑOLA. 2012; 212(10) 475-481.
- Casademont J; Porcel JM; Conthe P; Pinilla B; Pujol R; Garcia-Alegria J. *Basic skills in Internal Medicine*. REVISTA CLÍNICA ESPAÑOLA. 2012; 212(4) 213-214.
- Conthe P. *Towards a larger outpatient medicine*. REVISTA CLÍNICA ESPAÑOLA. 2012; 212(11) 538-539.

	Number of Documents	IF
Own publications	1	1.40
Joint publications	7	27.14
First-decile publications	2	14.91
First-quartile publications	3	19.06
Second-quartile publications	4	7.28
Third-quartile publications	1	2.19
Fourth-quartile publications	0	0
Nonindexed publications	6	-
Total publications	14	28.54

# Acute cerebral ischemia. Stroke

Group director: **Antonio Gil Núñez**  
Group type: ASSOCIATED CLINICAL

## 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.

**A**cute cerebral ischemia group: The study of stroke 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, including neurovascular 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 group's enormous caseload, 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 has led the group to form part of IISGM, with the aim of becoming a consolidated group.



## Group members (researchers and support staff)

- **Fernando Díaz Otero:** Predoctoral
- **Yolanda Fernández Bullido:** Predoctoral
- **Andrés García Pastor:** Predoctoral
- **Antonio Gil Núñez:** Group Director
- **Mª Paz Martín Torres:** Data Manager
- **Pilar Vázquez Alén:** Predoctoral
- **José Antonio Villanueva Osorio:** Predoctoral

## Research Projects - Competitive Calls

- Principal investigator: Antonio Gil Núñez  
Title: "ENOS: Eficacia del óxido nítrico en el ictus".  
Funding body: Universidad de Nottingham (Dr. Philip Bath)  
Start date: 2008  
End date: 2013

## Clinical Practice Guidelines

Authors	Title	Publication
Vivancos J, Gilo F, Frutos R, Maestre J, García-Pastor A, Quintana F, Roda JM, Ximénez-Carrillo A; por el Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la SEN; Díez Tejedor E, Fuentes B, Alonso de Leciñana M, Álvarez-Sabín J, Arenillas J, Calleja S, Casado I, Castellanos M, Castillo J, Dávalos A, Díaz-Otero F, Egido JA, Fernández JC, Freijo M, Gállego J, Gil-Núñez A, Irimia P, Lago A, Masjuan J, Martí-Fábregas J, Martínez-Sánchez P, Martínez-Vila E, Molina C, Morales A, Nombela F, Purroy F, Ribó M, Rodríguez-Yáñez M, Roquer J, Rubio F, Segura T, Serena J, Simal P, Tejada J	Clinical management guidelines for subarachnoid haemorrhage. Diagnosis and treatment	Neurología. 2012 Oct 6. doi:pii: S0213-4853(12)00249-6. 10.1016/j.nrl.2012.07.009
Alonso de Leciñana M, Egido JA, Casado I, Ribó M, Dávalos A, Masjuan J, Caniego JL, Martínez Vila E, Díez Tejedor E; por el Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la SEN; Fuentes Secretaría B, Álvarez-Sabín J, Arenillas J, Calleja S, Castellanos M, Castillo J, Díaz-Otero F, López-Fernández JC, Freijo M, Gállego J, García-Pastor A, Gil-Núñez A, Gilo F, Irimia P, Lago A, Maestre J, Martí-Fábregas J, Martínez-Sánchez P, Molina C, Morales A, Nombela F, Purroy F, Rodríguez-Yáñez M, Roquer J, Rubio F, Segura T, Serena J, Simal P, Tejada J, Vivancos J	Guidelines for the treatment of acute ischaemic stroke	Neurología. 2011 Dec 6.[Epub ahead of print]

Authors	Title	Publicación
Fuentes B, Gállego J, Gil-Núñez A, Morales A, Purroy F, Roquer J, Segura T, Tejada J, Lago A, Díez-Tejedor E, Alonso de Leciñana M, Álvarez-Sabín J, Arenillas J, Calleja S, Casado I, Castellanos M, Castillo J, Dávalos A, Díaz-Otero F, Egido JA, López-Fernández JC, Freijo M, García Pastor A, Gilo F, Irimia P, Maestre J, Masjuan J, Martí-Fábregas J, Martínez-Sánchez P, Martínez-Vila E, Molina C, Nombela F, Ribó M, Rodríguez-Yáñez M, Rubio F, Serena J, Simal P, Vivancos J; Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la SEN	Guidelines for the preventive treatment of ischaemic stroke and TIA (I). Update on risk factors and life style	Neurología. 2012 Nov-Dec;27(9):560-74
Fuentes B, Gállego J, Gil-Núñez A, Morales A, Purroy F, Roquer J, Segura T, Tejada J, Lago A, Díez-Tejedor E; por el Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la SEN; Alonso de Leciñana M, Álvarez-Sabín J, Arenillas J, Calleja S, Casado I, Castellanos M, Castillo J, Dávalos A, Díaz-Otero F, Egido JA, López-Fernández JC, Freijo M, García Pastor A, Gilo F, Irimia P, Maestre J, Masjuan J, Martí-Fábregas J, Martínez-Sánchez P, Martínez-Vila E, Molina C, Nombela F, Ribó M, Rodríguez-Yáñez M, Rubio F, Serena J, Simal P, Vivancos J	Guidelines for the preventive treatment of ischaemic stroke and TIA (II). Recommendations according to aetiological sub-type	Neurología. 2011 Sep 19

## Publications

Total Impact Factor: 20.77

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

- Fuentes B; Martínez-Sánchez P; de Lecinana MA; Simal P; Reig G; Diaz-Otero F; Masjuan J; Egido J; Vivancos J; Gil-Núñez A; Díez-Tejedor E. *Diabetes and previous stroke: hazards for intravenous thrombolysis?* EUROPEAN JOURNAL OF NEUROLOGY. 2012; 19(4) 587-593. IF: 4.162. Quartile: 1.



## ACUTE CEREBRAL ISCHEMIA. STROKE

- Fuentes B; Martinez-Sanchez P; de Lecinana MA; Egido J; Reig-Rosello G; Diaz-Otero F; Sanchez V; Simal P; Ximenez-Carrillo A; Garcia-Pastor A; Ruiz-Ares G; Garcia-Garcia A; Ma. *Efficacy of intravenous thrombolysis according to stroke subtypes: the Madrid Stroke Network data.* EUROPEAN JOURNAL OF NEUROLOGY. 2012; 19(12) 1568-1574. IF: 4.162. Quartile: 1.
- de Lecinana MA; Fuentes B; Masjuan J; Simal P; Diaz-Otero F; Reig G; Diez-Tejedor E; Gil-Nunez A; Vivancos J; Egido JA. *Thrombolytic therapy for acute ischemic stroke after recent transient ischemic attack.* INTERNATIONAL JOURNAL OF STROKE. 2012; 7(3) 213-218. IF: 2.748. Quartile: 2.
- Fuentes B; Masjuan J; de Lecinana MA; Simal P; Egido J; Diaz-Otero F; Gil-Nunez A; Martinez-Sanchez P; Diez-Tejedor E. *Benefits of intravenous thrombolysis in acute ischemic stroke related to extra cranial internal carotid dissection. Dream or reality?* INTERNATIONAL JOURNAL OF STROKE. 2012; 7(1) 7-13. IF: 2.748. Quartile: 2.
- Matute MC; Masjuan J; Egido JA; Fuentes B; Simal P; Diaz-Otero F; Reig G; Diez-Tejedor E; Gil-Nunez A; Vivancos J; de Lecinana MA. *Safety and Outcomes following Thrombolytic Treatment in Stroke Patients Who Had Received Prior Treatment with Anticoagulants.* CEREBROVASCULAR DISEASES. 2012; 33(3) 231-239. IF: 2.814. Quartile: 2.
- Fuentes B; Gallego J; Gil-Nunez A; Morales A; Purroy F; Roquer J; Segura T; Tejada J; Lago A; Diez-Tejedor E; de Lecinana MA; Alvarez-Sabin J; Arenillas J; Calleja S; Casado I; Castellanos M; Castillo J; Davalos A; Diaz-Otero F; Egido JA; Lopez-Fe. *Guidelines for the preventive treatment of ischaemic stroke and TIA (I). Update on risk factors and life style.* NEUROLOGÍA. 2012; 27(9) 560-574. IF: 1.322. Quartile: 3.
- Purroy F; Caballero PEJ; Gorospe A; Torres MJ; Alvarez-Sabin J; Santamarina E; Martinez-Sanchez P; Canovas D; Freijo MM; Egido JA; Giron JM; Ramirez-Moreno JM; Alonso A; Rodriguez-Campello A; Casado I; Delgado-Mederos R; Marti-Fabregas J; Fuentes B; Silva. *Prediction of Early Stroke Recurrence in Transient Ischemic Attack Patients from the PROMAPA Study: A Comparison of Prognostic Risk Scores.* CEREBROVASCULAR DISEASES. 2012; 33(2) 182-189. IF: 2.814. Quartile: 2.

*Publications in journals not indexed in the Journal Citation Reports:*

- Fuentes B; Gallego J; Gil-Nuñez A; Morales A; Purroy F; Roquer J; Segura T; Tejada J; Lago A; Diez-Tejedor E; por el Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la SEN. *Guidelines for the preventive treatment of ischaemic stroke and TIA (II). Recommendations according to aetiological sub-type.* NEUROLOGÍA. 2012.
- Alonso de Leciñana M; Egido JA; Casado I; Ribó M; Dávalos A; Masjuan J; Caniego JL; Martínez Vila E; Díez Tejedor E; por el Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la SEN. *Guidelines for the treatment of acute ischaemic stroke.* NEUROLOGÍA. 2012.
- Rodríguez-Yáñez M; Castellanos M; Freijo MM; López Fernández JC; Martí-Fàbregas J; Nombela F; Simal P; Castillo J; por el Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la SEN. *Clinical practice guidelines in intracerebral haemorrhage.* NEUROLOGÍA. 2012.
- Funes Molina C; Benito Conde B; Grandes Velasco S; González Turiño E; Ruiz Falcó MV; García Pastor A, et al. *Una cuestión de peso: variabilidad en la estimación del peso del paciente para el cálculo de la dosis de alteplasa IV en el tratamiento del ictus isquémico agudo.* NEUROLOGÍA. 2012; (37):48-52.

	Number of Documents	IF
Own publications	0	0.00
Joint publications	7	20.77
First-decile publications	0	0
First-quartile publications	2	8.32
Second-quartile publications	4	11.12
Third-quartile publications	1	1.32
Fourth-quartile publications	0	0
Nonindexed publications	4	-
Total publications	11	20.77

# AREA 3

Area coordinator:  
Dr. Celso Arango López

## Neuroscience and Mental Health

One of the main research lines in the area of neuroscience is the study of the etiopathogenesis of neurodevelopmental disorders, such as autism spectrum disorder, 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 neurologic bases of neuropsychology. The relevance of the work carried out resides in the group's ability to perform longitudinal studies of unusual types of patient, such as those with early-onset first psychotic episodes or children and adolescents at risk of severe psychiatric disease. Research to date has been multidisciplinary and translational and oriented toward resolving findings associated with the clinical activity of these diseases. In fact, currently established clinical programs for these diseases are being investigated and benefiting from close coordination between clinical practice and research. One of the main associated research lines concerns developmental neuropsychopharmacology, which includes projects on pharmacogenetics and pharmacovigilance, as well as phase II/III clinical trials financed using competitive public funds and private funds. Finally, a further 2 lines of interest for this group are research on the empirical evaluation of psychotherapeutic approaches during early-onset first psychotic episodes and research into quality of services and evaluation of programs. The success of the group has been particularly apparent in recent European calls for projects and its coordination of the Centro de Investigación Biomédica en Red de Salud Mental (CIBERSAM [*Networked Center for Biomedical Research in Mental Health*]).

Furthermore, activity in neuroscience and mental health has been increasing in several emerging groups in fields such as neuroimmunology and movement disorders.

# Research axes and lines

## 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. Consolidate 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 Universidad Complutense de Madrid and clinical practice at Hospital General Universitario Gregorio Marañón 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.

# Strategic lines

## 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 Institute and pharmaceutical companies.
- ✓ Collaborate with potentially synergistic groups (medical imaging, engineering, Instituto Ramón y Cajal).

### 3. Extension of additional sources of financing: 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 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 autism spectrum disorders 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 assessment 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. Develop and lead new collaborative studies.
- ✓ Increase participation in intramural and extramural cooperative studies.

## Strategic lines

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

*Strategic objectives:*

- ✓ Continue and complete current studies.
- ✓ Develop and lead new collaborative studies.
- ✓ Promote collaboration with specific national and international consortia in schizophrenia research.

### 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 that is linked to Centro de Investigación en Red Enfermedades Neurodegenerativas (CIBERNED [Networked Center for Biomedical Research in Neurodegenerative Disease])

*Strategic objectives:*

- ✓ Use data obtained during the first 5 years of the Unit and provide stable care in the Unit.
- ✓ Develop and lead 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 by Agencia Lain Entralgo.
- ✓ 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 training of medical residents in neurology in our hospital and in other centers.

## Axis 4: Consolidation of infrastructure

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

*Strategic objectives:*

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

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

# Structure of AREA 3

## Neuroscience and Mental Health



- Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders
- Parkinson disease and movement disorders
- Clinical and etiopathogenic aspects of neuromuscular diseases
- Neuroimmunology
- Clinical neurology
- Biology of inflammation

# Psychological and neurobiological basis of mental disorders. Neurodevelopmental disorders

Group director: Celso Arango López

Group 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](http://www.hggm.es/ua) and [www.cibersam.es](http://www.cibersam.es)).

This group is one of the few to gain international recognition in the field of schizophrenia and early onset psychosis. The Unit's research activity has been prolific in collaboration 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 capacity for coordination 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 5 active research programs financed within the EU's Seventh Framework Program, as well as in the IMI call. It has 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.

Finally, the group's most outstanding innovations during 2012 were the creation of a specific program of care for people affected by Prader-Willi syndrome and Di George syndrome and the preparation of guidelines for the PIENSA program: how to understand and deal with psychosis, the program for adolescents and their family, and finally, identification of predictive and prognostic variables for the loss of gray matter in patients with a first psychotic episode.

## Integrantes del grupo

- María Álvarez Blázquez: CIBER
- Celso Arango López: Group Director
- M<sup>a</sup> Concepción Bailón Prieto: Support Technician
- Leticia Boada Muñoz: Predoctoral
- Ana Belén Calvo Calvo: Predoctoral
- Carolina Carvalho Ávila: CIBER
- Guadalupe Chielana Actis: Predoctoral
- Javier Conejo Galindo: Predoctoral
- Azucena Corral Zarapuz: Administrative Manager
- Sabrina Cruz Romaguera: Predoctoral
- Pedro Cuadrado Calleja: Postdoctoral
- Enrique de Portugal Fernández del Rivero: Postdoctoral
- Ángel Luis del Rey Mejías: Predoctoral
- Carlos Delgado Lacosta: Predoctoral
- Eva María Díaz Mesa: Predoctoral
- María Luisa Dorado Martínez: Predoctoral
- Álvaro Esguevillas Cuesta: Predoctoral
- Ana Espliego Felipe: Predoctoral
- David Fraguas Herráez: Predoctoral
- Carolina Franco: Predoctoral
- Leticia García Álvarez: Postdoctoral
- Margarita García Amador: Predoctoral
- Enrique García Bernardo: Predoctoral
- Ainhoa Garibi Pérez: Predoctoral
- Emiliano González Vioque: Postdoctoral
- Joost Janssen Jeucken: Ramón y Cajal
- Estela Jiménez López: Predoctoral
- Cloe Llorente Sarabia: Predoctoral
- Paula López González: Manager
- Gonzalo López Montoya: Postdoctoral
- María Jesús Maldonado Belmonte: Predoctoral
- María Covadonga Martínez Díaz-Caneja: Río Hortega
- María Mayoral Aragón: Postdoctoral
- Jessica Merchán Naranjo: CIBER
- Susana Merchán Ribera: Support Technician
- M<sup>a</sup> Dolores Moreno Pardillo: Postdoctoral



- Carmen Moreno Ruiz: Postdoctoral
- María Goretti Monzón Nozaleda: Post-MIR FIBHGM
- María Soledad Olmeda García: Postdoctoral
- M<sup>a</sup> José Parellada Redondo: Intensified
- María José Penzol Alonso: Predoctoral
- Laura Pina Camacho: Río Hortega
- María Pouso Ríos: Predoctoral
- Marta Rapado Castro: Sara Borrell
- Pamela Rodríguez Latorre: Predoctoral
- José Juan Rodríguez Solano: Postdoctoral
- Elisa Rodríguez Toscano: PFIS
- Laura Roldán Díaz: Predoctoral
- José Romo Villa: Predoctoral
- Enrique Sainz Cortón: Postdoctoral
- Emilio Ignacio Sánchez Díaz: Predoctoral
- Teresa Sánchez Gutiérrez: PFIS
- Petra Sánchez Mascaraque: Predoctoral
- Laura Sánchez Roncero: Support Technician
- Cecilia Tapia Casellas: CIBER
- Cristina Vilares Oliveira
- Jenine Rose Yager: Support Technician

# PSYCHOLOGICAL AND NEUROBIOLOGICAL BASIS OF MENTAL DISORDERS.

## NEURODEVELOPMENTAL DISORDERS

### Research Projects - Competitive Calls

- Principal investigator: Celso Arango López  
Title: "The Eu Joint National Schizophrenia Networks for the identification of gene-environment interactions".  
Funding body: European Commission  
Start date: 2010  
End date: 2015
- Principal investigator: Celso Arango López  
Title: "Optimization of treatment in the management in schizophrenia".  
Funding body: European Commission  
Start date: 2010  
End date: 2016
- Principal investigator: Celso Arango López  
Title: "Paediatric european risperidone studies".  
Funding body: European Commission  
Start date: 2010  
End date: 2015
- Principal investigator: M<sup>a</sup> José Parellada Redondo  
Title: "Efecto del tratamiento con ácidos grasos omega 3 durante 8 semanas sobre el metabolismo oxidativo en pacientes con trastornos del espectro autista: ensayo clínico randomizado, cruzado doble-ciego, controlado con placebo".  
Funding body: Ministry of Health, Social Services and Equality  
Start date: 2011  
End date: 2013
- Principal investigator: Celso Arango López  
Title: "Efecto del tratamiento con ácidos grasos omega-3 durante 24 semanas sobre la pérdida de sustancia gris al año y el metabolismo sobre la pérdida de sustancia gris al año y el metabolismo oxidativo en pacientes con primeros episodios psicóticos de inicio temprano: ensayo clínico randomizado, doble ciego, controlado con placebo".  
Funding body: Ministry of Health, Social Services and Equality  
Start date: 2012  
End date: 2013
- Principal investigator: Marta Rapado Castro  
Title: "Marcadores oxidativos y neuroinflamatorios 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: Celso Arango López  
Title: "Identificación de genes candidatos como marcadores de riesgo para el aumento de peso en pacientes en tratamiento con antipsicóticos de segunda generación".  
Funding body: F. Mutua Madrileña  
Start date: 2010  
End date: 2012

- 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: M<sup>a</sup> Dolores Moreno Pardillo  
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: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: Carmen Moreno Ruiz  
Title: "Evolución de las alteraciones neuroanatómicas en trastorno bipolar de inicio temprano y mecanismos etiopatológicos implicados".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: M<sup>a</sup> José Parellada Redondo  
Title: "From autism to schizophrenia: Study of the genetic mechanisms underlying brain dysfunction and structural phenotypes in schizophrenia and autistic spectrum disorders".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: M<sup>a</sup> José Parellada Redondo  
Title: "Determinantes clínicos y neurobiológicos de segundos episodios de esquizofrenia. Estudio longitudinal de primeros episodios psicóticos".  
Funding body: Instituto de Salud Carlos III  
Start date: 2012  
End date: 2014
- Principal investigator: Carlos Delgado Lacosta  
Title: "Estudio de seguimiento tras cuatro años de la primera evaluación de niños y adolescentes hijos de pacientes con esquizofrenia o trastorno bipolar".  
Funding body: Instituto de Salud Carlos III  
Start date: 2012  
End date: 2014
- Principal investigator: Enrique de Portugal Fernández del Rivero  
Title: "Alteraciones neurocognitivas en la patogenia de las ideas delirantes en la paranoia (trastorno delirante)".  
Funding body: Instituto de Salud Carlos III  
Start date: 2012  
End date: 2014
- Principal investigator: Joost Janssen Jeucken  
Title: "From ASD to SSD: a study of brain network efficiency and cognitive impairment in autism spectrum disorders and schizophrenia spectrum disorders".  
Funding body: Instituto de Salud Carlos III  
Start date: 2012  
End date: 2014
- 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

## PSYCHOLOGICAL AND NEUROBIOLOGICAL BASIS OF MENTAL DISORDERS. NEURODEVELOPMENTAL DISORDERS

- Principal investigator: Celso Arango López  
Title: "Mecanismos etiofisiopatológicos en la pérdida de sustancia gris cerebral en los primeros episodios psicóticos de inicio temprano. Estudio a partir de un modelo humano y un modelo animal".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2013
- Principal investigator: Javier Conejo Galindo  
Title: "Estudio de la depresión incidente específica post-infarto agudo de miocardio: psicopatología diferencial y correlatos fisiopatológicos".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012
- Principal investigator: Celso Arango López  
Title: "Ambiente y genes en esquizofrenia: grupos de investigación de la Comunidad de Madrid".  
Funding body: Comunidad de Madrid  
Start date: 2012  
End date: 2015

### Thesis

Doctoral Student	Title	Director	University
Carmen Moreno Ruiz	Dificultades diagnósticas y de tratamiento del trastorno bipolar de inicio temprano: estudio multipoblacional	Celso Arango López; Carlos Blanco Jerez	Universidad Complutense de Madrid

### Clinical Practice Guidelines

Authors	Title	Publication
Grupo de trabajo de la GPC sobre Trastorno Bipolar	Guía de práctica clínica sobre trastorno bipolar	Universidad de Alcalá de Henares y Asociación Española de Neuropsiquiatría (eds.)

### Publications

**Total Impact Factor: 82.01**

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

- Bobes J; Arango C; Aranda P; Carmena R; Garcia-Garcia M; Rejas J. *Cardiovascular and metabolic risk in outpatients with schizoaffective disorder treated with antipsychotics: Results from the CLAMORS study.* EUROPEAN PSYCHIATRY. 2012; 27(4) 267-274. IF: 3.285. Quartile: 1.
- Arango C. *Mental Health Research in Spain: A bit more than green shoots.* REVISTA DE PSIQUIATRÍA Y SALUD MENTAL. 2012; 5(4) 211-213. IF: 0.667. Quartile: 4.
- Fraguas D; Gonzalez-Pinto A; Mico JA; Reig S; Parellada M; Martinez-Centgotibengoa M; Castro-Fornieles J; Rapado-Castro M; Baeza I; Janssen J;. *Decreased glutathione levels predict loss of brain volume in children and adolescents with first-episode psychosis in a two-year longitudinal study.* SCHIZOPHRENIA RESEARCH. 2012; 137(1-3) 58-65. IF: 4.59. Quartile: 1.
- Parellada M; Moreno C; Mac-Dowell K; Leza JC; Giraldez M; Bailon C; Castro C; Miranda-Azpiazu P; Fraguas D; Arango C. *Plasma antioxidant capacity is reduced in Asperger syndrome.* JOURNAL OF PSYCHIATRIC RESEARCH. 2012; 46(3) 394-401. IF: 4.066. Quartile: 1.

- Al-Halabi S; Garcia-Portilla MP; Saiz PA; Fonseca E; Bobes-Bascaran MT; Galvan G; Iglesias C; Arrojo M; Benabarre A; Goikolea JM; Sanchez E; Sarramea F; Bobes J. *Psychometric properties of the Spanish version of the Body Weight, Image and Self-Esteem Evaluation questionnaire in patients with severe mental disorders.* COMPREHENSIVE PSYCHIATRY. 2012; 53(8) 1237-1242. IF: 2.376. Quartile: 2.
- Merchan-Naranjo J; Tapia C; Bailon C; Moreno C; Baeza I; Calvo-Escalona R; Morer A; Martinez-Cantarero C; Nestares PA; Alda JA; Munoz D; Arango C. *Secondary effects of antipsychotic treatment in naive or quasi-naive children and adolescents: Design of a follow-up protocol and baseline results.* REVISTA DE PSIQUIATRÍA Y SALUD MENTAL. 2012; 5(4) 217-228. IF: 0.667. Quartile: 4.
- Irastorza LJ; Rojano P; Gonzalez-Salvador T; Cotobal J; Leira M; Rojas C; Rubio G; Rodriguez-Rieiro C; Bellon JM; Alvarez M; Rodriguez C; Arango C. *Psychometric properties of the Spanish version of the Diagnostic Interview for Depressive Personality.* EUROPEAN PSYCHIATRY. 2012; 27(8) 582-590. IF: 3.285. Quartile: 1.
- Arango C. *Someone is not listening to the facts: there is little psychiatry outside child and adolescent psychiatry.* EUROPEAN CHILD & ADOLESCENT PSYCHIATRY. 2012; 21(9) 475-476. IF: 3.699. Quartile: 1.
- Nuevo R; Chatterji S; Verdes E; Naidoo N; Arango C; Ayuso-Mateos JL. *The Continuum of Psychotic Symptoms in the General Population: A Cross-national Study.* SCHIZOPHRENIA BULLETIN. 2012; 38(3) 475-485. IF: 8.486. Quartile: 1.
- Fischer BA; Keller WR; Arango C; Pearlson GD; McMahon RP; Meyer WA; Francis A; Kirkpatrick B; Carpenter WT; Buchanan RW. *Cortical structural abnormalities in deficit versus nondeficit schizophrenia.* SCHIZOPHRENIA RESEARCH. 2012; 136(1-3) 51-54. IF: 4.59. Quartile: 1.
- Merchan-Naranjo J; Mayoral M; Rapado-Castro M; Llorente C; Boada L; Arango C; Parellada M. *Estimation of the Intelligence Quotient Using Wechsler Intelligence Scales in Children and Adolescents with Asperger Syndrome.* JOURNAL OF AUTISM AND DEVELOPMENTAL DISORDERS. 2012; 42(1) 116-122. IF: 3.723. Quartile: 1.
- Gonzalez-Pinto A; Martinez-Cengotitabengoa M; Arango C; Baeza I; Otero-Cuesta S; Graell-Berna M; Soutullo C; Leza JC; Mico JA. *Antioxidant defense system and family environment in adolescents with family history of psychosis.* BMC PSYCHIATRY. 2012; 12. IF: 2.233. Quartile: 2.
- Parellada M; Moreno C; Moreno M; Espliego A; de Portugal E; Arango C. *Placebo effect in child and adolescent psychiatric trials.* EUROPEAN NEUROPSYCHOPHARMACOLOGY. 2012; 22(11) 787-799. IF: 4.595. Quartile: 1.
- Pina-Camacho L; Villero S; Fraguas D; Boada L; Janssen J; Navas-Sanchez FJ; Mayoral M; Llorente C; Arango C. *Autism Spectrum Disorder: Does Neuroimaging Support the DSM-5 Proposal for a Symptom Dyad? A Systematic Review of Functional Magnetic Resonance Imaging and Diffusion Tensor Imaging Studies.* JOURNAL OF AUTISM AND DEVELOPMENTAL DISORDERS. 2012; 42(7) 1326-1341. IF: 3.723. Quartile: 1.
- Moreno C; Hasin DS; Arango C; Oquendo MA; Vieta E; Liu SM; Grant BF; Blanco C. *Depression in bipolar disorder versus major depressive disorder: results from the National Epidemiologic Survey on Alcohol and Related Conditions.* BIPOLAR DISORDERS. 2012; 14(3) 271-282. IF: 4.621. Quartile: 1.
- Mayoral M; Bombin I; Castro-Fornieles J; Gonzalez-Pinto A; Otero S; Parellada M; Moreno D; Baeza I; Graell M; Rapado M; Arango C. *Longitudinal study of neurological soft signs in first-episode early-onset psychosis.* JOURNAL OF CHILD PSYCHOLOGY AND PSYCHIATRY. 2012; 53(3) 323-331. IF: 5.422. Quartile: 1.
- Bobes J; Garcia-Portilla MP; Bobes-Bascaran MT; Parellada M; Bascaran MT; Saiz PA; Bousono M; Arango C. *The state of psychiatry in Spain.* INTERNATIONAL REVIEW OF PSYCHIATRY. 2012; 24(4) 347-355. IF: 1.608. Quartile: 3.
- Janssen J; Aleman-Gomez Y; Reig S; Schnack HG; Parellada M; Graell M; Moreno C; Moreno D; Mateos-Perez JM; Udias JM; Arango C. *Regional specificity of thalamic volume deficits in male adolescents with early-onset psychosis.* BRITISH JOURNAL OF PSYCHIATRY. 2012; 200(1) 30-36. IF: 6.606. Quartile: 1.

## PSYCHOLOGICAL AND NEUROBIOLOGICAL BASIS OF MENTAL DISORDERS. NEURODEVELOPMENTAL DISORDERS

- Arango C; Rapado-Castro M; Reig S; Castro-Fornieles J; Gonzalez-Pinto A; Otero S; Baeza I; Moreno C; Graell M; Janssen J; Parellada M; Moren. *Progressive Brain Changes in Children and Adolescents With First-Episode Psychosis*. ARCHIVES OF GENERAL PSYCHIATRY. 2012; 69(1) 16-26. IF: 13.772. Quartile: 1.

*Publications in journals not indexed in the Journal Citation Reports:*

- Grupo de trabajo de la GPC sobre Trastorno Bipolar. *Guía de práctica clínica sobre trastorno bipolar*. Universidad de Alcalá de Henares y Asociación Española de Neuropsiquiatría (eds.). 2012.

	Number of Documents	IF
Own publications	14	61.04
Joint publications	5	20.97
First-decile publications	5	37.98
First-quartile publications	14	74.46
Second-quartile publications	2	4.60
Third-quartile publications	1	1.60
Fourth-quartile publications	2	1.33
Nonindexed publications	1	-
Total publications	20	82.01

# Parkinson disease and movement disorder

Group director: Francisco Grandas Pérez

Group type: EMERGING

## Research lines

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

## Group members (researchers and support staff)

- Fernando Alonso Frech: Postdoctoral
- Beatriz de la Casa Fages: Predoctoral
- Juan Pablo Cuello: Predoctoral
- Ángel Esteban García: Postdoctoral
- Carlos Fernández Carballal: Predoctoral
- María Pilar Fernández García: Predoctoral
- Francisco Javier Grandas Pérez: Group Director
- Juan Adán Guzmán de Villoria Lebiedziejewski: Postdoctoral
- Laura Lillo Triguero: Predoctoral
- Julio Ignacio Prieto Montalvo: Postdoctoral
- Julia Romero Martínez: Predoctoral
- Alfredo Traba López: Predoctoral
- José Miguel Velázquez Pérez: Predoctoral



## PARKINSON DISEASE AND MOVEMENT DISORDER

### Research Projects - Competitive Calls

- Principal investigator: Francisco Javier Grandas Pérez  
Title: "Neurodegenerativa. Estudio del equilibrio y control postural en pacientes con enfermedades de Parkinson".  
Funding body: Agencia Laín Entralgo  
Start date: 2010  
End date: 2012
- 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
- Principal investigator: Francisco Javier Grandas Pérez  
Title: "Caracterización clínica, neurofisiológica y por neuroimagen de la paraparesia espástica hereditaria en adultos. Correlación fenotipo-genotipo".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012

### Publications

**Total Impact Factor: 12.58**

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

- Luquin MR; Garcia-Ruiz PJ; Marti MJ; Rojo A; Vela L; Grandas FJ; Bravo-Utrera M; Burguera JA; Chacon JR; Campos-Arillo VM; Duran-Herrera C; Fernandez-Garcia JM; Garcia-Ramos R; Gomez-Esteban JC; Gutierrez J; Juni J; Mata M; Martinez-Castrillo JC; Olivares. *Levodopa in the treatment of Parkinson's disease: myths and realities.* REVISTA DE NEUROLOGÍA. 2012; 55(11) 669-688. IF: 1.179. Quartile: 4.

- Andres C; Teijeiro R; Alonso B; Sanchez-Madrid F; Martinez ML; de Villoria JG; Fernandez-Cruz E; Sanchez-Ramon S. *Long-Term Decrease in VLA-4 Expression and Functional Impairment of Dendritic Cells during Natalizumab Therapy in Patients with Multiple Sclerosis.* PLOS ONE. 2012; 7(4). IF: 3.73. Quartile: 1.
- De la Casa-Fages B; Grandas F. *Dopamine dysregulation syndrome after deep brain stimulation of the subthalamic nucleus in Parkinson's disease.* JOURNAL OF THE NEUROLOGICAL SCIENCES. 2012; 312(1-2) 191-193. IF: 2.243. Quartile: 2.
- Dominguez JMG; Gines MLM; Martin-Barriga ML; Guzman-de-Villoria J; Blanco JLM; Frutos CD. *Recurrent acute rhombencephalomyelitis in an adult or neuromyelitis optica? Presentation of a case.* NEUROLOGÍA. 2012; 27(3) 154-160. IF: 1.322. Quartile: 3.
- Ruiz-Juretschke F; Aristegui M; Garcia-Leal R; Fernandez-Carballal C; Lowy A; Martin-Ouidedo C; Panadero T. *Cerebral salt wasting syndrome: postoperative complication in tumours of the cerebellopontine angle.* NEUROCIRUGÍA. 2012; 23(1) 40-43. IF: 0.343. Quartile: 4.
- Dominguez-Paez M; Herranz-Fernandez JL; Villanueva-Haba V; Sanchez-Alvarez JC; Olivares-Granados G; Garcia-de Sola R; Albisua-Sanchez J; Arraez-Sanchez MA; Mosqueira-Centurion B; Amaro-Cendon S; Bollar-Zabala A; Carceller-Benito F; Salazar-Hernandez J; Fe. *Primary prophylaxis of early seizures after surgery of cerebral supratentorial tumors: Group for the Study of Functional-Sterotactic Neurosurgery of The Spain Society of Neurosurgery recommendations.* NEUROCIRUGÍA. 2012; 23(1) 29-35. IF: 0.343. Quartile: 4.
- Grandas FJ; Sesar-Ignacio A. *Subcutaneous continuous apomorphine infusion: treatment initiation and follow up.* REVISTA DE NEUROLOGÍA. 2012; 55. S21-S24. IF: 1.179. Quartile: 4.

- Contreras A; Grandas F. *Risk factors for freezing of gait in Parkinson's disease.* JOURNAL OF THE NEUROLOGICAL SCIENCES. 2012; 320(1-2) 66-71. IF: 2.243. Quartile: 2.

*Publications in journals not indexed in the Journal Citation Reports:*

- Contreras A; Grandas FJ. *Risk of Falls in Parkinson's Disease: A Cross-Sectional Study of 160 Patients.* Parkinson's Disease. 2012.

	Number of Documents	IF
Own publications	3	5.67
Joint publications	5	6.92
First-decile publications	0	0
First-quartile publications	1	3.73
Second-quartile publications	2	4.48
Third-quartile publications	1	1.32
Fourth-quartile publications	4	3.04
Nonindexed publications	1	-
Total publications	9	12.58

# Clinical and etiopathogenic aspects of neuromuscular disease

Group director: José Luis Muñoz Blanco

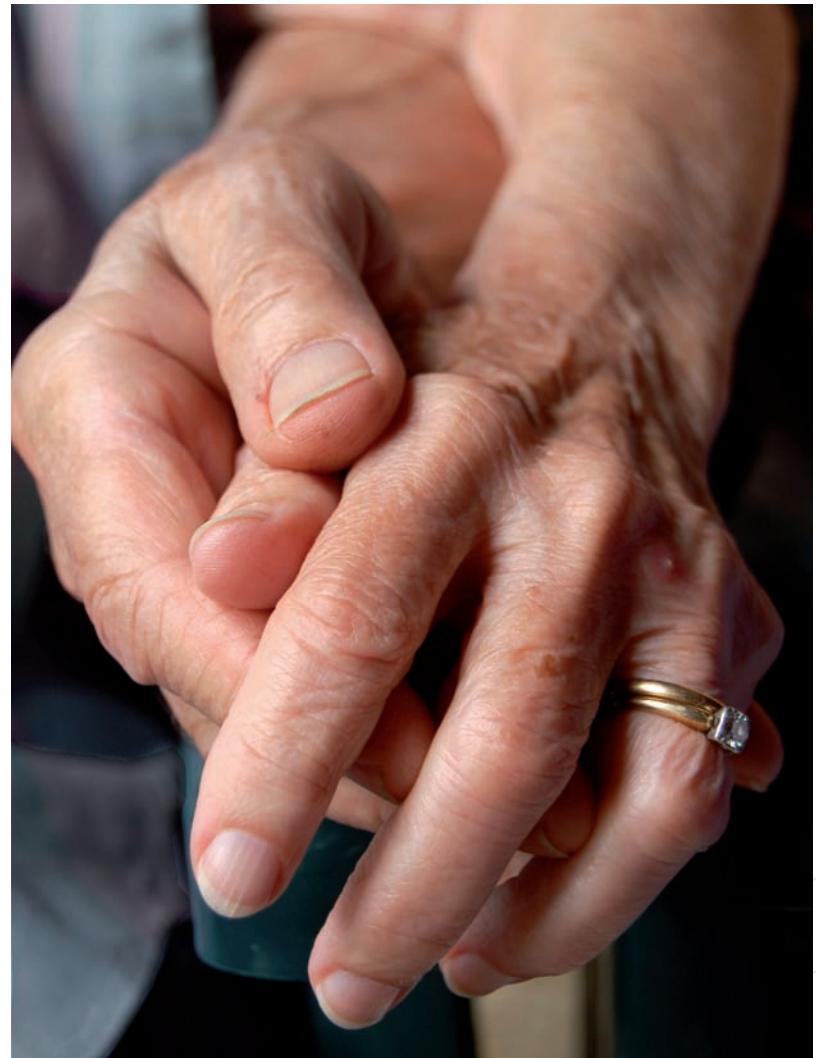
Group type: EMERGING

## Research lines

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

## Group members (researchers and support staff)

- Irene Catalina Álvarez: Predoctoral
- María Rosario Jiménez Bautista: Predoctoral
- Roberto Moure Romano: Predoctoral
- José Luis Muñoz Blanco: Group Director
- Ángela Puche Torres: Predoctoral



## Research Projects - Competitive Calls

- Principal investigator: Francisco Javier Grandas Pérez  
Title: "Caracterización clínica, neurofisiológica y por neuroimagen de la paraparesia espástica hereditaria en adultos. Correlación fenotipo-genotipo".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012

## Publications

**Impact factor: 9.57**

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

- Dominguez JMG; Gines MLM; Martin-Barriga ML; Guzman-de-Villoria J; Blanco JLM; Frutos CD. *Recurrent acute rhombencephalomyelitis in an adult or neuromyelitis optica. Presentation of a case.* NEUROLOGÍA. 2012; 27(3) 154-160. IF: 1.322. Quartile: 3.

- Diaz-Manera J; Martinez-Hernandez E; Querol L; Klooster R; Rojas-Garcia R; Suarez-Calvet X; Munoz-Blanco JL; Mazia C; Straasheijm KR; Gallardo E; Juarez C; Verschueren JJ; Illa I. *Long-lasting treatment effect of rituximab in MuSK myasthenia.* NEUROLOGY. 2012; 78(3) 189-193. IF: 8.249. Quartile: 1.

	Number of Documents	IF
Own publications	0	0.00
Joint publications	2	9.57
First-decile publications	1	8.24
First-quartile publications	1	8.25
Second-quartile publications	0	0
Third-quartile publications	1	1.32
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	2	9.57

# Neuroimmunology

*Group director:* Clara de Andrés Frutos

*Group 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 (researchers and support staff)

- **Clara de Andrés Frutos:** Group Director
- **María Luisa Martínez Ginés:** Predoctoral
- **María Rosa Peraita Adrados:** Postdoctoral



**Publications****Total Impact Factor: 18.98**

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

- Miano S; Castaldo R; Ferri R; Peraita-Adrados R; Paolino MC; Montesano M; Villa MP. *Sleep cyclic alternating pattern analysis in infants with apparent life-threatening events: A daytime polysomnographic study.* CLINICAL NEUROPHYSIOLOGY. 2012; 123(7) 1346-1352. IF: 3.144. Quartile: 2.
- Andres C; Teijeiro R; Alonso B; Sanchez-Madrid F; Martinez ML; de Villoria JG; Fernandez-Cruz E; Sanchez-Ramon S. *Long-Term Decrease in VLA-4 Expression and Functional Impairment of Dendritic Cells during Natalizumab Therapy in Patients with Multiple Sclerosis.* PLOS ONE. 2012; 7(4). IF: 3.73. Quartile: 1.
- Aristimuno C; Teijeiro R; Valor L; Alonso B; Tejera-Alhambra M; de Andres C; Minarro DO; Lopez-Lazareno N; Faure F; Sanchez-Ramon S. *Sex-hormone receptors pattern on regulatory T-cells: clinical implications for multiple sclerosis.* CLINICAL AND EXPERIMENTAL MEDICINE. 2012; 12(4) 247-255. IF: 2.397. Quartile: 2.
- Abascal JFPJ; Aguirre J; Chamorro-Servent J; Schweiger M; Arridge S; Ripoll J; Vaquero JJ; Desco M. *Influence of absorption and scattering on the quantification of fluorescence diffuse optical tomography using normalized data.* JOURNAL OF BIOMEDICAL OPTICS. 2012; 17(3). IF: 2.881. Quartile: 1.
- Lecendreux M; Bruni O; Franco P; Gringras P; Konofal E; Nevsimalova S; Paiva T; Partinen M; Peeters E; Peraita-Adrados R; Plazzi G; Poli F. *Clinical experience suggests that modafinil is an effective and safe treatment for paediatric narcolepsy.* JOURNAL OF SLEEP RESEARCH. 2012; 21(4) 481-483. IF: 3.043. Quartile: 2.

- Tejera-Alhambra M; Alonso B; Teijeiro R; Ramos-Medina R; Aristimuno C; Valor L; de Andres C; Sanchez-Ramon S. *Perforin Expression by CD4+ Regulatory T Cells Increases at Multiple Sclerosis Relapse: Sex Differences.* INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2012; 13(6) 6698-6710. IF: 2.464. Quartile: 2.
- Dominguez JMG; Gines MLM; Martin-Barriga ML; Guzman-de-Villoria J; Blanco JLM; Frutos CD. *Recurrent acute rhombencephalomyelitis in an adult or neuromyelitis optica. Presentation of a case.* NEUROLOGÍA. 2012; 27(3) 154-160. IF: 1.322. Quartile: 3.

	Number of Documents	IF
Own publications	2	5.05
Joint publications	5	13.93
First-decile publications	0	0
First-quartile publications	2	6.61
Second-quartile publications	4	11.04
Third-quartile publications	1	1.32
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	7	18.98

# Clinical neurology

Group director: Dolores Mateo González †

Group type: ASSOCIATED CLINICAL

## Research lines

- ✓ L1. Cognitive impairment
- ✓ L2. Dementia

## Group members (researchers and support staff)

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



**Publications****Total Impact Factor: 7.18**

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

- Cruz-Orduna I; Bellon JM; Torrero P; Aparicio E; Sanz A; Mula N; Marzana G; Begue C; Cabezon D; Olazaran J. *Detecting MCI and dementia in primary care: efficiency of the MMS, the FAQ and the IQCODE.* FAMILY PRACTICE. 2012; 29(4) 401-406. IF: 1.828. Quartile: 1.
- Martinez-Martin P; Osa-Ruiz E; Gomez-Conesa A; Olazaran J. *A Rating Scale for Gait Evaluation in Cognitive Deterioration (RSGE-CD): Validation Study.* JOURNAL OF ALZHEIMERS DISEASE. 2012; 31(3) 543-553. IF: 4.174. Quartile: 2.
- Olazaran-Rodriguez J; Aguera-Ortiz LF; Muniz-Schwuchert R. *Psychological and behavioural symptoms of dementia: prevention, diagnosis and treatment.* REVISTA DE NEUROLOGÍA. 2012; 55(10) 598-608. IF: 1.179. Quartile: 4.

*Publications in journals not indexed in the Journal Citation Reports:*

- Rodriguez JO; Paz MS; Sanchez SM. *Health care in dementia: satisfaction and needs of the caregiver.* NEUROLOGÍA. 2012; 27(4) 189-196. IF: 0.79. Quartile: 4.

	Number of Documents	IF
Own publications	3	7.18
Joint publications	0	0.00
First-decile publications	0	0
First-quartile publications	1	1.83
Second-quartile publications	1	4.17
Third-quartile publications	0	0
Fourth-quartile publications	1	1.17
Nonindexed publications	1	-
Total publications	4	7.18

# Biology of inflammation

Group director: M.<sup>a</sup> Concepción Guisasola Zulueta

Group type: ASSOCIATED

## Research lines

- ✓ L1. Oxidative stress and molecular mechanisms in the etiopathogenesis of autism spectrum disorders and in early onset schizophrenia. Therapeutic implications.
- ✓ L2. Variations in gene expression in the etiopathogenesis of autism.
- ✓ L3. Biomarkers in CSF on the continuum of preclinical-prodromal Alzheimer's disease (SIGNAL Study) and in normal pressure hydrocephalus.
- ✓ L4. Optimization of mechanical circulatory support: experimental study.
- ✓ L5. Heat shock proteins and cardiovascular disease.
- ✓ L6. Prognostic biomarkers of degeneration of the knee joint.

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 damage to 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 aggression. Its objectives were later extended to include 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, the Orthopedic Surgery Service of HGUGM, and a multicenter project with Universidad San Pablo, CEU (*Instituto de Medicina Molecular Aplicada [Institute of Applied Molecular Medicine]*).



## Group members (researchers and support staff)

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

## Research Projects - Competitive Calls

- Principal investigator: María Concepción Guisasola Zulueta  
Title: "Biomarcadores pronósticos en suero y líquido sinovial en pacientes con rotura del ligamento cruzado anterior de la rodilla".  
Funding body: F. Mapfre Medicina  
Start date: 2012  
End date: 2012

## Publications

**Total Impact Factor: 2.48**

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

- Dulin E; Garcia-Barreno P; Guisasola MC. *Genetic variations of HSPA1A, the heat shock protein levels, and risk of atherosclerosis.* CELL STRESS & CHAPERONES. 2012; 17(4) 507-516. IF: 2.484. Quartile: 3.

## Patents

- Title: Procedimiento mejorado para evaluar el riesgo cardiovascular  
Reference: P200901923  
Owner: FIBHGM  
Inventors: María Concepción Guisasola Zulueta, Elena Dulin Íñiguez

	Number of Documents	IF
Own publications	1	2.48
Joint publications	0	0.00
First-decile publications	0	0
First-quartile publications	0	0.00
Second-quartile publications	0	0
Third-quartile publications	1	2.48
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	1	2.48

# AREA 4

Area coordinator:  
Dr. Emilio Bouza Santiago

## Infectious Diseases and AIDS

**D**espite considerable advances in our knowledge of infectious diseases in recent years, infection continues to be the major 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 Instituto de Investigación Sanitaria Gregorio Marañón. Essentially, this area carries out its research around 2 consolidated groups that generate considerable activity both in clinical practice and in laboratory research. In particular, the groups of the area form part of the Centro de Investigación Biomédica Enfermedades Respiratorias (CIBERES [*Networked Center for Biomedical Research in Respiratory Disease*]), promote and lead cooperative networks in transplantation (RESITRA), and manage different multicenter cohorts in the field of AIDS (GESIDA [*AIDS Study Group*]).

The fact that the area runs several research lines covering the broad spectrum of infectious diseases has not prevented it from generating considerable scientific and academic output during the last 5 years. Of note, a strength of this area is its ability to obtain human resources through competitive calls.

Undoubtedly, the future of this area is based on the maintenance of those aspects of translational research that have characterized its activity to date. Basic research laboratory work has increased, and new molecular epidemiology systems based on direct sample analysis have been implemented. The area has also promoted cooperative epidemiological studies aimed at analyzing aspects such as the extent of antifungal resistance or at optimizing the treatment of infectious complications in transplant recipients.

In summary, the Area of Infectious Diseases and AIDS maintains the commitment to research that has marked its history. This commitment is based on the conviction that no medical activity of excellence can be envisaged without a structured approach to the most pressing issues affecting daily clinical practice.



# Research axes and lines

## 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 lines:*

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

#### 2. Alliances and collaborations in the area of infectious diseases and AIDS

*Strategic lines:*

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

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

#### 1. Scientific continuity in the molecular microbiology research line

*Strategic lines:*

- ✓ 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*.



# Strategic lines

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

*Strategic lines:*

- ✓ 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 lines:*

- ✓ Consolidate research in diagnostic methods in *Clostridium difficile* infection.
- ✓ Consolidate research in 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 lines:*

- ✓ 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

## 8. Maintenance and diversification of funding sources

*Strategic lines:*

- ✓ 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. Extension of academic options

*Strategic lines:*

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

## Axis 4: Infrastructure

*Strategic lines:*

- ✓ 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 aggression after heart surgery

# Infectious diseases

Group director: Emilio Bouza Santiago

Group type: CONSOLIDATED

## Research programs and lines

### P1. Cardiovascular infection

- ✓ L1. Endocarditis.
- ✓ L2. Bacteremia.
- ✓ L3. Catheters.

### P2. Nosocomial infection

- ✓ L1. Ventilator-associated pneumonia.
- ✓ L2. *Clostridium difficile*.
- ✓ L3. Severe pneumonia.

### P3. Infection in immunodepressed patients

- ✓ L1. Invasive mycosis.
- ✓ L2. BK virus.
- ✓ L3. Infection in transplant recipients.

### P4. Infection by mycobacteria

- ✓ L1. Clonal complexity of tuberculous infection.
- ✓ L2. Molecular epidemiology of tuberculosis.
- ✓ L3. Development of new molecular diagnostic techniques.
- ✓ L4. Characterization of infectivity.

### P5. Bone and joint infection

- ✓ L1. Prosthesis infection.

### P6. Tuberculosis

### P7. Mycosis and immunodepressed patients

### P8. Respiratory infection and intensive care

### P9. Endovascular infection

### P10. Nosocomial infection, pathogens, and antimicrobial agents



## Group members (researchers and support staff)

- Iván Adán Rodríguez: Administrative Manager
- Luis Alcalá Hernández: Predoctoral
- Sergio Álvarez Pérez: Sara Borrell
- Emilio Bouza Santiago: Group Director
- Almudena Burillo Albizúa: Postdoctoral
- Inmaculada Cabrero Martínez: Predoctoral
- Emilia Cercenado Mansilla: Predoctoral
- Pilar Escribano Martos: Sara Borrell
- Alia Eworo Ndongo: Predoctoral



## Group members (researchers and support staff)

- Ana Elisa Fernández Cruz: Postdoctoral
- Rocío Fernández Rey: Group Manager
- Beatriz Gama Ahijado: Support Technician
- Paula García Morales: Support Technician
- Darío García de Viedma del Álamo: Principal Investigator
- Paloma Gijón Vidaurreta: Predoctoral
- María Guembe Ramírez: Río Hortega
- Jesús Vicente Guinea Ortega: Miguel Servet
- Marta Herranz Martín: Support Technician
- Cristina Iglesias Arribas: Support Technician
- Ángel Iglesias Bautista: Support Technician
- Paula López Roa: Río Hortega
- Enrique Madrid Montoya
- Laura Judith Marcos Zambrano: Predoctoral
- María de las Mercedes Marín Arriaza: Postdoctoral
- Adoración Martín López: Postdoctoral
- Pablo Martín-Rabadán Caballero: Predoctoral

- María del Carmen Martínez Jiménez: Predoctoral
- Patricia Muñoz García-Paredes: Principal Investigator
- Yurena de los Ángeles Navarro García: Predoctoral
- Belén Padilla Ortega: Principal Investigator
- M<sup>a</sup> Teresa Peláez García de la Rasilla: Postdoctoral
- Laura Pérez García: Juan de la Cierva
- María Jesús Pérez Granda: Postdoctoral
- Cristina Puerta Cruz: Management
- Sandra Recio Lamparero: Support Technician
- Elena Manuela Reigadas Ramírez: Río Hortega
- Marta Rodríguez Creixems: Postdoctoral
- Belén Rodríguez Sánchez: Postdoctoral
- Adrián Ruiz Rodríguez: Support Technician
- María Jesús Ruiz Serrano: Predoctoral
- Mar Sánchez Somolinos: Predoctoral
- Fernanda del Rocío Sisлема Egas: Predoctoral
- Maricela Valerio Minero: Predoctoral

## Research Projects - Competitive Calls

- Principal investigator: Dario García de Viedma del Álamo  
Title: "Mejorando el conocimiento de la transmisión de tuberculosis en población indígena de Ecuador y Perú: plan piloto de genotipado avanzado de *Mycobacterium Tuberculosis* sobre muestras respiratorias".  
Funding body: Ministry of Economy and Competitiveness  
Start date: 2012  
End date: 2013
- Principal investigator: Mar Sánchez Somolinos  
Title: "Estudio comparativo in vitro de la tasa de elución en cemento óseo de daptomicina frente a vancomicina y linezolid".  
Funding body: F. Mutua Madrileña  
Start date: 2011  
End date: 2012
- Principal investigator: Emilio Bouza Santiago  
Title: "Estudio comparativo de métodos microbiológicos para el diagnóstico de catéteres totalmente implantables".  
Funding body: F. Mutua Madrileña  
Start date: 2011  
End date: 2014
- Principal investigator: Patricia Muñoz García-Paredes  
Title: "Programa multidisciplinar para la gestión de antifúngicos y la reducción de candidiasis invasoras (PROMULGA-Cl)".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: María Jesús Pérez Granda  
Title: "Impacto de un paquete de medidas en la reducción de la incidencia de neumonía asociada a ventilación mecánica en adultos. Estudio Reina".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: Paloma Gijón Vidaurreta  
Title: "Liberación de IFN-gamma (IGRA) vs test cutáneo (PPD) como screening de infección tuberculosa latente en pacientes reumatológicos antes y durante tratamiento con modificadores de la enfermedad".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: Jesús Vicente Guinea Ortega  
Title: "Caracterización de levaduras causantes de fungemia: identificación molecular, determinación de la sensibilidad antifúngica, genotipado de resistencia a equinocándidas 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 viabilidad".  
Funding body: Instituto de Salud Carlos III  
Start date: 2012  
End date: 2016
- Principal investigator: Emilio Bouza Santiago  
Title: "Neumonía en pacientes hospitalizados en medicina interna".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2013

## INFECTIOUS DISEASES

- Principal investigator: Darío García de Viedma del Álamo  
Title: "Considerando la complejidad clonal en tuberculosis: análisis de su dimensión, evaluación del papel potencial de factores bacteriológicos y caracterización de cepas/variantes implicadas con infectividad diferencial".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2013
- Principal investigator: María de las Mercedes Marín Arriaza  
Title: "Caracterización molecular de cepas de *Clostridium Difficile*. Búsqueda de genotipos de alta virulencia, detección de coinfecciones, recidivas y reinfecciones".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012

## Theses

Doctoral Student	Title	Director	University
Francisco Javier Hortal Iglesias	Neumonía asociada a la ventilación mecánica en el postoperatorio de pacientes sometidos a cirugía mayor: Estudios paneuropeos	Emilio Bouza	Universidad Complutense de Madrid
Maddalena Giannella	Neumonía en los Servicios de Medicina Interna en España	Emilio Bouza	Universidad Complutense de Madrid

## Clinical Practice Guidelines

Authors	Title	Publication
Morosini, M. Cercenado, E. Ardanuy, C. Torres, C.	Phenotypic detection of resistance mechanisms in gram-positive bacteria	Enferm Infect Microbiol Clin
Muñoz, P. Fernández, N. S. Farinas, M. C.	Epidemiology and risk factors of infections after solid organ transplantation.	Enferm Infect Microbiol Clin
Rodríguez-Bano, J. Pano-Pardo, J. R. Álvarez-Rocha, L. Asensio, A. Calbo, E. Cercenado, E. Cisneros, J. M. Cobo, J. Delgado, O. Garnacho-Montero, J. Grau, S. Horcajada, J. P. Hornero, A. Murillas-Angoitia, J. Oliver, A. Padilla, B. Pasquau, J. Pujol, M. Ruiz-Garbajosa, P. San Juan, R. Sierra, R.	Programas de optimización de uso de antimicrobianos (PROA) en hospitales españoles: documento de consenso GEIH-SEIMC, SEFH y SEMPSPH	Enferm Infect Microbiol Clin
E Bouza, A Burillo, J Lebras, H Peigue-Lafeuille, C Poyert	Services around the clock in microbiology	European Society of Clinical Microbiology and Infectious Diseases. (ESCMID)
E Bouza, A Burillo, D de Briel	Catheter-related infections	European Society of Clinical Microbiology and Infectious Diseases. (ESCMID)

## Intellectual Property Registration

- Title: Estudio de impacto clínico de un plan docente de formación continuada sobre las infecciones asociadas a dispositivos intravasculares

Reference: M-003545/2013

Owner: FIBHGM

Inventors: Emilio Bouza, María Guembe, Patricia Muñoz, M<sup>a</sup> Eugenia González, M<sup>a</sup> Jesús Pérez, M<sup>a</sup> del Mar San Segundo

## Publication

## Total Impact Factor: 217.07

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

- Peman J; Canton E; Quindos G; Eraso E; Alcoba J; Guinea J; Merino P; Ruiz-Perez-de-Pipaon MT; Perez-del-Molino L; Linares-Sicilia MJ; Marco F; Garcia J; Rosello EM; Gomez-G-de-la-Pedrosa E; Borrell N; Porras A; Yague G. *Epidemiology, species distribution and in vitro antifungal susceptibility of fungaemia in a Spanish multicentre prospective survey.* JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2012; 67(5) 1181-1187. IF: 5.338. Quartile: 1.
- Ortega A; Oteo J; Aranzamendi-Zaldumbide M; Bartolome RM; Bou G; Cercenado E; Conejo MC; Gonzalez-Lopez JJ; Marin M; Martinez-Martinez L; Merino M; Navarro F; Oliver A; Pascual A; Rivera A; Rodriguez-Bano J; Weber I; Aracil B; Campos J. *Spanish Multicenter Study of the Epidemiology and Mechanisms of Amoxicillin-Clavulanate Resistance in Escherichia coli.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(7) 3576-3581. IF: 4.565. Quartile: 1.
- Alcalá L; Martín A; Martín M; Sanchez-Somolinos M; Catalán P; Peláez T; Bouza E. *The undiagnosed cases of Clostridium difficile infection in a whole nation: where is the problem.* CLINICAL MICROBIOLOGY AND INFECTION. 2012; 18(7) E204-E213. IF: 4.578. Quartile: 1.

- Lopez-Roa P; Ruiz-Serrano MJ; Alcala L; Raez NGE; de Viedma DG; Bouza E. *Susceptibility testing to second-line drugs and ethambutol by Genotype MTBDRsl and Bactec MGIT 960 comparing with agar proportion method.* TUBERCULOSIS. 2012; 92(5) 417-421. IF: 3.033. Quartile: 2.
- Perez-Llarena FJ; Fernandez A; Zamorano L; Kerff F; Beceiro A; Aracil B; Cercenado E; Miro E; Oliver A; Oteo J; Navarro F; Bou G. *Characterization of a Novel IMP-28 Metallo-beta-Lactamase from a Spanish Klebsiella oxytoca Clinical Isolate.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(8) 4540-4543. IF: 4.565. Quartile: 1.
- Cafini F; Sevillano D; Alou L; Gomez-Aguado F; Corcuera MT; Gonzalez N; Guinea J; Prieto J. *Effect of protein binding on the activity of voriconazole alone or combined with anidulafungin against Aspergillus spp. using a time-kill methodology.* REVISTA ESPAÑOLA DE QUIMIOTERAPIA. 2012; 25(1) 47-55. IF: 0.836. Quartile: 4.
- Caceres N; Llopis I; Marzo E; Prats C; Vilaplana C; de Viedma DG; Samper S; Lopez D; Cardona PJ. *Low Dose Aerosol Fitness at the Innate Phase of Murine Infection Better Predicts Virulence amongst Clinical Strains of Mycobacterium tuberculosis.* PLOS ONE. 2012;7(1):e29010. IF: 3.73. Quartile: 1.
- Carbone J; Lario N; Gallego A; Kern F; Navarro J; Munoz P; Alonso R; Catalan P; Fernandez-Yanez J; Palomo J; Ruiz M; Fernandez-Cruz E. *Simultaneous Monitoring of Cytomegalovirus-Specific Antibody and T-cell levels in Sero-positive Heart Transplant Recipients.* JOURNAL OF CLINICAL IMMUNOLOGY. 2012; 32(4) 809-819. IF: 3.382. Quartile: 2.
- Insa R; Marin M; Martin A; Martin-Rabadan P; Alcala L; Cercenado E; Calatayud L; Linares J; Bouza E. *Systematic Use of Universal 16S rRNA Gene Polymerase Chain Reaction (PCR) and Sequencing for Processing Pleural Effusions Improves Conventional Culture Techniques.* MEDICINE. 2012; 91(2) 103-110. IF: 4.233. Quartile: 1.

## INFECTIOUS DISEASES

- Munoz P; Rojas L; Cervera C; Garrido G; Farinas MC; Valerio M; Giannella M; Bouza E. *Poor compliance with antifungal drug use guidelines by transplant physicians: a framework for educational guidelines and an international consensus on patient safety.* CLINICAL TRANSPLANTATION. 2012; 26(1) 87-96. IF: 1.634. Quartile: 2.
- Alonso M; Escribano P; Guinea J; Recio S; Simon A; Pelaez T; Bouza E; de Viedma DG. *Rapid Detection and Identification of Aspergillus from Lower Respiratory Tract Specimens by Use of a Combined Probe-High-Resolution Melting Analysis.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(10) 3238-3243. IF: 4.068. Quartile: 1.
- Perez-Romero P; Aydillo TA; Perez-Ordonez A; Munoz P; Moreno A; Lopez-Medrano F; Bodro M; Montejo M; Gavalda J; Farinas MC; Pachon J; Cordero E. *Reduced incidence of pneumonia in influenza-vaccinated solid organ transplant recipients with influenza disease.* CLINICAL MICROBIOLOGY AND INFECTION. 2012; 18(12) E533-E540. IF: 4.578. Quartile: 1.
- Guembe M; Perez-Parra A; Gomez E; Sanchez-Luna M; Bustinza A; Zamora E; Carrillo-Alvarez A; Cuenca A; Padilla B; Martin-Rabadan P. *Impact on knowledge and practice of an intervention to control catheter infection in the ICU.* EUROPEAN JOURNAL OF CLINICAL MICROBIOLOGY & INFECTIOUS DISEASES. 2012; 31(10) 2799-2808. IF: 3.024. Quartile: 2.
- Espinel-Ingroff A; Chowdhary A; Cuenca-Estrella M; Fothergill A; Fuller J; Hagen F; Govender N; Guarro J; Johnson E; Lass-Florl C; Lockhart SR; Martins MA; Meis JF; Melhem MSC; Ostrosky-Zeichner L; Pelaez T; Pfaller MA; Schell WA; Trilles L; Kidd S; Turni. *Cryptococcus neoformans-Cryptococcus gattii Species Complex: an International Study of Wild-Type Susceptibility End-point Distributions and Epidemiological Cutoff Values for Amphotericin B and Flucytosine.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(6) 3107-3113. IF: 4.565. Quartile: 1.
- Guembe M; Bustinza A; Luna MS; Carrillo-Alvarez A; Sheriff VP; Bouza E. *Guidelines for preventing catheter infection: assessment of knowledge and practice among paediatric and neonatal intensive care healthcare workers.* JOURNAL OF HOSPITAL INFECTION. 2012; 81(2) 123-127. IF: 2.855. Quartile: 2.
- Rodriguez-Bano J; Pano-Pardo JR; Alvarez-Rocha L; Asensio A; Calbo E; Cercenado E; Cisneros JM; Cobo J; Delgado O; Garnacho-Montero J; Grau S; Horcajada JP; Hornero A; Murillas-Angotij J; Oliver A; Padilla B; Pasquau J; Pujol M; Ruiz-Garabajosa P; San Juan. *Programs for optimizing the use of antibiotics (PROA) in Spanish hospitals: GEIH-SEIMC, SEFH and SEMPSPH consensus document.* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLÍNICA. 2012; 30(1) 22-23. IF: 1.478. Quartile: 4.
- Sarmiento E; del Pozo N; Gallego A; Fernandez-Yanez J; Palomo J; Villa A; Ruiz M; Munoz P; Rodriguez C; Rodriguez-Molina J; Navarro J. *Decreased levels of serum complement C3 and natural killer cells add to the predictive value of total immunoglobulin G for severe infection in heart transplant recipients.* TRANSPLANT INFECTIOUS DISEASE. 2012; 14(5) 526-539. IF: 1.984. Quartile: 3.
- Valero M; Pedromingo M; Munoz P; Alcala L; Marin M; Pelaez T; Giannella M; Bouza E. *Potential protective role of linezolid against Clostridium difficile infection.* INTERNATIONAL JOURNAL OF ANTIMICROBIAL AGENTS. 2012; 39(5) 414-419. IF: 4.415. Quartile: 1.
- Bumbacea D; Arend SM; Eyuboglu F; Fishman JA; Goletti D; Ison MG; Jones CE; Kampmann B; Kotton CN; Lange C; Ljungman P; Milburn H; Morris MI; Muller E; Munoz P; Nellore A; Rieder HL; Sester U; Theodoropoulos N; Wagner D; Sester M. *The risk of tuberculosis in transplant candidates and recipients: a TBNET consensus statement.* EUROPEAN RESPIRATORY JOURNAL. 2012; 40(4) 990-1013. IF: 6.355. Quartile: 1.
- Morosini MI; Cercenado E; Ardanuy C; Torres C. *Phenotypic detection of resistance mechanisms in gram-positive bacteria.* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA. 2012; 30(6) 325-332. IF: 1.478. Quartile: 4.
- Alonso M; Herranz M; Lirola MM; Gonzalez-Rivera M; Bouza E; de Viedma DG. *Real-Time Molecular Epidemiology of Tuberculosis by Direct Genotyping of Smear-Positive Clinical Specimens.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(5) 1755-1757. IF: 4.068. Quartile: 1.

- Vidal E; Torre-Cisneros J; Blanes M; Montejo M; Cervera C; Aguado JM; Len O; Carratala J; Cordero E; Bou G; Munoz P; Ramos A; Gurgui M; Borrell N; Fortun J. *Bacterial urinary tract infection after solid organ transplantation in the RESITRA cohort.* TRANSPLANT INFECTIOUS DISEASE. 2012; 14(6) 595-603. IF: 1.984. Quartile: 3.
- Ledesma J; Munoz P; de Viedma DG; Cabrero I; Loeches B; Montilla P; Gijon P; Rodriguez-Sanchez B; Bouza E. *BK virus infection in human immunodeficiency virus-infected patients.* EUROPEAN JOURNAL OF CLINICAL MICROBIOLOGY & INFECTION. 2012; 31(7) 1531-1535. IF: 3.024. Quartile: 2.
- Perez-Lago L; Herranz M; Bouza E; de Viedma DG. *Dynamic and complex Mycobacterium tuberculosis microevolution unrevealed by standard genotyping.* TUBERCULOSIS. 2012; 92(3) 232-235. IF: 3.033. Quartile: 2.
- Munoz P; Cruz AF; Usobilaga R; Zorzano A; Rodriguez-Creixems M; Guembe M; Bouza E. *Central venous catheter colonization with Staphylococcus aureus is not always an indication for antimicrobial therapy.* CLINICAL MICROBIOLOGY AND INFECTION. 2012; 18(9) 877-882. IF: 4.578. Quartile: 1.
- Lopez M; Cercenado E; Tenorio C; Ruiz-Larrea F; Torres C. *Diversity of Clones and Genotypes Among Vancomycin-Resistant Clinical Enterococcus Isolates Recovered in a Spanish Hospital.* MICROBIAL DRUG RESISTANCE. 2012; 18(5) 484-491. IF: 2.364. Quartile: 2.
- Guembe M; Rodriguez-Creixems M; Sanchez-Carrillo C; Martin-Rabadan P; Bouza E. *Differential time to positivity (DTTP) for the diagnosis of catheter-related bloodstream infection: do we need to obtain one or more peripheral vein blood cultures.* EUROPEAN JOURNAL OF CLINICAL MICROBIOLOGY & INFECTION. 2012; 31(7) 1367-1372. IF: 3.024. Quartile: 2.
- Bouza E; Giannella M; Bunsow E; Torres MV; Granda MJP; Martin-Rabadan P; Munoz P. *Ventilator-associated pneumonia due to meticillin-resistant Staphylococcus aureus: risk factors and outcome in a large general hospital.* JOURNAL OF HOSPITAL INFECTION. 2012; 80(2) 150-155. IF: 2.855. Quartile: 2.
- Bouza E. *Consequences of Clostridium difficile infection: understanding the healthcare burden.* CLINICAL MICROBIOLOGY AND INFECTION. 2012; 18: 5-12. IF: 4.578. Quartile: 1.
- Carbone J; Sarmiento E; Del Pozo N; Rodriguez-Molina JJ; Navarro J; Fernandez-Yanez J; Palomo J; Villa A; Munoz P. *Restoration of humoral immunity after intravenous immunoglobulin replacement therapy in heart recipients with post-transplant antibody deficiency and severe infections.* CLINICAL TRANSPLANTATION. 2012; 26(3) E277-E283. IF: 1.634. Quartile: 2.
- Len O; Rodriguez-Pardo D; Gavalda J; Aguado JM; Blanes M; Borrell N; Bou G; Carratala J; Cisneros JM; Fortun J; Gurgui M; Montejo M; Cervera C; Munoz P; Asensio A; Torre-Cisneros. *Outcome of Clostridium difficile-associated disease in solid organ transplant recipients: a prospective and multicentre cohort study.* TRANSPLANT INTERNATIONAL. 2012; 25(12) 1275-1281. IF: 3.155. Quartile: 1.
- Munoz P; Giannella M; Scoti F; Predomingo M; Puga D; Pinto A; Roda J; Marin M; Bouza E. *Two weeks of postsurgical therapy may be enough for high-risk cases of endocarditis caused by Streptococcus viridans or Streptococcus bovis.* CLINICAL MICROBIOLOGY AND INFECTION. 2012; 18(3) 293-299. IF: 4.578. Quartile: 1.
- Giannella M; Pinilla B; Capdevila JA; Alarcon JM; Munoz P; Alvarez JL; Bouza E. *Pneumonia treated in the internal medicine department: focus on health-care-associated pneumonia.* CLINICAL MICROBIOLOGY AND INFECTION. 2012; 18(8) 786-794. IF: 4.578. Quartile: 1.
- Pfaller MA; Espinel-Ingroff A; Canton E; Castanheira M; Cuenca-Estrella M; Diekema DJ; Fothergill A; Fuller J; Ghannoum M; Jones RN; Lockhart SR; Martin-Mazuelos E; Melhem MSC; Ostrosky-Zeichner L; Pappas P; Pelaez T; Peman J; Rex J; Szeszs MW. *Wild-Type MIC Distributions and Epidemiological Cutoff Values for Amphotericin B, Flucytosine, and Itraconazole and Candida spp. as Determined by CLSI Broth Microdilution.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(6) 2040-2046. IF: 4.068. Quartile: 1.

## INFECTIOUS DISEASES

- Pelaez T; Gijon P; Bunsow E; Bouza E; Sanchez-Yebra W; Valerio M; Gama B; Cuenca-Estrella M; Mellado E. *Resistance to Voriconazole Due to a G448S Substitution in Aspergillus fumigatus in a Patient with Cerebral Aspergillosis.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(7) 2531-2534. IF: 4.068. Quartile: 1.
- Cercenado E; Marin M; Burillo A; Martin-Rabadan P; Rivera M; Bouza E. *Rapid Detection of Staphylococcus aureus in Lower Respiratory Tract Secretions from Patients with Suspected Ventilator-Associated Pneumonia: Evaluation of the Cepheid Xpert MRSA/SA SSTI Assay.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(12) 4095-4097. IF: 4.068. Quartile: 1.
- Giannella M; Rodriguez-Sanchez B; Roa PL; Catalan P; Munoz P; de Viedma DG; Bouza E. *Should lower respiratory tract secretions from intensive care patients be systematically screened for influenza virus during the influenza season.* CRITICAL CARE. 2012; 16(3). IF: 4.718. Quartile: 1.
- Rojas L; Bunsow E; Munoz P; Cercenado E; Rodriguez-Creixems M; Bouza E. *Vancomycin MICs do not predict the outcome of methicillin-resistant Staphylococcus aureus bloodstream infections in correctly treated patients.* JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2012; 67(7) 1760-1768. IF: 5.338. Quartile: 1.
- Aguado JM; Varo E; Usetti P; Pozo JC; Moreno A; Catalan M; Len O; Blanes M; Sole A; Munoz P; Montejo M. *Safety of anidulafungin in solid organ transplant recipients.* LIVER TRANSPLANTATION. 2012; 18(6) 680-685. IF: 3.944. Quartile: 1.
- Martin-Rabadan P; Gijon P; Fernandez RA; Ballesteros M; Anguita J; Bouza E. *False-positive Aspergillus Antigenemia Due to Blood Product Conditioning Fluids.* CLINICAL INFECTIOUS DISEASES. 2012; 55(4) E22-E27. IF: 9.374. Quartile: 1.
- Oteo J; Cercenado E; Fernandez-Romero S; Saez D; Padilla B; Zamora E; Cuevas O; Bautista V; Campos J. *Extended-Spectrum-beta-Lactamase-Producing Escherichia coli as a Cause of Pediatric Infections: Report of a Neonatal Intensive Care Unit Outbreak Due to a CTX-M-14-Producing Strain.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(1) 54-58. IF: 4.565. Quartile: 1.
- Perez-Jorge C; Cordero J; Marin M; Esteban J. *Prosthetic Joint Infection Caused by *Helcococcus kunzii*.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(2) 528-530. IF: 4.068. Quartile: 1.
- Escribano P; Recio S; Pelaez T; Gonzalez-Rivera M; Bouza E; Guinea J. *In Vitro Acquisition of Secondary Azole Resistance in Aspergillus fumigatus Isolates after Prolonged Exposure to Itraconazole: Presence of Heteroresistant Populations.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(1) 174-178. IF: 4.565. Quartile: 1.
- Alvarez G; Aldudo J; Alonso M; Santana S; Valdivieso F. *Herpes simplex virus type 1 induces nuclear accumulation of hyperphosphorylated tau in neuronal cells.* JOURNAL OF NEUROSCIENCE RESEARCH. 2012; 90(5) 1020-1029. IF: 2.974. Quartile: 2.
- Fernandez-Sabe N; Cervera C; Farinas MC; Bodro M; Munoz P; Gurgui M; Torre-Cisneros J; Martin-Davila P; Noblejas A; Len O; Garcia-Reyne A; Del Pozo JL; Carratala J. *Risk Factors, Clinical Features, and Outcomes of Toxoplasmosis in Solid-Organ Transplant Recipients: A Matched Case-Control Study.* CLINICAL INFECTIOUS DISEASES. 2012; 54(3) 355-361. IF: 9.374. Quartile: 1.
- Cordero E; Perez-Romero P; Moreno A; Len O; Montejo M; Vidal E; Martin-Davila P; Farinas MC; Fernandez-Sabe N; Giannella M; Pachon J. *Pandemic influenza A(H1N1) virus infection in solid organ transplant recipients: impact of viral and non-viral co-infection.* CLINICAL MICROBIOLOGY AND INFECTION. 2012; 18(1) 67-73. IF: 4.578. Quartile: 1.
- Espinel-Ingroff A; Aller AI; Canton E; Castanon-Olivares LR; Chowdhary A; Cordoba S; Cuenca-Estrella M; Fothergill A; Fuller J; Govender N; Hagen F; Illnait-Zaragozi MT; Johnson E; Kidd S; Lass-Florl C; Lockhart SR; Martins MA; Meis JF; Melhem MSC; Ostros. *Cryptococcus neoformans-Cryptococcus gattii Species Complex: an International Study of Wild-Type Susceptibility Endpoint Distributions and Epidemiological Cutoff Values for Fluconazole, Itraconazole, Posaconazole, and Voriconazole.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(11) 5898-5906. IF: 4.565. Quartile: 1.

- Marin M; Garcia-Lechuz JM; Alonso P; Villanueva M; Alcala L; Gimeno M; Cercenado E; Sanchez-Somolinos M; Radice C; Bouza E. *Role of Universal 16S rRNA Gene PCR and Sequencing in Diagnosis of Prosthetic Joint Infection.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(3) 583-589. IF: 4.068. Quartile: 1.
- Pintado V; Pazos R; Jimenez-Mejias ME; Rodriguez-Guardado A; Gil A; Garcia-Lechuz JM; Cabellos C; Chaves F; Domingo P; Ramos A; Perez-Cecilia E; Domingo D. *Methicillin-Resistant Staphylococcus aureus Meningitis in Adults A Multicenter Study of 86 Cases.* MEDICINE. 2012; 91(1) 10-17. IF: 4.233. Quartile: 1.
- de Toro M; Saenz Y; Cercenado E; Rojo-Bezares B; Garcia-Campello M; Undabeitia E; Torres C. *High clonality and diversity of virulence determinants among bla(PSE)-positive Salmonella Typhimurium isolates recovered in three geographically distant Spanish hospitals.* DIAGNOSTIC MICROBIOLOGY AND INFECTIOUS DISEASE. 2012; 74(4) 426-428. IF: 2.26. Quartile: 3.
- Munoz P; Rojas L; Bunsow E; Saez E; Sanchez-Cambronero L; Alcala L; Rodriguez-Creixems M; Bouza E. *Listeriosis: An emerging public health problem especially among the elderly.* JOURNAL OF INFECTION. 2012; 64(1) 19-33. IF: 4.073. Quartile: 1.
- Pelaez T; Munoz P; Guinea J; Valerio M; Giannella M; Klaassen CHW; Bouza E. *Outbreak of Invasive Aspergillosis After Major Heart Surgery Caused by Spores in the Air of the Intensive Care Unit.* CLINICAL INFECTIOUS DISEASES. 2012; 54(3) E24-E31. IF: 9.374. Quartile: 1.
- Escribano P; Pelaez T; Recio S; Bouza E; Guinea J. *Characterization of clinical strains of Aspergillus terreus complex: molecular identification and antifungal susceptibility to azoles and amphotericin B.* CLINICAL MICROBIOLOGY AND INFECTION. 2012; 18(2) E24-E26. IF: 4.578. Quartile: 1.
- Guembe M; Martin-Rabadan P; Echenagusia A; Camunez F; Rodriguez-Rosales G; Simo G; Echenagusia M; Bouza E. *How Should Long-Term Tunneled Central Venous Catheters Be Managed in Microbiology Laboratories in Order To Provide an Accurate Diagnosis of Colonization.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(3) 1003-1007. IF: 4.068. Quartile: 1.

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

- Rodriguez-Bano J; Pano-Pardo JR; Alvarez-Rocha L; Asensio A; Calbo E; Cercenado E; Cisneros JM; Cobo J; Delgado O; Garnacho-Montero J; Grau S; Horcajada JP; Hornero A; Murillas-Angoitia J; Oliver A; Padilla B; Pasquau J; Pujol M; Ruiz-Garbajosa P; San Juan. *Programas de optimizacion de uso de antimicrobianos (PROA) en hospitales españoles: documento de consenso GEIH-SEIMC, SEFH y SEMPSPH.* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA. 2012.
- Munoz P; Fernandez NS; Farinas MC. *Epidemiology and risk factors of infections after solid organ transplantation.* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA. 2012.

*Publications in journals not indexed in the Journal Citation Reports:*

- Bouza E; Burillo A; Lebras J; Peigne-Lafeuvre H; Poyert C. *Services around the clock in microbiology.* European Society of Clinical Microbiology and Infectious Diseases. (ESCMID). 2012.
- Bouza E; Burillo A; de Briel D. *Catheter-related infections.* European Society of Clinical Microbiology and Infectious Diseases. (ESCMID). 2012.

	Number of Documents	IF
Own publications	29	126.80
Joint publications	25	90.26
First-decile publications	7	49.09
First-quartile publications	36	174.21
Second-quartile publications	12	32.83
Third-quartile publications	3	6.22
Fourth-quartile publications	3	3.79
Nonindexed publications	4	-
Total publications	58	217.07

# Clinical and epidemiological aspects of HIV and associated conditions

Group director: Juan Berenguer Berenguer

Group 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 (researchers and support staff)

- M<sup>a</sup> Teresa Aldámiz-Echevarría Lois: Río Hortega
- Juan Berenguer Berenguer: Group Director
- Ana María Carrero Gras: Predoctoral
- Saray Corral Carretero: Predoctoral
- Jaime Cosín Ochaíta: Predoctoral

- Cristina Díez Romero: ISCIII Support
- María Teresa González-Escalada Castellón
- Isabel Gutiérrez Cuéllar: Predoctoral
- Juan Carlos López Bernaldo de Quirós: Principal Investigator
- Pilar Miralles Martín: Predoctoral
- Margarita Ramírez Schacke: Predoctoral
- Pablo Ryan Murua: Predoctoral
- Francisco Tejerina Picado: FIPSE

## Research Projects - Competitive Calls

- Principal investigator: Juan Berenguer Berenguer  
Title: "Erradicación del virus de la hepatitis C en pacientes infectados por el VIH: efectos a largo plazo sobre la morbilidad y mortalidad no relacionada con la hepatopatía, sobre la activación inmune y sobre marcadores metabólicos, de inflamación y de daño endotelial".  
Funding body: Fundación para la Investigación y la Prevención del Sida en España  
Start date: 2011  
End date: 2013
- Principal investigator: Juan Berenguer Berenguer  
Title: "Erradicación del VHC en pacientes coinfectados por VIH/VHC: efecto sobre la inflamación, el daño endotelial, la activación inmune y la aterosclerosis preclínica".  
Funding body: Instituto de Salud Carlos III  
Start date: 2012  
End date: 2014
- Principal investigator: Juan Berenguer Berenguer  
Title: "Red De Sida (RIS)".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2013

## Publications

**Total Impact Factor: 100.05**

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

- Martinez E; D'Albuquerque PM; Llibre JM; Gutierrez F; Podzamczer D; Antela A; Berenguer J; Domingo P; Moreno X; Perez I; Pich J; Gatell JM. *Changes in cardiovascular biomarkers in HIV-infected patients switching from ritonavir-boosted protease inhibitors to raltegravir.* AIDS. 2012; 26(18) 2315-2326. IF: 6.407. Quartile: 1.

- Berenguer J; Alejos B; Hernando V; Viciana P; Salavert M; Santos I; Gomez-Sirvent JL; Vidal F; Portilla J; Del Amo J. *Trends in mortality according to hepatitis C virus serostatus in the era of combination antiretroviral therapy.* AIDS. 2012; 26(17) 2241-2246. IF: 6.407. Quartile: 1.
- Resino S; Sanchez-Conde M; Berenguer J. *Coinfection by human immunodeficiency virus and hepatitis C virus: noninvasive assessment and staging of fibrosis.* CURRENT OPINION IN INFECTIOUS DISEASES. 2012; 25(5) 564-569. IF: 4.87. Quartile: 1.
- Berenguer J; Fernandez-Rodriguez A; Jimenez-Sousa MA; Cosin J; Zarate P; Micheloud D; Lopez JC; Miralles P; Catalan P; Resino S. *High plasma CXCL10 levels are associated with HCV-genotype 1, and higher insulin resistance, fibrosis, and HIV viral load in HIV/HCV coinfected patients.* CYTOKINE. 2012; 57(1) 25-29. IF: 2.518. Quartile: 3.
- Guzman-Fulgencio M; Jimenez JL; Berenguer J; Fernandez-Rodriguez A; Lopez JC; Cosin J; Miralles P; Micheloud D; Munoz-Fernandez MA; Resino S. *Plasma IL-6 and IL-9 predict the failure of interferon-alpha plus ribavirin therapy in HIV/HCV-coinfected patients.* JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2012; 67(5) 1238-1245. IF: 5.338. Quartile: 1.
- Monge S; del Romero J; Rodriguez C; de Mendoza C; de Gorgolas M; Cosin J; Dronda F; Perez-Cecilia E; Pena JM; Santos I; Rubio R; del Amo J. *Socio-demographic factors associated with the progression of HIV infection and the impact of HAART in a seroconverter cohort in Madrid (1986-2009).* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA. 2012; 30(3) 117-123. IF: 1.478. Quartile: 4.
- Labarga P; Barreiro P; da Silva A; Guardiola JM; Rubio R; Aguirrebengoa K; Miralles P; Portu J; Tellez MJ; Morano L; Castro A; Pineda JA; Terron A; Hernandez-Quero J; Marino A; Rios MJ; Echeverria S; Asensi V; Vispo E; Soriano V. *Comparison of High Ribavirin Induction Versus Standard Ribavirin Dosing, Plus Peginterferon-alpha for the Treatment of Chronic Hepatitis C in HIV-Infected Patients: The PERICO Trial.* JOURNAL OF INFECTIOUS DISEASES. 2012; 206(6) 961-968. IF: 5.848. Quartile: 1.



## CLINICAL AND EPIDEMIOLOGICAL ASPECTS OF HIV AND ASSOCIATED CONDITIONS

- Garcia-Alvarez M; Berenguer J; Guzman-Fulgencio M; Alvarez E; Cosin J; Micheloud D; Jimenez-Sousa MA; Fernandez-Rodriguez A; Aldamiz-Echevarria T. *Bacterial DNA Translocation and Liver Disease Severity Among HIV-Infected Patients With Chronic Hepatitis C*. JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2012; 61(5) 552-556. IF: 4.653. Quartile: 1.
- Berenguer J; Rodriguez E; Miralles P; Von Wichmann MA; Lopez-Aldeguer J; Mallolas J; Galindo MJ; Van Den Eynde E; Tellez MJ; Quereda C; Jou A; Sanz J; Barros C; Santos I; Pulido F; Guardiola JM; Ortega E; Rubio R; Jusdado JJ; Montes ML; Gaspar G;. *Sustained Virological Response to Interferon Plus Ribavirin Reduces Non-Liver-Related Mortality in Patients Coinfected With HIV and Hepatitis C Virus*. CLINICAL INFECTIOUS DISEASES. 2012; 55(5) 728-736. IF: 9.374. Quartile: 1.
- Miro JM; Montejo M; Castells L; Rafecas A; Moreno S; Aguero F; Abradelo M; Miralles P; Torre-Cisneros J; Pedreira JD; Cordero E; de la Rosa G; Moyano B; Moreno A; Perez I; Rimola A. *Outcome of HCV/HIV-Coinfected Liver Transplant Recipients: A Prospective and Multicenter Cohort Study*. AMERICAN JOURNAL OF TRANSPLANTATION. 2012; 12(7) 1866-1876. IF: 6.192. Quartile: 1.
- Sobrino-Vegas P; Rodriguez-Urrego J; Berenguer J; Caro-Murillo AM; Blanco JR; Viciana P; Moreno S; Bernardino I; del Amo J. *Educational gradient in HIV diagnosis delay, mortality, antiretroviral treatment initiation and response in a country with universal health care*. ANTIVIRAL THERAPY. 2012; 17(1) 1-8. IF: 3.073. Quartile: 2.
- Blasco AJ; Arribas JR; Boix V; Clotet B; Domingo P; Gonzalez-Garcia J; Knobel H; Lopez JC; Llibre JM; Lozano F; Miro JM; Podzamczer D; SantaMARÍA JM; Tuset M; Zamora L; Lazaro P; Gatell JM. *Costs and cost-efficacy analysis of the preferred treatments by GESIDA/National plan for AIDS for the initial antiretroviral therapy in adult human Immunodeficiency virus (HIV) infected patients in 2012*. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA. 2012; 30(6) 283-293. IF: 1.478. Quartile: 4.
- Hernando V; Sobrino-Vegas P; Burriel MC; Berenguer J; Navarro G; Santos I; Reparaz J; Martinez MA; Antela A; Gutierrez F; del Amo J. *Differences in the causes of death of HIV-positive patients in a cohort study by data sources and coding algorithms*. AIDS. 2012; 26(14) 1829-1834. IF: 6.407. Quartile: 1.
- Berenguer J; Pedrol PD; Polo R; Aguirrebengoa K; Estrada V; Rodero FG; Knobel H; Llibre JM; Miralles C; Miro JM; Rivero A; Santos J; Tuset M; Antela A; Asensi V; Arribas JR; Blanco JR; Boix V; Martinez E; Garcia F; Gatell JM; Mallolas J; Moreno S; Palacio. *Executive summary. Consensus document of GESIDA and SPNS (Spanish Secretariat for the National Plan on AIDS) regarding combined antiretroviral treatment in adults infected by the human immunodeficiency virus (January 2012)*. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA. 2012; 30(6) 315-324. IF: 1.478. Quartile: 4.
- Yebra G; de Mulder M; Martin L; Rodriguez C; Labarga P; Viciana I; Berenguer J; Aleman MR; Pineda JA; Garcia F; Holguin A. *Most HIV Type 1 Non-B Infections in the Spanish Cohort of Antiretroviral Treatment-Naive HIV-Infected Patients (CoRIS) Are Due to Recombinant Viruses*. JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(2) 407-413. IF: 4.068. Quartile: 1.
- Blanco JR; Jarrin I; Vallejo M; Berenguer J; Solera C; Rubio R; Pulido F; Asensi V; del Amo J; Moreno S. *Definition of Advanced Age in HIV Infection: Looking for an Age Cut-Off*. AIDS RESEARCH AND HUMAN RETROVIRUSES. 2012; 28(9) 800-806. IF: 2.705. Quartile: 2.
- Gastaca M; Aguero F; Rimola A; Montejo M; Miralles P; Lozano R; Castells L; Abradelo M; de la Mata M; Rodriguez FS; Cordero E; del Campo S; Manzardo C; de Urbina JO; Perez I; de la Rosa G; Miro JM. *Liver Retransplantation in HIV-Infected Patients: A Prospective Cohort Study*. AMERICAN JOURNAL OF TRANSPLANTATION. 2012; 12(9) 2465-2476. IF: 6.192. Quartile: 1.
- Podzamczer D; Tiraboschi JM; Mallolas J; Curto J; Cardenes MA; Casas E; Castro A; Echevarria S; Leal M; de Quiros JCLB; Moreno S; Puig T; Ribera E; Villalonga C; Gomez-Sirvent JL; Garcia-Henarejos JA; Lopez-Aldeguer J; Barrufet P; Force L; Santos I; Sanz. *Long-Term Benefits of Nevirapine-Containing Regimens: Multicenter Study with 506 Patients, Followed-Up a Median of 9 Years*. CURRENT HIV RESEARCH. 2012; 10(6) 513-520. IF: 2.033. Quartile: 3.
- Macias J; Berenguer J; Japon MA; Giron-Gonzalez JA; Rivero A; Lopez-Cortes LF; Moreno A; Marquez M; Iribarren JA; Ortega E; Miralles P; Merchant N; Pineda JA. *Hepatic steatosis and steatohepatitis in human immunodeficiency virus/hepatitis C virus-coinfected patients*. HEPATOLOGY. 2012; 56(4) 1261-1270. IF: 12.003. Quartile: 1.

- Suarez-Lozano I; Domingo P; Lozano F; Viciiana P; Lopez-Aldeguer J; Terron A; Munoz-Sanchez J; Galindo MJ; Cosin J; Geijo P; Ribera E; Roca B; Sanchez T; Munoz-Sanz A; de la Puente B; Deig E; Vergara A; Vidal F; Pedrol E; Teira R; Estrada V; Castano M; Pui. *Budget impact analysis of antiretroviral therapy. A reflection based on the GESIDA guidelines.* GACETA SANITARIA. 2012; 26(6) 541-546. IF: 1.116. Quartile: 3.
- Ramirez MLM; Pascual-Pareja JF; Sanchez-Conde M; De la Serna JIB; Vargas FXZ; Miralles P; Castro JM; Ramirez M; Gutierrez I; Gonzalez-Garcia J; Berenguer J; Lopez JRA. *Transient elastography to rule out esophageal varices and portal hypertensive gastropathy in HIV-infected individuals with liver cirrhosis.* AIDS. 2012; 26(14) 1807-1812. IF: 6.407. Quartile: 1.

	Number of Documents	IF
Own publications	5	24.65
Joint publications	16	75.40
First-decile publications	10	70.57
First-quartile publications	13	84.17
Second-quartile publications	2	5.77
Third-quartile publications	3	5.66
Fourth-quartile publications	3	4.43
Nonindexed publications	0	-
Total publications	21	100.05

# Biological aggression after heart surgery

Group director: Francisco Javier Hortal Iglesias

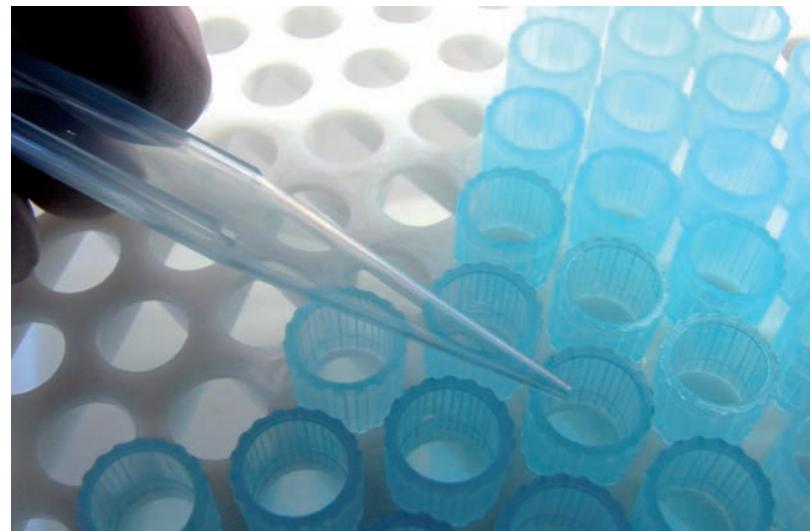
Group type: ASSOCIATED

## Research lines

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

## Group members (researchers and support staff)

- José Miguel Álvarez Valdivieso: Predoctoral
- Mónica Barranco Benito: Predoctoral
- Francisco Javier Hortal Iglesias: Group Director



# AREA 5

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

## Diseases of the Immune System

Immunology could be considered the medical discipline in which the most relevant advances have been made in recent years. These advances are evidenced by the many Nobel Prizes awarded to researchers in the field. It is no surprise, therefore, that the IISGM has a dedicated immunology research area. In addition to its scientific and social relevance, the importance of this area within the Institute can be seen in its cutting edge scientific output, the wide variety of its research lines, and its collaborations with other research areas, such as basic and clinical immunology, rheumatology, allergology, gynecology and obstetrics, cardiology, pneumology, pharmacogenetics, hematology, and neurology.

The participation of this Area in numerous publications by groups belonging to other areas of the Institute clearly highlights its philosophy of cooperative research, the cornerstone of any health research institute. There can be no doubt that the Area is perfectly situated for setting down the strategic lines for its continued growth. As a result, collaboration agreements have been proposed with prestigious international institutions, groups from the Institute itself, and groups from outside the Institute (Madrid Science and Technology Park, FHL Study Group, Transfusion Center of Comunidad de Madrid), School of Medicine of Universidad Complutense de Madrid (Department of Microbiology I), and companies active in the field (Binding Site, Izasa, Inmunotek, Grifols).

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

# Research axes and lines

## Strategic axes

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

## Strategic lines

### Axis 1: Promotion of collaborations in immunology

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

*Strategic lines:*

- ✓ Report on 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 lines:*

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

#### 4. Cooperation with clinical groups in rheumatology

*Strategic lines:*

- ✓ Participate in established cooperative research structures (RIER).
- ✓ Biomedicina/2010 CM Programa REUMATOLOGÍA.

# Strategic lines

## Axis 2: Consolidation of research lines in immunology

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

*Strategic lines:*

- ✓ 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 Inmunitotek

*Strategic lines:*

- ✓ 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 trial on production of antibodies).

### 4. Consolidation of research lines with public or private funding

*Strategic lines:*

- ✓ Apply for funding in the National Plan.
- ✓ Apply for funding from private institutions.
- ✓ Promote research agreements and contracts with public and private institutions at national and international level.

### 5. Continued improvement in scientific output

*Strategic lines:*

- ✓ 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 primary immunodeficiencies



## Strategic lines

### Axis 3: Training

#### 1. Consolidation and improvement of the scientific production of trainees

*Strategic lines:*

- ✓ Publish results from basic and clinical research.
- ✓ Encourage participation of residents and trainees in the preparation of manuscripts.
- ✓ Present the Master of Advanced Studies and doctoral theses.

### Axis 4: Quality assurance

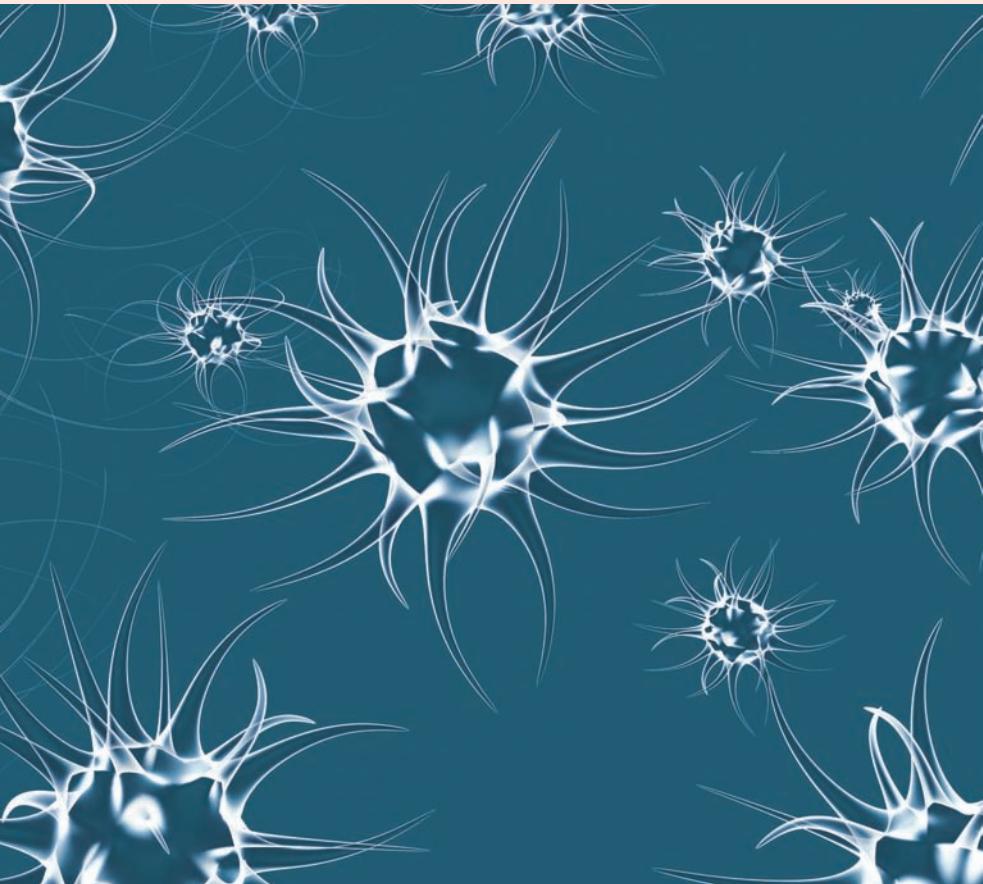
#### 1. Certification of the laboratory by ENAC. Standard UNE-EN -ISO 15189 (maintenance and extension of the scope of the certification)

*Strategic lines:*

- ✓ Re-evaluate the laboratory.
- ✓ Obtain certification by category. Flexible scope.
- ✓ Promote activity so that the laboratory can be used to perform clinical trials.

# Structure of AREA 5

## Diseases of the Immune System



- Pathophysiology and clinical investigation of chronic inflammatory and immune diseases
- Molecular biology of HIV
- Immuno-oncology
- Autoimmune systemic diseases
- Infections in the pediatric population
- Immunology of HIV infection in the pediatric population
- Pathogenesis of the immunoallergic response
- Allergic diseases in the pediatric population

# Physiopathology and clinical investigation of chronic inflammatory and immune diseases

Group director: Eduardo Fernández-Cruz Pérez

Group type: CONSOLIDATED

## Research programs and lines

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

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

### P2. Primary immunodeficiencies: pathogenesis, classification, and treatment

- ✓ L1. Study, functional characterization, and treatment of primary immunodeficiencies.
- ✓ L2. Classification and segregation of familial primary immunodeficiencies.
- ✓ L3. Impact of the polymorphism c77g in exon 4 of the cd45 gene on hemophagocytic lymphohistiocytosis.

### P3. Molecular immunogenetics of immune diseases

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

### P4. Transplant immunology

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

### P5. Neuroimmunology of multiple sclerosis

- ✓ L1. Immunoregulation and immunomodulation in multiple sclerosis.

### P6. Immunology of autoimmune chronic inflammatory diseases

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

### P7. Reproductive immunology

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

### P8. Standardization of laboratory immunochemical procedures in monoclonal gammopathy and allergy.

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

## Group members (researchers and support staff)

- **Javier Alberto Carbone Campoverde:** Principal Investigator
- **Eduardo Fernández-Cruz Pérez:** Group Director
- **Juana Gil Herrera:** Principal Investigator
- **Joaquín Navarro Caspistegui:** Postdoctoral
- **Ricardo Ramos Ruiz:** Predoctoral
- **Margarita Rodríguez Mahou:** Postdoctoral
- **Juan José Rodríguez Molina:** Postdoctoral
- **Carmen Rodríguez Sainz:** Postdoctoral
- **Silvia Sánchez Ramón:** Postdoctoral
- **Elizabeth Angélica Sarmiento Marchese:** Postdoctoral

## Research Projects - Competitive Calls

- Principal investigator: Javier Alberto Carbone Campoverde  
Title: "Evaluación de la eficacia y toxicidad del uso de gammaglobulina intravenosa en el tratamiento de infecciones en pacientes con hipogammablobulinemia IGG post-trasplante de órgano sólido".  
Funding body: Ministry of Health, Social Services and Equality  
Start date: 2012  
End date: 2013
- Principal investigator: Silvia Sánchez Ramón  
Title: "Biomarcadores de las formas clínicas de esclerosis múltiple: desarrollo de estrategias personalizadas basadas en perfiles inmunológicos de la vía del interferón de tipo I".  
Funding body: F. Mapfre Medicina  
Start date: 2012  
End date: 2013
- Principal investigator: Javier Alberto Carbone Campoverde  
Title: "Alteraciones de la inmunidad humoral y celular como factores determinantes de calidad de vida en pacientes con más de 1 año tras el trasplante cardiaco".  
Funding body: F. Mutua Madrileña  
Start date: 2010  
End date: 2012
- Principal investigator: Silvia Sánchez Ramón  
Title: "Biomarcadores de las formas clínicas de esclerosis múltiple: desarrollo de estrategias personalizadas basadas en perfiles de la vía de interferón de tipo I".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2015

- 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: Eduardo Fernández-Cruz Pérez  
Title: "Estudio retrospectivo de factores genéticos, inmunológicos y virológicos para la identificación de marcadores asociados a las respuestas inmunitarias protectoras anti-VIH-1 inducidas tras el tratamiento antirretroviral, con y sin inmunomodulación".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012

## Publications

**Total Impact Factor: 25.10**

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

- Tejera-Alhambra M; Alonso B; Teijeiro R; Ramos-Medina R; Aristimuno C; Valor L; de Andres C; Sanchez-Ramon S. *Perforin Expression by CD4+ Regulatory T Cells Increases at Multiple Sclerosis Relapse: Sex Differences.* INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2012; 13(6) 6698-6710. IF: 2.464. Quartile: 2.

## PHYSIOPATHOLOGY AND CLINICAL INVESTIGATION OF CHRONIC INFLAMMATORY AND IMMUNE DISEASES

- Carbone J; Lanio N; Gallego A; Kern F; Navarro J; Munoz P; Alonso R; Catalan P; Fernandez-Yanez J; Palomo J; Ruiz M; Fernandez-Cruz E. *Simultaneous Monitoring of Cytomegalovirus-Specific Antibody and T-cell levels in Sero-positive Heart Transplant Recipients.* JOURNAL OF CLINICAL IMMUNOLOGY. 2012; 32(4) 809-819. IF: 3.382. Quartile: 2.
- Ramos-Medina R; Corbi AL; Sanchez-Ramon S. *Intravenous immunoglobulin: immunomodulatory key of the immune system.* MEDICINA CLÍNICA. 2012; 139(3) 112-117. IF: 1.399. Quartile: 2.
- Moraru M; Carbone J; Alecsandru D; Castillo-Rama M; Garcia-Segovia A; Gil J; Alonso B; Aguaron A; Ramos-Medina R; de MARÍA JM; Oliver-Minarro D; Rodriguez-Mahou M; Ortega V; Caballero P; Melia E; Vidal J; Cianchett-Sivori. *Intravenous Immunoglobulin Treatment Increased Live Birth Rate in a Spanish Cohort of Women with Recurrent Reproductive Failure and Expanded CD56+Cells.* AMERICAN JOURNAL OF REPRODUCTIVE IMMUNOLOGY. 2012; 68(1) 75-84. IF: 3.317. Quartile: 1.
- Carbone J; Sarmiento E; Del Pozo N; Rodriguez-Molina JJ; Navarro J; Fernandez-Yanez J; Palomo J; Villa A; Munoz P. *Restoration of humoral immunity after intravenous immunoglobulin replacement therapy in heart recipients with post-transplant antibody deficiency and severe infections.* CLINICAL TRANSPLANTATION. 2012; 26(3) E277-E283. IF: 1.634. Quartile: 2.
- Andres C; Teijeiro R; Alonso B; Sanchez-Madrid F; Martinez ML; de Villoria JG; Fernandez-Cruz E; Sanchez-Ramon S. *Long-Term Decrease in VLA-4 Expression and Functional Impairment of Dendritic Cells during Natalizumab Therapy in Patients with Multiple Sclerosis.* PLOS ONE. 2012; 7(4). IF: 3.73. Quartile: 1.
- Valor L; Sarmiento E; Navarro J; Gallego A; Fernandez-Yanez J; Fernandez-Cruz E; Carbone J. *Evaluation of Lymphoproliferative Responses by Carboxy Fluorescein Succinimidyl Ester Assay in Heart Recipients With Infections.* TRANSPLANTATION PROCEEDINGS. 2012; 44(9) 2649-2652. IF: 0.952. Quartile: 3.
- Paravisini A; Gurbindo MD; Roman SS. *Ataxia-telangiectasia.* MEDICINA CLÍNICA. 2012; 138(6) 249-253. IF: 1.399. Quartile: 2.
- Calvin E; Pajuelo L; Manjon JL; Sancho P; Tejedor MC; Gil J; Fernandez-Cruz E; Diez JC. *Active fraction from Ganoderma lucidum with apoptosis activity on peripheral blood mononuclear cells from chronic lymphocytic leukemia.* EUROPEAN JOURNAL OF INTEGRATIVE MEDICINE. 2012; 4(3) E335-E343. IF: 0.559. Quartile: 4.
- Aristimuno C; Teijeiro R; Valor L; Alonso B; Tejera-Alhambra M; de Andres C; Minarro DO; Lopez-Lazareno N; Faure F; Sanchez-Ramon S. *Sex-hormone receptors pattern on regulatory T-cells: clinical implications for multiple sclerosis.* CLINICAL AND EXPERIMENTAL MEDICINE. 2012; 12(4) 247-255. IF: 2.397. Quartile: 2.
- Sarmiento E; del Pozo N; Gallego A; Fernandez-Yanez J; Palomo J; Villa A; Ruiz M; Munoz P; Rodriguez C; Rodriguez-Molina J; Navarro J. *Decreased levels of serum complement C3 and natural killer cells add to the predictive value of total immunoglobulin G for severe infection in heart transplant recipients.* TRANSPLANT INFECTIOUS DISEASE. 2012; 14(5) 526-539. IF: 1.984. Quartile: 3.
- Lopez-Hoyos M; Lizaso MT; Rodriguez JJ; Sanz ML; Labrador-Horillo M; Ramos R; Martin-Esteban M; Pastor R; Hernandez MD; Casas ML; Pelaez A; Garcia BE. *Quantitative Measurement of Allergen-Specific Immunoglobulin E Levels in Mass Units (ng/mL): An Interlaboratory Comparison.* JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2012; 22(5) 387-389. IF: 1.887. Quartile: 3.

	Number of Documents	IF
Own publications	10	22.66
Joint publications	2	2.45
First-decile publications	0	0
First-quartile publications	2	7.05
Second-quartile publications	6	12.67
Third-quartile publications	3	4.82
Fourth-quartile publications	1	0.55
Nonindexed publications	0	-
Total publications	12	25.10

# Molecular biology of HIV

Group director: M.<sup>a</sup> Ángeles Muñoz Fernández

Group type: CONSOLIDATED

## Research programs and lines

### P1. HIV infection

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

### P2. Neonatology and pediatrics

### P3. Nanomedicine: Cell and gene therapy

### P4. Biobank

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

### P5. Management

- ✓ L1. Laboratory management.
- ✓ L2. Database management.

## Group members (researchers and support staff)

- Susana Álvarez Losada: Postdoctoral
- Verónica Briz Sebastián: Sara Borrell
- Gloria Castellano González
- María Isabel Clemente Mayoral: Support Technician
- Irene Consuegra Fernández: Management
- Laura Díaz Muñoz: Support Technician
- Silvia Fernández Soriano: Postdoctoral



- Sara Ferrando Martínez: Sara Borrell
- Jorge Luis Gallego de la Fuente: Support Technician
- Dolores García Alonso: Postdoctoral
- Isabel María García Merino: Predoctoral
- Almudena García Torre: Support Technician
- Coral Gómez Rico: Support Technician
- Rafael Gras Peña: Postdoctoral
- Leidy Didiana Jaramillo Ruiz: Predoctoral
- Santiago Jiménez de Ory: Predoctoral
- José Luis Jiménez Fuentes: Principal Investigator
- Sandra Lasarte Ramiro: Support Technician



## Group members

- **Irene Lomba Iriarte:** Management
- **Raquel Lorente Rodríguez:** Support Technician
- **Marta Martínez Bonet:** PFIS
- **Mª Ángeles Muñoz Fernández:** Group Director
- **María del Palacio Tamarit:** Río Hortega
- **Claudia Palladino:** Juan de la Cierva
- **Ana Judith Perise Barrios:** Predoctoral

- **Marjorie Pion:** Ramón y Cajal
- **Miguel Reloso Cereceda:** Miguel Servet
- **Talía Sainz Costa:** Río Hortega
- **Javier Sánchez Rodríguez:** Predoctoral
- **Mª Jesús Serramía Lobera:**
- **Daniel Tornero Prieto:** Sara Borrell
- **Enrique Vacas Córdoba:** Predoctoral

## Research Projects - Competitive Calls

- Principal investigator: M<sup>a</sup> Ángeles Muñoz Fernández  
Title: "Nueva aproximación inmunoterapéutica en la infección por el VIH basada en la nanotecnología. Modelo murino con dendriplexes candidatos a vacunas para el VIH-1".  
Funding body: F. Eugenio Rodríguez Pascual  
Start date: 2013  
End date: 2013
- Principal investigator: M<sup>a</sup> Ángeles Muñoz Fernández  
Title: "Cohorte nacional de infección pediátrica por VIH (CORISPE). Fundación para la Investigación y la Prevención del Sida en España 361910/10".  
Funding body: Fundación para la Investigación y la Prevención del Sida en España  
Start date: 2011  
End date: 2013
- Principal investigator: Miguel Reloso Cereceda  
Title: "Estudio del mecanismo molecular anti-inflamatorio del estradiol para buscar nuevas dianas terapéuticas".  
Funding body: F. Mutua Madrileña  
Start date: 2011  
End date: 2014
- Principal investigator: Miguel Reloso Cereceda  
Title: "Estudio de la regulación hormonal sobre el papel microbicida de los neutrófilos en candidiasis".  
Funding body: F. Mutua Madrileña  
Start date: 2012  
End date: 2013

- Principal investigator: M<sup>a</sup> Ángeles Muñoz Fernández  
Title: "Estudio evolutivo y construcción de modelos en 3D de la neuramidasa del virus de la gripe A H1N1 para el análisis de nuevos fármacos antivirales y la identificación de epitopos inmunogénicos a ser usados como potenciales vacunas".  
Funding body: Instituto de Ciencia y Tecnología Distrito Federal  
Start date: 2011  
End date: 2012
- Principal investigator: M<sup>a</sup> Ángeles Muñoz Fernández  
Title: "Estudio Fundación para la Investigación y la Prevención del Sida en España sobre trasplante hepático en pacientes infectados por el VIH en España. Estudio GESIDA".  
Funding body: Fundación para la Investigación y la Prevención del Sida en España  
Start date: 2008  
End date: 2013
- Principal investigator: Miguel Reloso Cereceda  
Title: "Estudio del papel conciliador de las hormonas sexuales femeninas entre la reproducción y la inmunidad".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: José Luis Jiménez Fuentes  
Title: "Dendrímeros carbosilanos aniónicos con efecto antiinflamatorio como posibles microbiocidas frente VIH".  
Funding body: Instituto de Salud Carlos III  
Start date: 2012  
End date: 2014

## MOLECULAR BIOLOGY OF HIV

- Principal investigator: Marjorie Pion  
Title: "Descapsidación de viriones VIH-1 y tráfico hacia p-bodies como mecanismo de restricción de las primeras etapas del ciclo viral en linfocitos".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2015
- Principal investigator: M<sup>a</sup> Ángeles Muñoz Fernández  
Title: "Procesos inflamatorios y neuropatogenia asociada a la infección VIH+: nuevas aproximaciones terapéuticas".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2013
- Principal investigator: Marjorie Pion  
Title: "Estudio de la inducción por MI-RNAs celulares y virales de la desregulación de células B durante la infección por HIV".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012
- Principal investigator: M<sup>a</sup> Ángeles Muñoz Fernández  
Title: "Péptidos asociados a dendrímeros en células dendríticas para el desarrollo de nuevas nanovacunas para el VIH".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012
- Principal investigator: M<sup>a</sup> Ángeles Muñoz Fernández  
Title: "Red de Sida (RIS)".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2013
- Principal investigator: M<sup>a</sup> Ángeles Muñoz Fernández  
Title: "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: "Nanosistemas dendríticos como agentes y vectores terapéuticos en distintas aplicaciones biomédicas".  
Funding body: Comunidad de Madrid  
Start date: 2012  
End date: 2015

### Publications

**Total Impact Factor: 183.09**

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

- del Pino J; Jimenez JL; Ventoso I; Castello A; Munoz-Fernandez MA; de Haro C; Berlanga JJ. *GCN2 Has Inhibitory Effect on Human Immunodeficiency Virus-1 Protein Synthesis and Is Cleaved upon Viral Infection*. PLOS ONE. 2012; 7(10). IF: 3.73. Quartile: 1.
- Jimenez JL; Pion M; de la Mata FJ; Gomez R; Munoz E; Leal M; Munoz-Fernandez MA. *Dendrimers as topical microbicides with activity against HIV*. NEW JOURNAL OF CHEMISTRY. 2012; 36(2) 299-309. IF: 2.966. Quartile: 2.
- Garcia-Arriaza J; Arnaez P; Jimenez JL; Gomez CE; Munoz-Fernandez MA; Esteban M. *Vector replication and expression of HIV-1 antigens by the HIV/AIDS vaccine candidate MVA-B is not affected by HIV-1 protease inhibitors*. VIRUS RESEARCH. 2012; 167(2) 391-396. IF: 2.745. Quartile: 2

- de las Cuevas N; Garcia-Gallego S; Rasines B; de la Mata FJ; Guijarro LG; Munoz-Fernandez MA; Gomez R. *In Vitro Studies of Water-Stable Cationic Carbosilane Dendrimers As Delivery Vehicles for Gene Therapy Against HIV and Hepatocarcinoma*. CURRENT MEDICINAL CHEMISTRY. 2012; 19(29) 5052-5061. IF: 4.07. Quartile: 1.
- Briz V; Serramia MJ; Madrid R; Hameau A; Caminade AM; Majoral JP; Munoz-Fernandez MA. *Validation of a Generation 4 Phosphorus-Containing Poly-cationic Dendrimer for Gene Delivery Against HIV-1*. CURRENT MEDICINAL CHEMISTRY. 2012; 19(29) 5044-5051. IF: 4.07. Quartile: 1.
- Galan M; Sanchez-Rodriguez J; Cangiotti M; Garcia-Gallego S; Jimenez JL; Gomez R; Ottaviani MF; Munoz-Fernandez MA; de la Mata FJ. *Antiviral Properties Against HIV of Water Soluble Copper Carbosilane Dendrimers and their EPR Characterization*. CURRENT MEDICINAL CHEMISTRY. 2012; 19(29) 4984-4994. IF: 4.07. Quartile: 1.
- Genebat M; Pulido I; Romero-Sanchez MC; Gonzalez-Serna A; Ferrando-Martinez S; Machmach K; Pacheco YM; Munoz-Fernandez M; Ruiz-Mateos E; Leal M. *Patients on a combined antiretroviral therapy after maraviroc clinical test show no immunovirological impairment*. ANTIVIRAL RESEARCH. 2012; 95(3) 207-211. IF: 3.925. Quartile: 1.
- Relloso M; Aragoneses-Fenoll L; Lasarte S; Bourgeois C; Romera G; Kuchler K; Corbi AL; Munoz-Fernandez MA; Nombela C; Rodriguez-Fernandez JL; Diez-Orejas R. *Estradiol impairs the Th17 immune response against Candida albicans*. JOURNAL OF LEUKOCYTE BIOLOGY. 2012; 91(1) 159-165. IF: 4.568. Quartile: 1.
- Romero-Sanchez MC; Machmach K; Gonzalez-Serna A; Genebat M; Pulido I; Garcia-Garcia M; Alvarez-Rios AI; Ferrando-Martinez S; Ruiz-Mateos E; Leal M. *Effect of Maraviroc on HIV Disease Progression-Related Biomarkers*. ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(11) 5858-5864. IF: 4.565. Quartile: 1.
- Goicoechea M; de Vinuesa SG; Quiroga B; Verdalles U; Barraca D; Yuste C; Panizo N; Verde E; Munoz MA; Luno J. *Effects of pentoxyfylline on inflammatory parameters in chronic kidney disease patients: a randomized trial*. JOURNAL OF NEPHROLOGY. 2012; 25(6) 969-975. IF: 2.015. Quartile: 2.
- Briz V; Leon-Leal JA; Palladino C; Moreno-Perez D; de Ory SJ; De JOSÉ MI; Gonzalez-Tome MI; Martin CG; Pocheville I; Ramos JT; Leal M; Munoz-Fernandez MA. *Potent and Sustained Antiviral Response of Raltegravir-based Highly Active Antiretroviral Therapy in HIV Type 1-infected Children and Adolescents*. PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2012; 31(3) 273-277. IF: 3.569. Quartile: 1.
- Ferrando-Martinez S; Casazza JP; Leal M; Machmach K; Munoz-Fernandez MA; Viciana P; Koup RA; Ruiz-Mateos E. *Differential Gag-Specific Polyfunctional T Cell Maturation Patterns in HIV-1 Elite Controllers*. JOURNAL OF VIROLOGY. 2012; 86(7) 3667-3674. IF: 5.076. Quartile: 1.
- Serrano-Villar S; Estrada V; Gomez-Garre D; Avila M; Fuentes-Ferrer M; Sanchez-Parra C; Sainz T; Patino R; Fernandez-Cruz A. *Incipient Renal Impairment as a Predictor of Subclinical Atherosclerosis in HIV-Infected Patients*. JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2012; 59(2) 141-148. IF: 4.653. Quartile: 1.
- Weber ND; Merkel OM; Kissel T; Munoz-Fernandez MA. *PEGylated poly(ethylene imine) copolymer-delivered siRNA inhibits HIV replication in vitro*. JOURNAL OF CONTROLLED RELEASE. 2012; 157(1) 55-63. IF: 7.633. Quartile: 1.
- Gordon-Alonso M; Sala-Valdes M; Rocha-Perugini V; Perez-Hernandez D; Lopez-Martin S; Ursu A; Alvarez S; Kolesnikova TV; Vazquez J; Sanchez-Madrid F; Yanez-Mo M. *EWI-2 Association with alpha-Actinin Regulates T Cell Immune Synapses and HIV Viral Infection*. JOURNAL OF IMMUNOLOGY. 2012; 189(2) 689-700. IF: 5.52. Quartile: 1.
- Garcia-Gallego S; Rodriguez JS; Jimenez JL; Cangiotti M; Ottaviani MF; Munoz-Fernandez MA; Gomez R; de la Mata FJ. *Polyanionic N-donor ligands as chelating agents in transition metal complexes: synthesis, structural characterization and antiviral properties against HIV*. DALTON TRANSACTIONS. 2012; 41(21) 6488-6499. IF: 3.806. Quartile: 1.

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- del Palacio M; Alvarez S; Munoz-Fernandez MA. *HIV-1 infection and neurocognitive impairment in the current era.* REVIEWS IN MEDICAL VIROLOGY. 2012; 22(1) 33-45. IF: 7.615. Quartile: 1.
- Rasines B; Sanchez-Nieves J; Molina IT; Guzman M; Munoz-Fernandez MA; Gomez R; de la Mata FJ. *Synthesis and fluorescent properties of cationic carbosilane dendrimers containing eugenol linkers for their use in biomedical applications.* NEW JOURNAL OF CHEMISTRY. 2012; 36(2) 360-370. IF: 2.966. Quartile: 2.
- Gordon-Alonso M; Rocha-Perugini V; Alvarez S; Moreno-Gonzalo O; Ursu A; Lopez-Martin S; Izquierdo-Useros N; Martinez-Picado J; Munoz-Fernandez MA; Yanez-Mo M; Sanchez-Madrid F. *The PDZ-adaptor protein syntenin-1 regulates HIV-1 entry.* MOLECULAR BIOLOGY OF THE CELL. 2012; 23(12) 2253-2263. IF: 4.604. Quartile: 2.
- Correa-Rocha R; Perez A; Lorente R; Ferrando-Martinez S; Leal M; Gurbido D; Munoz-Fernandez MA. *Preterm neonates show marked leukopenia and lymphopenia that are associated with increased regulatory T-cell values and diminished IL-7.* PEDIATRIC RESEARCH. 2012; 71(5) 590-597. IF: 2.673. Quartile: 1.
- Gonzalez-Serna A; McGovern RA; Harrigan PR; Vidal F; Poon AFY; Ferrando-Martinez S; Abad MA; Genebat M; Leal M; Ruiz-Mateos E. *Correlation of the Virological Response to Short-Term Maraviroc Monotherapy with Standard and Deep-Sequencing-Based Genotypic Tropism Prediction Methods.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(3) 1202-1207. IF: 4.565. Quartile: 1.
- Fuentes-Aparicio V; Alonso-Lebrero E; Zapatero L; Infante S; Lorente R; Munoz-Fernandez MA; Correa-Rocha R. *Oral immunotherapy in hen's egg-allergic children increases a hypo-proliferative subset of CD4+T cells that could constitute a marker of tolerance achievement.* PEDIATRIC ALLERGY AND IMMUNOLOGY. 2012; 23(7) 648-653. IF: 3.376. Quartile: 1.
- Cantisan S; Martin C; Romero-Sanchez MC; Ferrando-Martinez S; Martinez F; Rivero A; Torres A; Solana R; Torre-Cisneros J. *Role of Defective Thymic Function in Onset of Ganciclovir-Resistant Cytomegalovirus after Cord Blood Transplantation.* CLINICAL AND VACCINE IMMUNOLOGY. 2012; 19(12) 1994-1998. IF: 2.598. Quartile: 2.
- Rasines B; Sanchez-Nieves J; Maiolo M; Maly M; Chonco L; Jimenez JL; Munoz-Fernandez MA; de la Mata FJ; Gomez R. *Synthesis, structure and molecular modelling of anionic carbosilane dendrimers.* DALTON TRANSACTIONS. 2012; 41(41) 12733-12748. IF: 3.806. Quartile: 1.
- Perise-Barrios AJ; Munoz-Fernandez MA; Pion M. *Direct Phenotypical and Functional Dysregulation of Primary Human B Cells by Human Immunodeficiency Virus (HIV) Type 1 In Vitro.* PLOS ONE. 2012; 7(7). IF: 3.73. Quartile: 1.
- DÍAZ L; Mendez-Lagares G; Correa-Rocha R; Pacheco YM; Ferrando-Martinez S; Ruiz-Mateos E; del Pozo-Balado MD; Leon JA; Gurbido MD; de JOSÉ MI; Leal M; Munoz-Fernandez MA. *Detectable Viral Load Aggravates Immuno-senescence Features of CD8 T-Cell Subsets in Vertically HIV-Infected Children.* JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2012; 60(5) 447-454. IF: 4.653. Quartile: 1.
- Basile L; Alvarez S; Blanco A; Santagati A; Granata G; Di Pietro P; Guccione S; Munoz-Fernandez MA. *Sulfonilamidothiopyrimidone and thiopyrimidone derivatives as selective COX-2 inhibitors: Synthesis, biological evaluation, and docking studies.* EUROPEAN JOURNAL OF MEDICINAL CHEMISTRY. 2012; 57. 149-161. IF: 3.499. Quartile: 1.
- de Mulder M; Yebra G; Navas A; Martin L; de JOSÉ MI; Navarro ML; de Ory SJ; Gonzalez-Granado I; Mellado MJ; Ramos JT; Holguin A. *Trends in Drug Resistance Prevalence in HIV-1-infected Children in Madrid: 1993 to 2010 Analysis.* PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2012; 31(11) E213-E221. IF: 3.569. Quartile: 1.

- Romero-Sanchez MC; Gonzalez-Serna A; Pacheco YM; Ferrando-Martinez S; Machmach K; Garcia-Garcia M; Alvarez-Rios AI; Vidal F; Leal M; Ruiz-Mateos E. *Different biological significance of sCD14 and LPS in HIV-infection: Importance of the immunovirology stage and association with HIV-disease progression markers.* JOURNAL OF INFECTION. 2012; 65(5) 431-438. IF: 4.073. Quartile: 1.
- de Mulder M; Yebra G; Navas A; de JOSÉ MI; Gurbindo MD; Gonzalez-Tome MI; Mellado MJ; Saavedra-Lozano J; Munoz-Fernandez MA; de Ory SJ; Ramos JT; Holguin A. *High Drug Resistance Prevalence among Vertically HIV-Infected Patients Transferred from Pediatric Care to Adult Units in Spain.* PLOS ONE. 2012; 7(12). IF: 3.73. Quartile: 1.
- Pedziwiatr-Werbicka E; Shcharbin D; Maly J; Maly M; Zaborski M; Gabara B; Ortega P; de la Mate FJ; Gomez R; Munoz-Fernandez MA; Klajnert B; Bryszewska M. *Carbosilane Dendrimers are a Non-Viral Delivery System for Antisense Oligonucleotides: Characterization of Dendriplexes.* JOURNAL OF BIOMEDICAL NANOTECHNOLOGY. 2012; 8(1) 57-73. IF: 5.256. Quartile: 1.
- Guzman-Fulgencio M; Jimenez JL; Berenguer J; Fernandez-Rodriguez A; Lopez JC; Cosin J; Miralles P; Micheloud D; Munoz-Fernandez MA; Resino S. *Plasma IL-6 and IL-9 predict the failure of interferon-alpha plus ribavirin therapy in HIV/HCV-coinfected patients.* JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2012; 67(5) 1238-1245. IF: 5.338. Quartile: 1.
- Mendez-Lagares G; Garcia-Perganeda A; del Pozo-Balado MD; Genebat M; Ruiz-Mateos E; Garcia MG; Munoz-Fernandez MA; Pacheco YM; Leal M. *Differential alterations of the CD4 and CD8 T cell subsets in HIV-infected patients on highly active antiretroviral therapy with low CD4 T cell restoration.* JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2012; 67(5) 1228-1237. IF: 5.338. Quartile: 1.
- Jimenez JL; Gomez R; Briz V; Madrid R; Bryszewsk M; de la Mata FJ; Munoz-Fernandez MA. *Carbosilane dendrimers as carriers of siRNA.* JOURNAL OF DRUG DELIVERY SCIENCE AND TECHNOLOGY. 2012; 22(1) 75-82. IF: 1.088. Quartile: 4.
- Chonco L; Pion M; Vacas E; Rasines B; Maly M; Serramia MJ; Lopez-Fernandez L; De la Mata J; Alvarez S; Gomez R; Munoz-Fernandez MA. *Carbosilane dendrimer nanotechnology outlines of the broad HIV blocker profile.* JOURNAL OF CONTROLLED RELEASE. 2012; 161(3) 949-958. IF: 7.633. Quartile: 1.
- Briz V; Garcia D; Mendez-Lagares G; Ruiz-Mateos E; de Mulder M; Moreno-Perez D; Navarro ML; Leon-Leal JA; de JOSÉ MI; Ramos J; Mellado MJ; Gonzalez-Tome MI; Leal M; Munoz-Fernandez MA. *High Prevalence of X4/DM-Tropic Variants in Children and Adolescents Infected With HIV-1 by Vertical Transmission.* PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2012; 31(10) 1048-1052. IF: 3.569. Quartile: 1.
- Vallejo A; Gutierrez C; Hernandez-Novoa B; DÍAZ L; Madrid N; Abad-Fernandez M; Dronda F; Perez-Elias MJ; Zamora J; Munoz E; Munoz-Fernandez MA; Moreno S. *The effect of intensification with raltegravir on the HIV-1 reservoir of latently infected memory CD4 T cells in suppressed patients.* AIDS. 2012; 26(15) 1885-1894. IF: 6.407. Quartile: 1.
- Serrano-Villar S; Estrada V; Gomez-Garre D; Avila M; Fuentes-Ferrer M; Sanchez-Parra C; Sainz T; de Carranza M; Fernandez-Cruz A. *Clinical factors and biomarkers associated with subclinical atherosclerosis in the human immunodeficiency virus infection.* MEDICINA CLÍNICA. 2012; 139(6) 231-237. IF: 1.399. Quartile: 2.
- Gras R; Reloso M; Garcia MI; de la Mata FJ; Gomez R; Lopez-Fernandez LA; Munoz-Fernandez MA. *The inhibition of Th17 immune response in vitro and in vivo by the carbosilane dendrimer 2G-NN16.* BIOMATERIALS. 2012; 33(15) 4002-4009. IF: 7.604. Quartile: 1.
- Yang Y; Al-Mozaini M; Buzon MJ; Beamon J; Ferrando-Martinez S; Ruiz-Mateos E; Rosenberg ES; Pereyra F; Yu XG; Lichterfeld M. *CD4 T-cell regeneration in HIV-1 elite controllers.* AIDS. 2012; 26(6) 701-706. IF: 6.407. Quartile: 1.
- Gonzalez-Serna A; Romero-Sanchez MC; Ferrando-Martinez S; Genebat M; Vidal F; Munoz-Fernandez MA; Abad MA; Leal M; Ruiz-Mateos E. *HIV-1 Tropism Evolution after Short-Term Maraviroc Monotherapy in HIV-1-Infected Patients.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(7) 3981-3983. IF: 4.565. Quartile: 1.

## MOLECULAR BIOLOGY OF HIV

- Guillen S; Prieto L; de Ory SJ; Gonzalez-Granado I; Gonzalez-Tome MI; Mellado MJ; de Jose M; Navarro ML; Beceiro J; Roa MA; Munoz MA; Ramos JT. *New diagnosis of HIV infection in children.* ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA. 2012; 30(3) 131-136. IF: 1.478. Quartile: 4.
- Gras R; Garcia MI; Gomez R; de la Mata FJ; Munoz-Fernandez MA; Lopez-Fernandez LA. *Carbosilane Dendrimer 2G-NN16 Represses Tc17 Differentiation in Primary T CD8+ Lymphocytes.* MOLECULAR PHARMACEUTICS. 2012; 9(1) 102-110. IF: 4.57. Quartile: 1.

### Patents

- Title: Dendrímeros carboxilos catiónicos obtenidos mediante «click chemistry», su preparación y sus usos  
Reference: P201130804  
Owner: FIBHGM-UAH, Instituto Científico y Tecnológico de Navarra, S.A.  
Inventors: Francisco Javier De La Mata, Rafael Gómez Ramírez, Eduardo Arnaiz Garrido, Sandra García Gallego, José Luis Copa Patiño, Juan Soliveri De Carranza, José Manuel Hernández Ros, Mª Ángeles Muñoz-Fernández, Verónica Briz Sebastián, Mª Jesús Serramía Lobera, Conchita Tros de llarduya.
- Title: Dendrímeros carbosilanos con un núcleo polifenólico y su uso como antivirales  
Reference: P201030450  
Owner: UAH - HGUGM  
Inventors: Francisco Javier De La Mata, Rafael Gómez Ramírez, Javier Sánchez-Nieves Fernández, Paula Ortega López, Mª Ángeles Muñoz-Fernández, Louis Chonco Jiménez, Mª Jesús Serramía Lobera.
- Title: Dendrímeros carbosilanos y su uso como antivirales  
Reference: P201030233  
Owner: UAH - HGUGM  
Inventors: Francisco Javier De La Mata, Rafael Gómez Ramírez, Mª Ángeles Muñoz-Fernández, Javier Sánchez-Nieves Fernández, Beatriz Rasines Moreno, Louis Chonco Jiménez, Eduardo Arnaiz Garrido, Mª Jesús Serramía Lobera.

- Title: Compuestos dendríticos carbosilanos homo y hetero-funcionalizados  
Reference: P201231187  
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 Serramía 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 can be applied 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.

	Number of Documents	IF
Own publications	17	78.59
Joint publications	26	104.50
First-decile publications	15	80.26
First-quartile publications	34	161.23
Second-quartile publications	7	19.29
Third-quartile publications	0	0
Fourth-quartile publications	2	2.56
Nonindexed publications	0	-
Total publications	43	183.09

# Immuno-oncology

Group director: Paloma Sánchez-Mateos Rubio

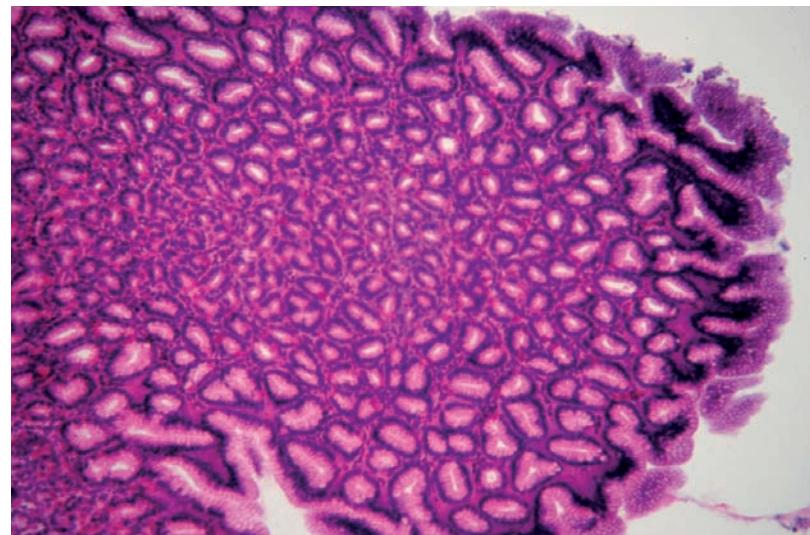
Group type: CONSOLIDATED

## 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 (researchers and support staff)

- 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
- Julia Villarejo Gómez





## 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: "Red Inflam y enfermedades reumáticas".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2013
- 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: "Regulación microambiental de la migración de células tumorales e inflamatorias en modelos 3D: estudio de las interacciones ERM/microtúbulos y quimiocinas (CAME)".  
Funding body: Ministry of Economy and Competitiveness  
Start date: 2011  
End date: 2013

## Publications

**Total Impact Factor: 16.71**

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

- Arroyo-Villa I; Bautista-Caro MB; Balsa A; Aguado-Acin P; Nuno L; Bonilla-Hernan MG; Puig-Kroer A; Martin-Mola E; Miranda-Carus ME. *Frequency of Th17 CD4+T Cells in Early Rheumatoid Arthritis: A Marker of Anti-CCP Sero-positivity.* PLOS ONE. 2012; 7(8). IF: 3.73. Quartile: 1.
- Estecha A; Aguilera-Montilla N; Sanchez-Mateos P; Puig-Kroger A. *RUNX3 Regulates Intercellular Adhesion Molecule 3 (ICAM-3) Expression during Macrophage Differentiation and Monocyte Extravasation.* PLOS ONE. 2012; 7(3). IF: 3.73. Quartile: 1.
- Escribese MM; Sierra-Filardi E; Nieto C; Samaniego R; Sanchez-Torres C; Matsuyama T; Calderon-Gomez E; Vega MA; Salas A; Sanchez-Mateos P; Corbi AL. *The Prolyl Hydroxylase PHD3 Identifies Proinflammatory Macrophages and Its Expression Is Regulated by Activin A.* JOURNAL OF IMMUNOLOGY. 2012; 189(4) 1946-1954. IF: 5.52. Quartile: 1.
- Benito-Miguel M; Garcia-Carmona Y; Balsa A; Bautista-Caro MB; Arroyo-Villa I; Cobo-Ibanez T; Bonilla-Hernan MG; de Ayala CP; Sanchez-Mateos P; Martin-Mola E; Miranda-Carus ME. *IL-15 Expression on RA Synovial Fibroblasts Promotes B Cell Survival.* PLOS ONE. 2012; 7(7). IF: 3.73. Quartile: 1.

	Number of Documents	IF
Own publications	1	3.73
Joint publications	3	12.98
First-decile publications	0	0
First-quartile publications	4	16.71
Second-quartile publications	0	0
Third-quartile publications	0	0
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	4	16.71

# Autoimmune systemic diseases

Group director: Luis Carreño Pérez

Group type: CONSOLIDATED

## Research lines

- ✓ L1. Immune-mediated inflammatory diseases.
- ✓ L2. Rheumatoid arthritis.

## Group members (researchers and support staff)

- Elena Becerra Fernández: Predoctoral
- Luis Carreño Pérez: Group Director
- Carlos Manuel González Fernández: Postdoctoral
- Diana Carolina Hernández Flórez: Predoctoral
- Francisco José López Longo: Postdoctoral
- Indalecio Monteagudo Sáez: Postdoctoral
- María Montoro Álvarez: Predoctoral
- Esperanza Naredo Sánchez: Postdoctoral
- 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

## Publications

**Total Impact Factor: 38.55**

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

- Tejera-Alhambra M; Alonso B; Teijeiro R; Ramos-Medina R; Aristimuno C; Valor L; de Andres C; Sanchez-Ramon S. *Perforin Expression by CD4+ Regulatory T Cells Increases at Multiple Sclerosis Relapse: Sex Differences.* INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2012; 13(6) 6698-6710. IF: 2.464. Quartile: 2.
- Valor L; Sarmiento E; Navarro J; Gallego A; Fernandez-Yanez J; Fernandez-Cruz E; Carbone J. *Evaluation of Lymphoproliferative Responses by Carboxy Fluorescein Succinimidyl Ester Assay in Heart Recipients With Infections.* TRANSPLANTATION PROCEEDINGS. 2012; 44(9) 2649-2652. IF: 0.952. Quartile: 3.
- Bello IF; Alvarez MT; Lopez-Longo FJ; Arias-Salgado EG; Martin M; Jimenez-Yuste V; de la Rua AR; Butta NV. *Platelet soluble CD40L and matrix metalloproteinase 9 activity are proinflammatory mediators in Behcet disease patients.* THROMBOSIS AND HAEMOSTASIS. 2012; 107(1) 88-98. IF: 6.094. Quartile: 1.
- Rivera J; Rejas-Gutierrez J; Vallejo MA; Esteve-Vives J; De Salas-Cansado M. *Prospective study of the use of healthcare resources and economic costs in patients with fibromyalgia after treatment in routine medical practice.* CLINICAL AND EXPERIMENTAL RHEUMATOLOGY. 2012; 30(6) S31-S38. IF: 2.655. Quartile: 2.
- Ortea I; Roschitzki B; Ovalles JG; Longo JL; de la Torre I; Gonzalez I; Gomez-Reino JJ; Gonzalez A. *Discovery of serum proteomic biomarkers for prediction of response to infliximab (a monoclonal anti-TNF antibody) treatment in rheumatoid arthritis: An exploratory analysis.* JOURNAL OF PROTEOMICS. 2012; 77. 372-382. IF: 4.088. Quartile: 1.
- Cenit MC; Simeon CP; Vonk MC; Callejas-Rubio JL; Espinosa G; Carreira P; Blanco FJ; Narvaez J; Tolosa C; Roman-Ivorra JA; Gomez-Garcia I; Garcia-Hernandez FJ; Gallego M; Garcia-Portales R; Egurbide MV; Fonollosa V; de la Pena PG; Lopez-Longo FJ; Gonzalez-. *Influence of the IL6 Gene in Susceptibility to Systemic Sclerosis.* JOURNAL OF RHEUMATOLOGY. 2012; 39(12) 2294-2302. IF: 3.258. Quartile: 2.
- De La Torre I; Leandro MJ; Valor L; Becerra E; Edwards JCW; Cambridge G. *Total serum immunoglobulin levels in patients with RA after multiple B-cell depletion cycles based on rituximab: relationship with B-cell kinetics.* RHEUMATOLOGY. 2012; 51(5) 833-840. IF: 4.212. Quartile: 1.
- Aristimuno C; Teijeiro R; Valor L; Alonso B; Tejera-Alhambra M; de Andres C; Minarro DO; Lopez-Lazareno N; Faure F; Sanchez-Ramon S. *Sex-hormone receptors pattern on regulatory T-cells: clinical implications for multiple sclerosis.* CLINICAL AND EXPERIMENTAL MEDICINE. 2012; 12(4) 247-255. IF: 2.397. Quartile: 2.
- Gomez-Reino JJ; Rodriguez-Lozano C; Campos-Fernandez C; Montoro M; Descalzo MA; Carmona L. *Change in the discontinuation pattern of tumour necrosis factor antagonists in rheumatoid arthritis over 10 years: data from the Spanish registry BIOBADASER 2.0.* ANNALS OF THE RHEUMATIC DISEASES. 2012; 71(3) 382-385. IF: 9.111. Quartile: 1.

## AUTOIMMUNE SYSTEMIC DISEASES

- de la Torre I; Leandro MJ; Edwards JCW; Cambridge G. *Baseline serum immunoglobulin levels in patients with rheumatoid arthritis: relationships with clinical parameters and with B-cell dynamics following rituximab.* CLINICAL AND EXPERIMENTAL RHEUMATOLOGY. 2012; 30(4) 554-560. IF: 2.655. Quartile: 2.
- Vallejo MA; Rivera J; Esteve-Vives J; Rodriguez-Munoz MF. *Use of the Hospital Anxiety and Depression Scale (HADS) to evaluate anxiety and depression in fibromyalgia patients.* REVISTA DE PSIQUIATRÍA Y SALUD MENTAL. 2012; 5(2) 107-114. IF: 0.667. Quartile: 4.
- Naredo E; Iagnocco A. *Why use ultrasound in rheumatology? A valuable tool for diagnosis and research.* RHEUMATOLOGY. 2012; 51. 1-1. IF: 4.212. Quartile :1.
- Iagnocco A; Naredo E. *Osteoarthritis: research update and clinical applications.* RHEUMATOLOGY. 2012; 51. 2-5. IF: 4.212. Quartile: 1.
- Wakefield RJ; D'Agostino MA; Naredo E; Buch MH; Iagnocco A; Terslev L; Ostergaard M; Backhaus M; Grassi W; Dougados M; Burmester GR; Saleem B; de Miguel E; Estrach C; Ikeda K; Gutiérrez M; Thompson R; Balint P; Emery P. *After treat-to-target: can a targeted ultrasound initiative improve RA outcomes?* POSTGRADUATE MEDICAL JOURNAL. 2012; 88(1042) 482-486. IF:1.608. Quartile: 2.
- Wakefield RJ; D'Agostino MA; Naredo E; Buch MH; Iagnocco A; Terslev L; Ostergaard M; Backhaus M; Grassi W; Dougados M; Burmester GR; Saleem B; de Miguel E; Estrach C; Ikeda K; Gutiérrez M; Thompson R; Balint P; Emery P. *After treat-to-target: can a targeted ultrasound initiative improve RA outcomes?* ANNALS OF THE RHEUMATIC DISEASES. 2012; 71(6) 799-803. IF:9.111. Quartile: 1.

	Number of Documents	IF
Own publications	4	10.47
Joint publications	7	28.08
First-decile publications	2	15.20
First-quartile publications	4	23.51
Second-quartile publications	5	13.42
Third-quartile publications	1	0.95
Fourth-quartile publications	1	0.66
Nonindexed publications	0	-
Total publications	11	38.55

# Infection in pediatric patients

Group director: M.<sup>a</sup> Luisa Navarro Gómez

Group type: CONSOLIDATED

## Research programs and lines

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

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

P2: Infectious diseases in pediatric patients

- ✓ L1: Respiratory virus infection in immunodepressed patients.
- ✓ L2: Bronchiolitis-RSV.
- ✓ L3. Meningitis.

P3: Bone and joint disease

## Group members (researchers and support staff)

- María Isabel González Sánchez
- Teresa Hernández-Sampelayo Mato: Postdoctoral
- Manuela Moya García
- María Luisa Navarro Gómez: Group Director
- Magdalena Peinador García
- Rosa María Rodríguez Fernández: Predoctoral
- Jesús Saavedra Lozano: Postdoctoral
- Mar Santos Sebastián



## INFECTION IN PEDIATRIC PATIENTS

### Research Projects - Competitive Calls

- Principal investigator: Jesús Saavedra Lozano  
Title: "Antibiotic resistance and prescribing in european children".  
Funding body: European Commission  
Start date: 2010  
End date: 2013

### Theses

Doctoral Student	Title	Director	University
Felipe González Martínez	Estudio (epidemiológico, clínico y microbiológico) de niños con enfermedad neumocócica invasora (ENI) de un hospital terciario de Madrid entre 1998-2009	Teresa Hernández – Sampelayo Matos	Universidad Complutense de Madrid

### Publications

**Total Impact Factor: 25.69**

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

- Tejedor JC; Merino JM; Moro M; Navarro ML; Espin J; Omenaca F; Garcia-Sicilia J; Moreno-Perez D; Ruiz-Contreras J; Centeno F; Barrio F; Cabanillas L; Muro M; Esporrin C; De Torres MJ; Caubet M; Boutriau D; Miller JM; Mesaros N. Five-year Antibody Persistence and Safety Following a Booster Dose of Combined *Haemophilus influenzae* Type b-*Neisseria meningitidis* Serogroup C-Tetanus Toxoid Conjugate Vaccine. *PEDIATRIC INFECTIOUS DISEASE JOURNAL*. 2012; 31(10) 1074-1077. IF: 3.569. Quartile: 1.

- de Mulder M; Yebra G; Navas A; de JOSÉ MI; Gurbindo MD; Gonzalez-Tome MI; Mellado MJ; Saavedra-Lozano J; Munoz-Fernandez MA; de Ory SJ; Ramos JT; Holguin A. *High Drug Resistance Prevalence among Vertically HIV-Infected Patients Transferred from Pediatric Care to Adult Units in Spain*. *PLOS ONE*. 2012; 7(12). IF: 3.73. Quartile: 1.
- Menson EN; Mellado MJ; Bamford A; Castelli G; Duiculescu D; Marczynska M; Navarro ML; Scherbier HJ; Heath PT. *Guidance on vaccination of HIV-infected children in Europe*. *HIV MEDICINE*. 2012; 13(6) 333. IF: 3.155. Quartile: 2.
- Guillen S; Prieto L; de Ory SJ; Gonzalez-Granado I; Gonzalez-Tome MI; Mellado MJ; de JOSÉ M; Navarro ML; Beceiro J; Roa MA; Munoz MA; Ramos JT. *New diagnosis of HIV infection in children*. *ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA*. 2012; 30(3) 131-136. IF: 1.478. Quartile: 4.
- Briz V; Garcia D; Mendez-Lagares G; Ruiz-Mateos E; de Mulder M; Moreno-Perez D; Navarro ML; Leon-Leal JA; de JOSÉ MI; Ramos J; Mellado MJ; Gonzalez-Tome MI; Leal M; Munoz-Fernandez MA. *High Prevalence of X4/DM-Tropic Variants in Children and Adolescents Infected With HIV-1 by Vertical Transmission*. *PEDIATRIC INFECTIOUS DISEASE JOURNAL*. 2012; 31(10) 1048-1052. IF: 3.569. Quartile: 1.
- de Mulder M; Yebra G; Navas A; Martin L; de JOSÉ MI; Navarro ML; de Ory SJ; Gonzalez-Granado I; Mellado MJ; Ramos JT; Holguin A. *Trends in Drug Resistance Prevalence in HIV-1-infected Children in Madrid: 1993 to 2010 Analysis*. *PEDIATRIC INFECTIOUS DISEASE JOURNAL*. 2012; 31(11) E213-E221. IF: 3.569. Quartile: 1.
- Prieto LM; Gonzalez-Tome MI; Munoz E; Fernandez-Ibieta M; Soto B; del Rosal T; Cuadrado I; Navarro ML; Roa MA; Beceiro J; de Jose MI; Santos MJ; Lora D; Ramos JT. *Low Rates of Mother-to-child Transmission of HIV-1 and Risk Factors for Infection in Spain: 2000-2007*. *PEDIATRIC INFECTIOUS DISEASE JOURNAL*. 2012; 31(10) 1053-1058. IF: 3.569. Quartile: 1.

- Mendez-Echevarria A; Gonzalez-Munoz M; Mellado MJ; Baquero-Artigao F; Blazquez D; Penin M; Navarro ML; Saavedra-Lozano J; Hernandez-Sampelayo MT; Gonzalez-Tome I; Calvo C; Ruiz M; Ramos JT; Guillen S; Velazquez R; Perez B; *Interferon-gamma release assay for the diagnosis of tuberculosis in children.* ARCHIVES OF DISEASE IN CHILDHOOD. 2012; 97(6) 514-516. IF: 3.051. Quartile: 1.

	Number of Documents	IF
Own publications	0	0.00
Joint publications	8	25.69
First-decile publications	5	17.32
First-quartile publications	6	21.06
Second-quartile publications	1	3.15
Third-quartile publications	0	0
Fourth-quartile publications	1	1.47
Nonindexed publications	0	-
Total publications	8	25.69

# Immunology of HIV infection in pediatric patients

Group director: M.<sup>a</sup> Dolores Gurbindo Gutiérrez

Group type: CONSOLIDATED

## Research lines

- ✓ L1: Alterations of the immune system in children.
- ✓ L2: HIV infection in the pediatric patient.

## Group members (researchers and support staff)

- Raquel Castro González
- Rafael Correa Rocha: Miguel Servet
- Pilar González Martínez
- María Dolores Gurbindo Gutiérrez: Group Director
- Inmaculada Martínez Moreno



## Research Projects - Competitive Calls

- Principal investigator: María Dolores Gurbindo Gutiérrez  
Title: "Evolución del sistema inmunológico durante la gestación e infección: análisis del receptor de células T y células B".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- 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: Rafael Correa Rocha  
Title: "Papel de células T reguladoras (treg) en distintas patologías inmunes de la infancia. Desarrollo fetal de treg e implicación en procesos autoinmunes, alergias y rechazo a trasplantes en niños".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012

## Publications

**Total Impact Factor: 21.67**

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

- Anghel SI; Correa-Rochal R; Budinska E; Boliganl KF; Abraham S; Colombetti S; Fontao L; Mariotti A; Rimoldi D; Ghanem GE; Fisher DE; Levy F; Delorenzi M; Piguet V. *Breast cancer suppressor candidate-1 (BCSC-1) is a melanoma tumor suppressor that down regulates MITF.* PIGMENT CELL & MELANOMA RESEARCH. 2012; 25(4) 482-487. IF: 5.839. Quartile: 1.

- Díaz L; Mendez-Lagares G; Correa-Rocha R; Pacheco YM; Ferrando-Martinez S; Ruiz-Mateos E; del Pozo-Balado MD; Leon JA; Gurbindo MD; de José MI; Leal M; Munoz-Fernandez MA. *Detectable Viral Load Aggravates Immuno-senescence Features of CD8 T-Cell Subsets in Vertically HIV-Infected Children.* JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2012; 60(5) 447-454. IF: 4.653. Quartile: 1.
- Correa-Rocha R; Perez A; Lorente R; Ferrando-Martinez S; Leal M; Gurbindo D; Munoz-Fernandez MA. *Preterm neonates show marked leukopenia and lymphopenia that are associated with increased regulatory T-cell values and diminished IL-7.* PEDIATRIC RESEARCH. 2012; 71(5) 590-597. IF: 2.673. Quartile: 1.
- Fuentes-Aparicio V; Alonso-Lebrero E; Zapatero L; Infante S; Lorente R; Munoz-Fernandez MA; Correa-Rocha R. *Oral immunotherapy in hen's egg-allergic children increases a hypo-proliferative subset of CD4+T cells that could constitute a marker of tolerance achievement.* PEDIATRIC ALLERGY AND IMMUNOLOGY. 2012; 23(7) 648-653. IF: 3.376. Quartile: 1.
- de Mulder M; Yebra G; Navas A; de José MI; Gurbindo MD; Gonzalez-Tome MI; Mellado MJ; Saavedra-Lozano J; Munoz-Fernandez MA; de Ory SJ; Ramos JT; Holguin A. *High Drug Resistance Prevalence among Vertically HIV-Infected Patients Transferred from Pediatric Care to Adult Units in Spain.* PLOS ONE. 2012; 7(12). IF: 3.73. Quartile: 1.
- Paravisi A; Gurbindo MD; Roman SS. *Ataxia-telangiectasia.* MEDICINA CLÍNICA. 2012; 138(6) 249-253. IF: 1.399. Quartile: 2.

	Number of Documents	IF
Own publications	2	6.05
Joint publications	4	15.62
First-decile publications	2	9.21
First-quartile publications	5	20.27
Second-quartile publications	1	1.39
Third-quartile publications	0	0
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	6	21.67

# Pathogenesis of the immunoallergic response

Group director: José Manuel Zubeldia Ortuño  
Group type: IN PROCESS OF CONSOLIDATION

## Research programs and lines

### P1: Mechanisms of the allergic 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

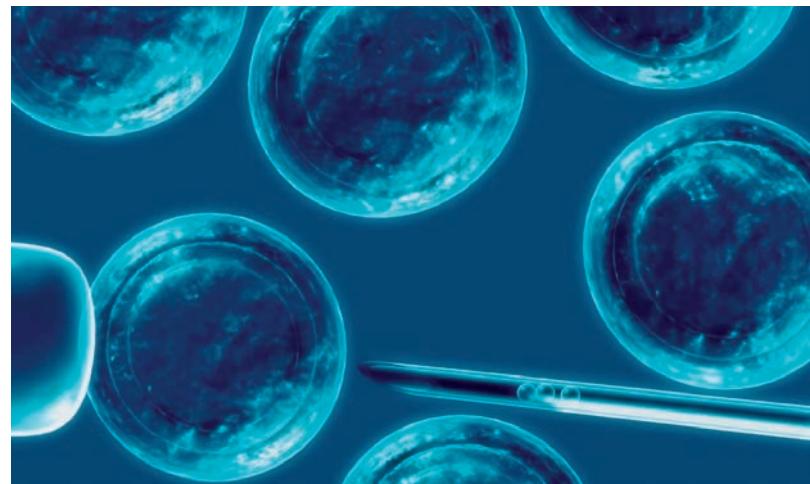
- ✓ L1. Phenotyping of lung and auditory functions in IGF-1 knockout mice.
- ✓ L2. Phenotyping of lung function and immunological alterations in DREAM knockout mice.

### P3: Hypoxia-induced disease

- ✓ L1. Pulmonary bronchydysplasia model in newborn rats.
- ✓ L2. Overexposure of immunological hypoxia-induced alterations in transgenic mice.

### P4: Characterization of noncommercial antigens

- ✓ L1. Foods.
- ✓ L2. Drugs.
- ✓ L3. Aeroallergens.



## Group members (researchers and support staff)

- Alberto Álvarez Perea
- María Luisa Baeza Ochoa de Ocáriz: Principal Investigator
- Alicia Prieto García: Predoctoral
- Pilar Tornero Molina: Predoctoral
- José Manuel Zubeldia Ortuño: Group Director

### Research Projects - Competitive Calls

- Principal investigator: María Luisa Baeza Ochoa de Ocáriz  
Title: "Estudio del efecto modulador de las moléculas parasitarias derivadas de *Anisakis Simplex*, en la sensibilización a alergenos comunes y su influencia en la anafilaxia en un modelo murino".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012

### Publications

**Total Impact Factor: 3.77**

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

- Tomas M; Alvarez-Perea A; Ledesma A; Baeza ML; de Barrio M. *Allergy to Red Currant: Immunoglobulin E-Mediated Hypersensitivity to Lipid Transport Proteins (Pru p 3)*. JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2012; 22(2) 140-141. IF: 1.887. Quartile: 3.

- Razzak EA; Tomas M; Tornero P; Herrero T. *Nine Cases of Allergy to Omeprazole*. JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2012; 22(3) 228-230. IF: 1.887. Quartile: 3.

	Number of Documents	IF
Own publications	0	0.00
Joint publications	2	3.77
First-decile publications	0	0
First-quartile publications	0	0.00
Second-quartile publications	0	0
Third-quartile publications	2	3.77
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	2	3.77

# Allergic diseases in pediatric patients

Group director: **Elena Alonso Lebrero**

Group type: ASSOCIATED CLINICAL

## Research lines

- ✓ L1: Food allergy.
- ✓ L2: Drug allergy.

## Group members (researchers and support staff)

- **Elena Alonso Lebrero:** Group Director
- **Victoria Fuentes Aparicio:** Predoctoral
- **Sonsoles Infante Herrero:** Predoctoral
- **Lidia Zapatero Remón**



**Publications****Total Impact Factor: 10.06**

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

- Fuentes-Aparicio V; Alonso-Lebrero E; Zapatero L; Infante S; Lorente R; Munoz-Fernandez MA; Correa-Rocha R. *Oral immunotherapy in hen's egg-allergic children increases a hypo-proliferative subset of CD4+T cells that could constitute a marker of tolerance achievement.* PEDIATRIC ALLERGY AND IMMUNOLOGY. 2012; 23(7) 648-653. IF: 3.376. Quartile: 1.
- Callero-Viera A; Infante S; Fuentes-Aparicio V; Zapatero L; Alonso-Lebrero E. *Neuropsychiatric Reactions to Montelukast.* JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2012; 22(6) 452-453. IF: 1.887. Quartile: 3.
- Tomas M; Aparicio VF; Remon LZ; Lebrero EA; Herrero SI. *Skin Reactions to Gadolinium-Based Contrast Media.* JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2012; 22(4) 292-293. IF: 1.887. Quartile: 3.

- Martos G; Pineda-Vadillo C; Miralles B; Alonso-Lebrero E; Lopez-Fandino R; Molina E; Belloque J. *Identification of an IgE Reactive Peptide in Hen Egg Riboflavin Binding Protein Subjected to Simulated Gastrointestinal Digestion.* JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY. 2012; 60(20) 5215-5220. IF: 2.906. Quartile: 1.

	Number of Documents	IF
Own publications	3	7.15
Joint publications	1	2.91
First-decile publications	2	6.28
First-quartile publications	2	6.28
Second-quartile publications	0	0
Third-quartile publications	2	3.77
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	4	10.06

# AREA 6

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

## Translational Oncology

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



# Research axes and lines

## Strategic axes

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

## Strategic lines

### Axis 1: Promotion of collaborations in the Area of Oncology

#### 1. Promoting collaboration:

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

#### 2. Participation in multicenter trials investigating MPD

### 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.

## Strategic lines

### 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 induced by antitumor treatment.
- ✓ Identify circulating predictors of response to drug therapy (eg, circulating tumor cells, microRNAs).

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

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

### 5. Experimental models of 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 funding through the National Plan.
- ✓ Apply for funding through local/regional public calls.
- ✓ Apply for funding through private calls.

### 8. Increase in scientific output

*Strategic objectives:*

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



## Strategic lines

### Axis 3: Training in the molecular biology of cancer and new therapies

#### 1. Increased 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.

#### 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 oncologic molecular biology laboratory in the Medical Oncology Service

- ✓ In collaboration with other laboratories of 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 stages of clinical development (Phase III)

# Structure of AREA 6

## Translational Oncology



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

# Translational medical oncology and personalized cancer therapy

Group director: **Miguel Martín Jiménez**

Group type: CONSOLIDATED

## Research lines

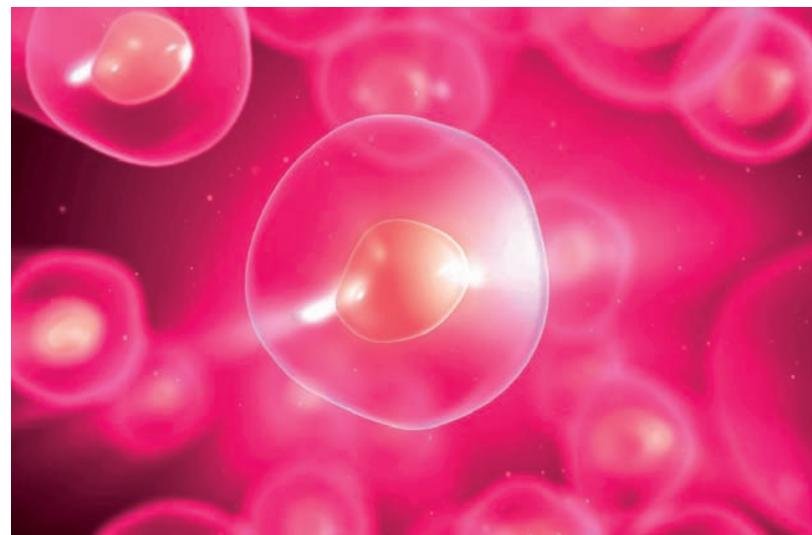
- ✓ L1: Adjuvant chemotherapy of breast cancer.
- ✓ L2: Prediction of the response of breast cancer to adjuvant therapy using monogenetic and polygenetic models.
- ✓ L3: Prognostic and predictive importance of the april protein and gene in breast cancer.
- ✓ L4: Prognostic and predictive value of circulating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

- ✓ L14: Circulating tumor cells in rectal cancer with synchronous liver metastasis: response to different therapeutic strategies (chemotherapy, chemo-radiotherapy, and surgery for rectal cancer and/or liver metastases) and clinical-developmental correlations.
- ✓ L15: Study of the pattern of tumor growth in patients with colorectal cancer.
- ✓ L16: Risk of early ovarian failure in premenopausal patients with epithelial breast cancer treated with chemotherapy based on docetaxel according to ovarian reserve.
- ✓ L17: Pharmacogenomics applied to aromatase inhibitors (anastrozole) in combination with pure antiestrogens (fulvestrant) or in monotherapy: impact on efficacy and toxicity profile.

## Group members (researchers and support staff)

- **Mónica Alegre Pinar:** Data Manager
- **Antonio Alonso Muñoz:** Predoctoral
- **Rosa Mª Álvarez Álvarez**
- **José Ángel Arranz Arija:** Predoctoral
- **Monserrat Blanco Codesido:** Postdoctoral
- **Óscar Bueno Zamora:** Predoctoral
- **María Cebollero Presmanes:** Postdoctoral
- **Yolanda Escobar Álvarez:** Predoctoral
- **Mª Pilar García Alfonso:** Postdoctoral
- **Ramón García Gómez:** Postdoctoral

- **Elsa García Laborda:** Predoctoral
- **Ricardo González del Val Subirats:** Predoctoral
- **Yolanda Jerez Gilarranz:** Post-MIR FIBHGM
- **Santiago Lizárraga Bonelli:** Predoctoral
- **Estela López Juárez:** Data Manager
- **Cristina López López:** Predoctoral
- **Sara López-Tarruella Cobo:** Postdoctoral
- **Daniel López-Trabada Ataz:** Predoctoral
- **Soledad Luque Molina:** Predoctoral
- **Iván Márquez Rodas:** Postdoctoral
- **Miguel Martín Jiménez:** Group Director
- **Tatiana Massarrah Sánchez:** Predoctoral
- **Andrés Muñoz Martín:** Predoctoral
- **Francisco Javier Olcoz Monreal:** Predoctoral
- **María Isabel Palomero Plaza:**
- **Teresa Prieto Laeche:** Data Manager
- **Beatriz Puente Vázquez:** Data Manager
- **Patricia Rincón Olbés:** Predoctoral
- **Ana Belén Ruiz Bolaños:** Data Manager
- **María Pilar Sabín Domínguez:** Predoctoral
- **Daniel Urosa Velasco:** Data Manager





## Research Projects - Competitive Calls

- Principal investigator: Miguel Martín Jiménez  
Title: "Evaluación daño cerebral (chemobrain) asociado al tratamiento del cáncer de mama".  
Funding body: F. Mapfre Medicina  
Start date: 2012  
End date: 2013
- 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: "RETIC en cáncer".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2013

## Publications

**Total Impact Factor: 154.71**

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

- Albanell J; Gonzalez A; Ruiz-Borrego M; Alba E; Garcia-Saenz JA; Corominas JM; Burgues O; Furio V; Rojo A; Palacios J; Bermejo B; Martinez-Garcia M; Limon ML; Munoz AS; Martin M; Tusquets I; Rojo F; Colomer R; Faull I; Lluch A. *Prospective transGEICAM study of the impact of the 21-gene Recurrence Score assay and traditional clinicopathological factors on adjuvant clinical decision making in women with estrogen receptor-positive (ER plus) node-negative breast cancer.* ANNALS OF ONCOLOGY. 2012; 23(3) 625-631. IF: 7.384. Quartile: 1.

- Gutierrez LC; Khosravi-Shahi P; Alvarez YE. *Management of dermatitis in patients with locally advanced squamous cell carcinoma of the head and neck receiving cetuximab and radiotherapy.* ORAL ONCOLOGY. 2012; 48(4) 293-297. IF: 2.695. Quartile: 1.
- Llombart-Cussac A; Ruiz A; Anton A; Barnadas A; Antolin S; Ales-Martinez JE; Alvarez I; Andres R; Saenz JAG; Lao J; Carrasco E; Camara C; Casas I; Martin M. *Exemestane versus anastrozole as front-line endocrine therapy in postmenopausal patients with hormone receptor-positive, advanced breast cancer Final Results from the Spanish Breast Cancer Group 2001-03 Phase 2 Randomized Trial.* CANCER. 2012; 118(1) 241-247. IF: 5.201. Quartile: 1.
- Guisado-Vasco P; Arranz-Saez R; Canales M; Canovas A; Garcia-Larana J; Garcia-Sanz R; Lopez A; Lopez JL; Llanos M; Moraleda JM; Rodriguez J; Rayon C; Sabin P; Salar A; Marin-Niebla A; Morente M; Sanchez-Godoy P; Tomas JF; Muriel A; Abraira V; Piris MA; Ga. *Stage IV and age over 45 years are the only prognostic factors of the International Prognostic Score for the outcome of advanced Hodgkin lymphoma in the Spanish Hodgkin Lymphoma Study Group series.* LEUKEMIA & LYMPHOMA. 2012; 53(5) 812-819. IF: 2.301. Quartile: 3.
- Martin M; Makhson A; Gligorov J; Lichinitser M; Lluch A; Semiglavov V; Scotto N; Mitchell L; Tjulandin S. *Phase II Study of Bevacizumab in Combination with Trastuzumab and Capecitabine as First-Line Treatment for HER-2-positive Locally Recurrent or Metastatic Breast Cancer.* ONCOLOGIST. 2012; 17(4) 469-475. IF: 4.095. Quartile: 2.
- Miles D; Zielinski C; Martin M; Vrdoljak E; Robert N. *Combining capecitabine and bevacizumab in metastatic breast cancer: A comprehensive review.* EUROPEAN JOURNAL OF CANCER. 2012; 48(4) 482-491. IF: 5.061. Quartile: 1.
- Romero A; Caldes T; DÍAZ-Rubio E; Martin M. *Topoisomerase 2 alpha: a real predictor of anthracycline efficacy.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2012; 14(3) 163-168. IF: 1.276. Quartile: 4.

- Climent MA; Piulats JM; Sanchez-Hernandez A; Arranz JA; Cassinello J; Garcia-Donas J; del Alba AG; Leon-Mateos L; Mellado B; Mendez-Vidal MJ; Perez-Valderrama B. *Recommendations from the Spanish Oncology Genitourinary Group for the treatment of patients with metastatic castration-resistant prostate cancer.* CRITICAL REVIEWS IN ONCOLOGY HEMATOLOGY. 2012; 83(3) 341-352. IF: 4.637. Quartile: 1.
- Sorensen SV; Goh JW; Pan F; Chen C; Yardley D; Martin M; Knopf K; Benedict A; Giorgetti C; Iyer S. *Incidence-based cost-of-illness model for metastatic breast cancer in the United States.* INTERNATIONAL JOURNAL OF TECHNOLOGY ASSESSMENT IN HEALTH CARE. 2012; 28(1) 12-21. IF: 1.551. Quartile: 3.
- Rosell R; Carcereny E; Gervais R; Vergnenegre A; Massuti B; Felip E; Palmero R; Garcia-Gomez R; Pallares C; Sanchez JM; Porta R; Cobo M; Garrido P; Longo F; Moran T; Insa A; De Marinis F; Corre R; Bover I; Illiano A; Dansin E; de Castro J; Milella M; Regu. *Erlotinib versus standard chemotherapy as first-line treatment for European patients with advanced EGFR mutation-positive non-small-cell lung cancer (EURTAC): a multicentre, open-label, randomised phase 3 trial.* LANCET ONCOLOGY. 2012; 13(3) 239-246. IF: 25.117. Quartile: 1.
- Marquez-Rodas I; Lopez-Trabada D; Blanco ABR; Cabello SC; Gomez MIP; Clemente MO; Calvo FA; Martin M. *Family History Record and Hereditary Cancer Risk Perception according to National Cancer Institute Criteria in a Spanish Medical Oncology Service: A Retrospective Study.* ONCOLOGY. 2012; 82(1) 30-34. IF: 2.165. Quartile: 3.
- Virizuela JA; Escobar Y; Cassinello J; Borrega P. *Treatment of cancer pain: Spanish Society of Medical Oncology (SEOM) recommendations for clinical practice.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2012; 14(7) 499-504. IF: 1.276. Quartile: 4.
- Martin M; Bell R; Bourgeois H; Brufsky A; Diel I; Eniu A; Fallowfield L; Fujiwara Y; Jassem J; Paterson AHG; Ritchie D; Steger GG; Stopeck A; Vogel C; Fan M; Jiang Q; Chung KR; Dansey R; Braun A. *Bone-Related Complications and Quality of Life in Advanced Breast Cancer: Results from a Randomized Phase III Trial of Denosumab versus Zoledronic Acid.* CLINICAL CANCER RESEARCH. 2012; 18(17) 4841-4849. IF: 7.837. Quartile: 1.
- Duenas M; Santos M; Aranda JF; Bielza C; Martinez-Cruz AB; Lorz C; Taron M; Ciruelos EM; Rodriguez-Peralto JL; Martin M; Larranaga P; Dahabreh J; Stathopoulos GP; Rosell R; Paramio JM; Garcia-Escudero R. *Mouse p53-Deficient Cancer Models as Platforms for Obtaining Genomic Predictors of Human Cancer Clinical Outcomes.* PLOS ONE. 2012; 7(8). IF: 3.73. Quartile: 1.
- Humanes B; Lazaro A; Camano S; Moreno-Gordaliza E; Lazaro JA; Blanco-Codesido M; Lara JM; Ortiz A; Gomez-Gomez MM; Martin-Vasallo P; Tejedor A. *Cilastatin protects against cisplatin-induced nephrotoxicity without compromising its anticancer efficiency in rats.* KIDNEY INTERNATIONAL. 2012; 82(6) 652-663. IF: 7.916. Quartile: 1.
- Khouri MG; Douglas PS; Mackey JR; Martin M; Scott JM; Scherrer-Crosbie M; Jones LW. *Cancer Therapy-Induced Cardiac Toxicity in Early Breast Cancer Addressing the Unresolved Issues.* CIRCULATION. 2012; 126(23) 2749-2763. IF: 15.202. Quartile: 1.
- Romero A; Martin M; Oliva B; de la Torre J; Furio V; de la Hoya M; Garcia-Saenz JA; Moreno A; Roman JM; DÍAZ-Rubio E; Caldes T. *Glutathione S-transferase P1 c.313A > G polymorphism could be useful in the prediction of doxorubicin response in breast cancer patients.* ANNALS OF ONCOLOGY. 2012; 23(7) 1750-1756. IF: 7.384. Quartile: 1.
- von Minckwitz G; Martin M. *Neoadjuvant treatments for triple-negative breast cancer (TNBC).* ANNALS OF ONCOLOGY. 2012; 23. 35-39. IF: 7.384. Quartile: 1.



- Chen AC; Migliaccio I; Rimawi M; Lopez-Tarruella S; Creighton CJ; Massarweh S; Huang C; Wang YC; Batra SK; Gutierrez MC; Osborne CK; Schiff R. *Upregulation of mucin4 in ER-positive/HER2-overexpressing breast cancer xenografts with acquired resistance to endocrine and HER2-targeted therapies.* BREAST CANCER RESEARCH AND TREATMENT. 2012; 134(2) 583-593. IF: 4.469. Quartile: 1.
- Hurvitz SA; Betting DJ; Stem HM; Quinaux E; Stinson J; Seshagiri S; Zhao Y; Buyse M; Mackey J; Driga A; Damaraju S; Sliwkowski MX; Robert NJ; Valero V; Crown J; Falkson C; Brufsky A; Pienkowski T; Eiermann W; Martin M; Bee V; Marathe O; Slamon DJ; Timmerman. *Analysis of Fc gamma Receptor IIIa and IIa Polymorphisms: Lack of Correlation with Outcome in Trastuzumab-Treated Breast Cancer Patients.* CLINICAL CANCER RESEARCH. 2012; 18(12) 3478-3486. IF: 7.837. Quartile: 1.
- Arija JAA; Espinosa JC; Duran MAC; Herrero FR. *SEOM clinical guidelines for treatment of prostate cancer.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2012; 14(7) 520-527. IF: 1.276. Quartile: 4.
- Bastien RRL; Rodriguez-Lescure A; Ebbert MTW; Prat A; Munarriz B; Rowe L; Miller P; Ruiz-Borrego M; Anderson D; Lyons B; Alvarez I; Dowell T; Wall D; Segui MA; Barley L; Boucher KM; Alba E; Pap. *PAM50 Breast Cancer Subtyping by RT-qPCR and Concordance with Standard Clinical Molecular Markers.* BMC MEDICAL GENOMICS. 2012; 5. IF: 3.466. Quartile: 2.
- Vahdat LT; Thomas ES; Roche HH; Hortobagyi GN; Sparano JA; Yelle L; Fornier MN; Martin M; Bunnell CA; Mukhopadhyay P; Peck RA; Perez EA. *Ixabepilone-associated peripheral neuropathy: data from across the phase II and III clinical trials.* SUPPORTIVE CARE IN CANCER. 2012; 20(11) 2661-2668. IF: 2.649. Quartile: 1.
- Garcia-Alfonso P; Salazar R; Garcia-Foncillas J; Musulen E; Garcia-Carbonero R; Paya A; Perez-Segura P; Cajal SRY; Navarro S. *Guidelines for biomarker testing in colorectal carcinoma (CRC): a national consensus of the Spanish Society of Pathology (SEAP) and the Spanish Society of Medical Oncology (SEOM).* CLINICAL & TRANSLATIONAL ONCOLOGY. 2012; 14(10) 726-739. IF: 1.276. Quartile: 4.
- Jacquin JP; Jones S; Magne N; Chapelle C; Ellis P; Janni W; Mavroudis D; Martin M; Laporte S. *Docetaxel-containing adjuvant chemotherapy in patients with early stage breast cancer. Consistency of effect independent of nodal and biomarker status: a meta-analysis of 14 randomized clinical trials.* BREAST CANCER RESEARCH AND TREATMENT. 2012; 134(3) 903-913. IF: 4.469. Quartile: 1.
- Lopez-Tarruella S; Jerez Y; Marquez-Rodas I; Martin M. *Neratinib (HKI-272) in the treatment of breast cancer.* FUTURE ONCOLOGY. 2012; 8(6) 671-681. IF: 3.202. Quartile: 2.
- Serra-Rexach JA; Jimenez AB; Garcia-Alhambra MA; Pla R; Vidan M; Rodriguez P; Ortiz J; Garcia-Alfo. *Differences in the Therapeutic Approach to Colorectal Cancer in Young and Elderly Patients.* ONCOLOGIST. 2012; 17(10) 1277-1285. IF: 4.095. Quartile: 2.
- Tanic M; Yanowsky K; Rodriguez-Antona C; Andres R; Marquez-Rodas I; Osorio A; Benitez J; Martinez-Delgado B. *Deregulated miRNAs in Hereditary Breast Cancer Revealed a Role for miR-30c in Regulating KRAS Oncogene.* PLOS ONE. 2012; 7(6). IF: 3.73. Quartile: 1.
- Castellano D; Carles J; Esteban E; Trigo JM; Climent MA; Maroto JP; del Muro XG; Font A; Paz-Ares L; Arranz JA; Bellmunt J. *Recommendations for the optimal management of early and advanced urothelial carcinoma.* CANCER TREATMENT REVIEWS. 2012; 38(5) 431-441. IF: 6.024. Quartile: 1.

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

- Arija JAA; Beca RG; Lopez CL; Dominguez PS; Lovelle AS; Gilarranz YJ. *Treatment of the patient with castration-resistant biochemical progression of prostate cancer.* ARCHIVOS ESPAÑOLES DE UROLOGIA. 2012; 65(1) 185-192.

- Eiermann W; Bergh J; Cardoso F; Conte P; Crown J; Curtin NJ; Gligorov J; Gusterson B; Joensuu H; Linderholm BK; Martin M; Penault-Llorca F; Pestalozzi BC; Razis E; Sotiriou C; Tjulandin S; Viale G. *Triple negative breast cancer: Proposals for a pragmatic definition and implications for patient management and trial design.* BREAST. 2012; 21(1) 20-26.

	Number of Documents	IF
Own publications	12	43.97
Joint publications	17	110.74
First-decile publications	9	88.71
First-quartile publications	18	128.73
Second-quartile publications	4	14.85
Third-quartile publications	3	6.01
Fourth-quartile publications	4	5.10
Nonindexed publications	2	-
Total publications	31	154.71

# Genetics and clinical aspects of hematologic malignancy and stem cell transplantation

Group director: José Luis Díez Martín

Group type: CONSOLIDATED

## Programs and research lines

### P1: Hematopoietic stem cell transplant

- ✓ L1: Nonconventional hematopoietic stem cell transplant.
- ✓ L2: Genetic follow-up of chimerism and residual disease.
- ✓ L3: Polymorphisms, expression and methylation of immune system genes.
- ✓ L4: Stem cell transplant in patients with AIDS-associated lymphoma.
- ✓ L5: Electronic management of clinical information.

### P2: Diagnosis and treatment of hematologic malignancy

- ✓ L1: Stratified treatment of acute leukemia according to the results of flow cytometry and genetic studies.
- ✓ L2: Genetic markers in the diagnosis, prognosis, and treatment of hematologic malignancy.

### P3: Cell therapy in patients with hematologic disease

- ✓ L1: Donor lymphocyte infusion in patients undergoing hematopoietic stem cell transplantation.
- ✓ L2: Mesenchymal cell infusion for the treatment of graft-versus-host disease in transplant recipients.

The research team led by Dr. José Luis Díez Martín 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 in terms of clinical

practice (eg, biologic therapy, therapy targeting specific molecules, nonconventional hematopoietic stem cell transplantation, and electronic management of information) and in terms of laboratory research (eg, genetics, genomics, flow cytometry, cell biology). The group's current activity focuses on 3 major translational research lines:

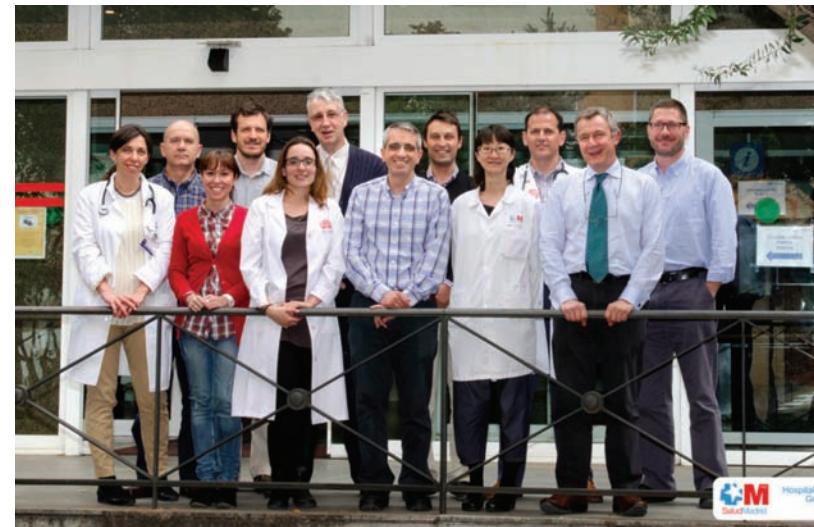
1) Hematopoietic stem cell transplantation. This line is aimed at developing and introducing new therapeutic strategies (eg, nonconventional stem cell transplants [dual and haploidentical], hematopoietic transplant in patients with AIDS-associated lymphoma), laboratory testing (genetic monitoring of chimerism and residual disease, massive sequencing for identification of polymorphisms in immune system genes, flow cytometry-based monitoring of immune reconstitution), and procedures for handling 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 infusion of mesenchymal cells for the treatment of refractory graft-versus-host disease or hemorrhagic cystitis in this type of patient.

## Group members (researchers and support staff)

- **Javier Anguita Velasco:** Predoctoral
- **Pascual Balsalobre López:** Predoctoral
- **Maríana Bastos Oreiro:** Predoctoral
- **Elena Buces González:** Predoctoral
- **Ismael Buño Borde:** Principal Investigator
- **José Luis Díez Martín:** Group Director
- **Patricia Font López:** Predoctoral
- **Ana María García García:**
- **Jorge Gayoso Cruz:** Predoctoral
- **Milagros González Rivera:** Postdoctoral
- **Mi Kwon:** Predoctoral
- **Carolina Martínez Laperche:** Postdoctoral
- **Francisco Javier Menárguez Palanca:** Postdoctoral
- **Cristina Muñoz Martínez:** Data Manager
- **Santiago Osorio Prendes:** Predoctoral
- **David Serrano Simónneau:** Predoctoral
- **Ainhoa María Simón Zárate:** Technician





## Research Projects - Competitive Calls

- Principal investigator: Ana María García García  
Title: "Convocatoria Lifelong Learning Program 2011".  
Funding body: European Commission  
Start date: 2011  
End date: 2014
- Principal investigator: Jorge Gayoso Cruz  
Title: "Tratamiento de la cistitis hemorrágica severa post-trasplante alogénico con células mesenquimales".  
Funding body: Ministry of Health, Social Services and Equality  
Start date: 2012  
End date: 2013
- Principal investigator: Ismael Buño Borde  
Title: "Definición de un índice pronóstico basado en el perfil genético de polimorfismos en citocinas para el manejo clínico anticipado de la EICH y otras complicaciones post-trasplante alogénico de progenitores hematopoyéticos. Banco de ADN del GETH".  
Funding body: Fundación LAIR  
Start date: 2012  
End date: 2014
- Principal investigator: David Serrano Simonneau  
Title: "Cuantificación de las células madre mesenquimales autólogas infundidas en el tratamiento de pacientes diagnósticos de necrosis vascular de la cabeza del fémur".  
Funding body: F. Mapfre Medicina  
Start date: 2012  
End date: 2013

- Principal investigator: José Luis Díez Martín  
Title: "Evaluación de la reconstitución inmune después del trasplante haplo-identico 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: José Luis Díez Martín  
Title: "Papel de la senescencia en la actividad inmunorreguladora de las células madre mesenquimales humanas".  
Funding body: Ministry of Economy and Competitiveness  
Start date: 2009  
End date: 2012

## Clinical Practice Guidelines

Authors	Title	Publication
Soledad Alonso, Eva Arranz, Celina Benavente, Carmen Burgaleta, María Calbacho, Marta Callejas, Teresa Cedena, Patricia Font, Valle Gómez García de Soria, José Ángel Hernández-Rivas, Javier Menárguez, Asunción Mora, Carolina Muñoz, Santiago Osorio, Raquel de Paz, Jaime Pérez de Oteyza, María José Requena, Ángeles Sanz, Carlos Soto, Lucía Villalón, Ana Villegas. (Asociación Madrileña de Hematología y Hemoterapia)	Guía Madrileña de Síndromes Mielodisplásicos	ISBN: 978-84-8473-974-6. Depósito Legal: M-42736-2011. © 2012 Ergon

**Publications****Total Impact Factor: 58.61**

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

- Castelblanco E; Gallez P; Ros S; Gatius S; Valls J; De-Cubas AA; Maliszewska A; Yebra-Pimentel MT; Menarguez J; Gamallo C; Opocher G; Robledo M; Matias-Guiu X. *Thyroid paraganglioma. Report of 3 cases and description of an immunohistochemical profile useful in the differential diagnosis with medullary thyroid carcinoma, based on complementary DNA array results.* HUMAN PATHOLOGY. 2012; 43(7) 1103-1112. IF: 2.843. Quartile: 2.
- Escribano P; Recio S; Pelaez T; Gonzalez-Rivera M; Bouza E; Guinea J. *In Vitro Acquisition of Secondary Azole Resistance in Aspergillus fumigatus Isolates after Prolonged Exposure to Itraconazole: Presence of Heteroresistant Populations.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(1) 174-178. IF: 4.565. Quartile: 1.
- Alonso M; Herranz M; Lirola MM; Gonzalez-Rivera M; Bouza E; de Viedma DG. *Real-Time Molecular Epidemiology of Tuberculosis by Direct Genotyping of Smear-Positive Clinical Specimens.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(5) 1755-1757. IF: 4.068. Quartile: 1.
- Sagues M; Sancho JM; Serrano D; Balsalobre P; Gayoso J; Morgades M; Conde E; Iriondo A; Varela R; Escoda L; Xicoy B; Espigado I; Fernandez-Abellán P; Diez JL; Ribera JM. *Comparison of two initial mobilizing strategies of peripheral blood stem cells for autologous transplantation in patients with lymphoma and human immunodeficiency virus infection.* MEDICINA CLÍNICA. 2012; 139(5) 192-196. IF: 1.399. Quartile: 2.
- Sanz J; Boluda JCH; Martin C; Gonzalez M; Ferra C; Serrano D; de Heredia CD; Barrenetxea C; Martinez AM; Solano C; Sanz MA; Sanz GF. *Single-unit umbilical cord blood transplantation from unrelated donors in patients with hematological malignancy using busulfan, thioguanine, fludarabine and ATG as myeloablative conditioning regimen.* BONE MARROW TRANSPLANTATION. 2012; 47(10) 1287-1293. IF: 3.541. Quartile: 2.
- Bosch-Vizcaya A; Perez-Garcia A; Brunet S; Solano C; Buno I; Guillem V; Martinez-Laperche C; Sanz G; Barrenetxea C; Martinez C; Tuset E; Lloveras N; Coll R; Guardia R; Gonzalez Y; Roncero JM; Bustins A; Gardella S; Fernandez C; Buch J; Gallardo D. *Donor CTLA-4 Genotype Influences Clinical Outcome after T Cell-Depleted Allogeneic Hematopoietic Stem Cell Transplantation from HLA-Identical Sibling Donors.* BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION. 2012; 18(1) 100-105. IF: 3.94. Quartile: 1.
- Westers TM; Ireland R; Kern W; Alhan C; Balleisen JS; Bettelheim P; Burbury K; Cullen M; Cutler JA; Della Porta MG; Drager AM; Feuillard J; Font P; Germing U; Haase D; Johansson U; Kordasti S; Loken MR; Malcovati L; te Marvelde JG; Matarraz S; Milne T; Mo. *Standardization of flow cytometry in myelodysplastic syndromes: a report from an international consortium and the European LeukemiaNet Working Group.* LEUKEMIA. 2012; 26(7) 1730-1741. IF: 10.164. Quartile: 1.
- Fuster O; Barragan E; Bolufer P; Such E; Valencia A; Ibanez M; Dolz S; de Juan I; Jimenez A; Gomez MT; Buno I; Martinez J; Cervera J; Montesinos P; Moscardo F; Sanz MA. *Fragment length analysis screening for detection of CEBPA mutations in intermediate-risk karyotype acute myeloid leukemia.* ANNALS OF HEMATOLOGY. 2012; 91(1) 1-7. IF: 2.866. Quartile: 2.
- Vazquez L; Carreras E; Serrano D; Jarque I; Mensa J; Barberan J. *Antifungal prophylaxis in the haematological patient: a practical approach.* REVISTA ESPAÑOLA DE QUIMIOTERAPIA. 2012; 25(4) 299-304. IF: 0.836. Quartile: 4.
- Alonso M; Escribano P; Guinea J; Recio S; Simon A; Pelaez T; Bouza E; de Viedma DG. *Rapid Detection and Identification of Aspergillus from Lower Respiratory Tract Specimens by Use of a Combined Probe-High-Resolution Melting Analysis.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(10) 3238-3243. IF: 4.068. Quartile: 1.
- Castillo JJ; Furman M; Beltran BE; Bibas M; Bower M; Chen WN; Diez-Martin JL; Liu JJ; Miranda RN; Montoto S; Nanaji NM; Navarro JT; Seegmiller AC; Vose JM. *Human immunodeficiency virus-associated plasmablastic lymphoma: Poor prognosis in the era of highly active antiretroviral therapy.* CANCER. 2012; 118(21) 5270-5277. IF: 5.201. Quartile: 1.



- Kwon M; Martinez-Laperche C; Infante M; Carretero F; Balsalobre P; Serrano D; Gayoso J; Perez-Corral A; Anguita J; Diez-Martin JL. *Evaluation of Minimal Residual Disease by Real-Time Quantitative PCR of Wilms' Tumor 1 Expression in Patients with Acute Myelogenous Leukemia after Allogeneic Stem Cell Transplantation: Correlation with Flow Cytometry and Chimerism.* BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION. 2012; 18(8) 1235-1242. IF: 3.94. Quartile: 1.
- Martin-Rabadan P; Gijon P; Fernandez RA; Ballesteros M; Anguita J; Bouza E. *False-positive Aspergillus Antigenemia Due to Blood Product Conditioning Fluids.* CLINICAL INFECTIOUS DISEASES. 2012; 55(4) E22-E27. IF: 9.374. Quartile: 1.
- Di Lisio L; Sanchez-Beato M; Gomez-Lopez G; Rodriguez ME; Montes-Moreno S; Mollejo M; Menarguez J; Martinez MA; Alves FJ; Pisano DG; Piris MA; Martinez N. *MicroRNA signatures in B-cell lymphomas.* BLOOD CANCER JOURNAL. 2012. IF: 1.4. Quartile: 4.

### 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

	Number of Documents	IF
Own publications	1	3.94
Joint publications	13	54.27
First-decile publications	2	19.53
First-quartile publications	8	45.32
Second-quartile publications	4	10.64
Third-quartile publications	0	0
Fourth-quartile publications	2	2.23
Nonindexed publications	0	-
Total publications	14	58.21

# Interdisciplinary oncology and biotechnology

Group director: Felipe Calvo Pérez/Dr. Rafael Herranz Crespo

Group type: CONSOLIDATED

## Research programs and lines

### P1: High-precision radiotherapy

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

### P2: Gastrointestinal cancer/sarcoma

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

### P3: Chemoradiotherapy

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

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]).

Biotechnology transforms care work into components that enable cross-sectional improvement. The group researches 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 enables multimodal therapy, thus reducing toxicity in 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. The modality is also an alternative for optimizing (time and intensity) treatment of breast cancer with a favorable prognosis (treatment tailored to individual risk).

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 researched prospectively based on integrated care activity.



## Group members (researchers and support staff)

- **Héctor Alburquerque Carbuccia:** Predoctoral
- **Juan Carlos Alonso Farto:** Predoctoral
- **Emilio Álvarez Fernández:** Postdoctoral
- **Ana Álvarez González:** Predoctoral
- **Rafael Ayala Lázaro**
- **José Blanco Rodríguez:** Predoctoral
- **Ana Calín Lorca**
- **Felipe Ángel Calvo Manuel:** Group Director
- **Emilio del Valle Hernández:** Predoctoral
- **María Jesús García Hernández**
- **Susana Gómez Cores**
- **Marina Gómez Espí:** Postdoctoral
- **Federico González Aragoneses:** Postdoctoral
- **Carmen González San Segundo:** Postdoctoral
- **Rafael Herranz Crespo:** Postdoctoral
- **Rocío Jiménez Rojas**
- **Javier Lafuente Martínez:** Postdoctoral
- **Miguel Ángel López Bote**
- **Miguel Ángel Lozano Barriuso:** Predoctoral
- **Mercedes Moreno Domene:** Predoctoral
- **Alberto Muñoz-Calero Peregrín:** Predoctoral
- **Carlos Navarro Vila:** Postdoctoral
- **Juan Manuel Núñez Olarte:** Postdoctoral



- **María Isabel Peligros Gómez:** Postdoctoral
- **María Jesús Prieto Rodríguez**
- **Marcos Rodríguez Martín:** Predoctoral
- **Juan Antonio Santos Miranda:** Postdoctoral
- **José Ramón Sendón del Río**
- **Francisco Javier Serrano Andreu**
- **Fernando Sierra Díaz**
- **Claudio Solé Pesutic:** Predoctoral
- **Fernando Turégano Fuentes:** Postdoctoral

## Research Projects - Competitive Calls

- Principal investigator: Rafael Herranz Crespo  
Title: Proyecto Europeo 7º Programa Marco. "Renew realizing the european network in biodosimetry" (PROJECT NUMBER 295513).  
Funding body: European Commission  
Start date: 2012  
End date: 2015
- Principal investigator: Felipe Ángel Calvo Manuel  
Title: "System for teleguidance, planning and pre-robotic automatization for intraoperative radiation therapy I".  
Funding body: Instituto de Salud Carlos III  
Start date: 2012  
End date: 2014

Doctoral Student	Title	Director	University
Pedro Álvarez de Sierra Hernández	Tratamiento de los tumores pélvicos avanzados primarios y recidivados con cirugía extendida y radioterapia infraoperatoria [Manuscrito]: resultados interdisciplinarios de 15 años	José Luis García Sabrido; Felipe Calvo Manuel	Universidad Complutense de Madrid

## Theses

Doctoral Student	Title	Director	University
Rosángela Obregón Reina	Radioterapia intraoperatoria (RIO) en el carcinoma de esófago y estómago localmente avanzados dentro de un programa de tratamiento multimodal	José Luis García Sabrido; Felipe Calvo Manuel	Universidad Complutense de Madrid

## Publications

**Total Impact Factor: 53.03**

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

- Ibarrola-Villava M; Martin-Gonzalez M; Lazaro P; Pizarro A; Lluch A; Ribas G. *Role of glutathione S-transferases in melanoma susceptibility: association with GSTP1 rs1695 polymorphism.* BRITISH JOURNAL OF DERMATOLOGY. 2012; 166(6) 1176-1183. IF: 3.759. Quartile: 1.
- Bascones-Martinez A; Lopez-Duran M; Cano-Sanchez J; Sanchez-Verde L; Diez-Rodriguez A; Aguirre-Echebarria P; Alvarez-Fernandez E; Gonzalez-Moles MA; Bascones-Ilundain J; Lo Muzio L; Campo-Trapero J. *Differences in the expression of five senescence markers in oral cancer, oral leukoplakia and control samples in humans.* ONCOLOGY LETTERS. 2012; 3(6) 1319-1325. IF: 0.237. Quartile: 4.
- Garcia-Alvarez M; Berenguer J; Guzman-Fulgencio M; Alvarez E; Cosin J; Micheloud D; Jimenez-Sousa MA; Fernandez-Rodriguez A; Aldamiz-Echevarria T. *Bacterial DNA Translocation and Liver Disease Severity Among HIV-Infected Patients With Chronic Hepatitis C.* JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2012; 61(5) 552-556. IF: 4.653. Quartile: 1.



- Garcia-Peris P; Velasco C; Lozano MA; Moreno Y; Paron L; de la Cuerda C; Breton I; Cambor M; Garcia-Hernandez J; Guarner F; Hernandez M. *Effect of a mixture of inulin and fructo-oligosaccharide on lactobacillus and bifidobacterium intestinal microbiota of patients receiving radiotherapy; a randomised, double-blind, placebo-controlled trial.* NUTRICIÓN HOSPITALARIA. 2012; 27(6) 1908-1915. IF: 1.305. Quartile: 3.
- Garcia-Espinosa B; Moro-Rodriguez E; Alvarez-Fernandez E. *Genotype distribution of human papillomavirus (HPV) in histological sections of cervical intraepithelial neoplasia and invasive cervical carcinoma in Madrid, Spain.* BMC CANCER. 2012; 12. IF: 3.333. Quartile: 2.
- Puente-Maestu L; Tejedor A; Lazaro A; de Miguel J; Alvarez-Sala I; Gonzalez-Aragoneses F; Simon C; Agusti A. *Site of Mitochondrial Reactive Oxygen Species Production in Skeletal Muscle of Chronic Obstructive Pulmonary Disease and Its Relationship with Exercise Oxidative Stress.* AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY. 2012; 47(3) 358-362. IF: 4.148. Quartile: 1.
- Olea AF; Marin AG; Gil JM; Jalon JMM; Fuentes FT. *Non-functioning pancreatic glucagonoma.* CIRUGÍA ESPAÑOLA. 2012; 90(3) 198-199. IF: 0.871. Quartile: 3.
- Simon C; Vara E; Garutti I; Gonzalez-Casaurran G; Azcarate L; Isea J; Huerta L; Gonzalez-Aragoneses F. *Modulation of monocyte chemoattractant protein-1 expression by ischaemic preconditioning in a lung autotransplant model (dagger).* EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY. 2012; 41(4) 933-939. IF: 2.674. Quartile: 1.
- Cuesta M; Bucci T; Ruiz BD; Vila CN; Marenzi G; Sammartino G. *Implant Mandibular Rehabilitation Postoncologic Segmental Resection: A Clinical Report.* IMPLANT DENTISTRY. 2012; 21(2) 104-107. IF: 1.404. Quartile: 2. Dept Oral Maxillofacial Surg
- Llano LA; Valcarcel CR; Al-Lal YM; Rodriguez TS; Marin AG; Diaz MDP; Fuentes FT. *Surgical complications in drug body-packers: an uncommon but potentially lethal emergency.* CIRUGÍA ESPAÑOLA. 2012; 90(9) 595-600. IF: 0.871. Quartile: 3.
- Esteves MB; Herrera RF; Alvarez YC; Diaz DP; Fuentes FT. *Sclerosing angiomatoid nodular transformation (SANT) of the spleen. A very uncommon tumour.* CIRUGÍA ESPAÑOLA. 2012; 90(9) 607-609. IF: 0.871. Quartile: 3.
- Pascau J; Miranda JAS; Calvo FA; Bouche A; Morillo V; Gonzalez-San Segundo C; Ferrer C; Tarjuelo JL; Desco M. *An Innovative Tool for Intraoperative Electron Beam Radiotherapy Simulation and Planning: Description and Initial Evaluation by Radiation Oncologists.* INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS. 2012; 83(2) E287-E295. IF: 4.524. Quartile: 1.
- Torres A; Llinares P; Turegano F; Martin-Perez E; Lobo E; Martin-Antona E; Granizo JJ; Aguilar L. *Clinical experience with ertapenem in the treatment of infections of the biliary tract in daily practice in five Spanish hospitals.* JOURNAL OF CHEMOTHERAPY. 2012; 24(6) 338-343. IF: 0.825. Quartile: 4.
- Marquez-Rodas I; Lopez-Trabada D; Blanco ABR; Cabello SC; Gomez MIP; Clemente MO; Calvo FA; Martin M. *Family History Record and Hereditary Cancer Risk Perception according to National Cancer Institute Criteria in a Spanish Medical Oncology Service: A Retrospective Study.* ONCOLOGY. 2012; 82(1) 30-34. IF: 2.165. Quartile: 3.
- Calvo FA; Gonzalez ME; Gonzalez-San Segundo C; Gonzalez-Bayon L; Lozano MA; Santos-Miranda JA; Alvarez E; Garcia-Sabrido JL. *Surgery and intraoperative electron radiotherapy in recurrent or metastatic oligotopic extrapelvic cancer: Long-term outcome.* EJSO. 2012; 38(10) 955-961. IF: 2.614. Quartile: 1.
- Diaz OMC; Acenero MJF; Fernandez EA. *Prognostic influence of the third Gleason grade in prostatectomy specimens.* UROLOGIC ONCOLOGY-SEMINARS AND ORIGINAL INVESTIGATIONS. 2012; 30(4) 386-390. IF: 3.647. Quartile: 1.
- Olarte JMN; Noguera A; de Lucas NP; Meiro IB. *The management of breakthrough pain refractory to methadone and ketamine using a multimodal approach.* MEDICINA PALIATIVA. 2012; 19(2) 48-52. IF: 0.326. Quartile: 4.

- Garcia-Garcia V; Martinez AB; Martinelli-Klay CP; Fernandez EA; Lombardi T; Kuffer R. *New perspectives on the dynamic behaviour of oral lichen planus.* EUROPEAN JOURNAL OF DERMATOLOGY. 2012; 22(2) 172-177. IF: 1.756. Quartile: 2.
  - Leon-Atance P; Moreno-Mata N; Gonzalez-Aragoneses F; Canizares-Carretero MA; Poblet-Martinez E; Genoves-Crespo M; Garcia-Jimenez MD; Hongoero-Martinez AF; Rombola CA; Simon-Adiego CM; Penalver-Pacual R; Alvarez-Fernandez E. *Prognostic Influence of Loss of Blood Group A Antigen Expression in Pathologic Stage I Non-Small-Cell Lung Cancer.* ARCHIVOS DE BRONCONEUMOLOGÍA. 2012; 48(2) 49-54. IF: 1.372. Quartile: 4.
  - Aviles-Izquierdo JA; Lazaro-Ochaita P. *Histological ulceration as a prognostic factor in cutaneous melanoma: a study of 423 cases in Spain.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2012; 14(3) 237-240. IF: 1.276. Quartile: 4.
  - Palacios JDT; Jalon JMM; Marin AG; Olea AF; Fuentes FT. *What is the surgical technique of choice in the obese patient with paraesophageal hiatal hernia.* CIRUGÍA ESPAÑOLA. 2012; 90(4) 266-267. IF: 0.871. Quartile: 3.
  - de la Vega FA; Contreras J; de las Heras M; de la Torre A; Arrazubi V; Herruzo I; Prieto I; Garcia-Saenz JA; Romero J; Calvo FA. *Erlotinib and chemoradiation in patients with surgically resected locally advanced squamous cell carcinoma of the head and neck: a GICOR phase I trial.* ANNALS OF ONCOLOGY. 2012; 23(4) 1005-1009. IF: 7.384. Quartile: 1.
  - Oliver JL; Medina IA; Garcia-Almenta EM; Gil JM; Sanchez MS; Diaz MDP; Poza AA; Fuentes FT; Garcia AT. *Use of fibrin based biological adhesives in the prevention of anastomotic leaks in the high risk digestive tract: preliminary results of the multicentre, prospective, randomised, controlled, and simple blind phase IV clinical trial: Protissucol001.* CIRUGÍA ESPAÑOLA. 2012; 90(10) 647-655. IF: 0.871. Quartile: 3.
  - Manas A; Cerezo L; de la Torre A; Garcia M; Alburquerque H; Ludena B; Ruiz A; Perez A; Escribano A; Manso A; Glaria LA. *Epidemiology and prevalence of oropharyngeal candidiasis in Spanish patients with head and neck tumors undergoing radiotherapy treatment alone or in combination with chemotherapy.* CLINICAL & TRANSLATIONAL ONCOLOGY. 2012; 14(10) 740-746. IF: 1.276. Quartile: 4.
- Publications in journals without impact factor indexed in the Journal Citation Reports:*
- Amo FH; Segundo CGS. *Biochemical recurrence in prostate cancer after radical treatment.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 1-3.
  - Amo FH; Segundo CGS; Facundo EVP; Gonzalez AA; Espi MG; Garcia EL; Garcia JT; Tartajo FV; Fernandez CH. *Biochemical recurrence in patients with prostate cancer after radical treatment. Comparative study of prostatectomy vs. radiotherapy.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 176-184.
  - Olombrada MVD; Gonzalez AA; Villoslada CI; Perea BC; Martinez BL; Guerra PC. *Adjuvant radiotherapy after radical prostatectomy as preventive treatment for biochemical recurrence.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 122-130.
  - Viloslada CI; Olombrada MVD; Segundo CGS. *Biochemical recurrence criteria after radiotherapy (external beam, brachytherapy). Natural history of the disease after radiotherapy.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 12-20.
  - Garcia EL; Amo FH; Segundo CGS; Fagundo EP; Escudero RM; Alonso AH; Pinies GO; Rascon JJ; Fernandez CH. *Rescue cryotherapy for prostate cancer after radiotherapy.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 93-100.
  - Segundo CGS; Miranda JAS; Gonzalez AA. *Incidence and prognostic factors for biochemical recurrence after radical radiotherapy.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 166-175.



Publications in journals not indexed in the Journal Citation Reports:

- Calvo FA; Solé C; Álvarez E; Ferrer C; Ochoa E. *Prognostic and predictive biomolecular markers in rectal cancer*. Nucl Med Radiat Ther. 2012; S:2.

## 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.

	Number of Documents	IF
Own publications	12	26.11
Joint publications	12	26.92
First-decile publications	3	15.66
First-quartile publications	8	33.40
Second-quartile publications	3	6.49
Third-quartile publications	7	7.82
Fourth-quartile publications	6	5.31
Nonindexed publications	7	-
Total publications	31	53.03

# Surgical oncology

Group director: Luis González Bayón

Group type: EMERGING

## Research programs and lines

### P1: Treatment of malignant peritoneal disease (MPD)

- ✓ L1: Natural history of MPD and palliative treatment.
- ✓ L2: Imaging study of MPD (funded study).
- ✓ L3. Pharmacokinetics of peritoneally administered drugs and delivery of systemic drugs to the peritoneum.

### P2: Treatment of MPD for cure: cytoreduction + hyperthermic intraoperative intraperitoneal chemotherapy (HIPEC)

- ✓ L1: Morbidity and mortality of the procedure.
- ✓ L2: Overall and disease-free survival in different tumors.

### P3: Treatment of gastric cancer with carcinomatosis by means of pre-operative bidirectional chemotherapy and chemoradiotherapy + HIPEC

- ✓ L1: Morbidity and mortality of the procedure.
- ✓ L2: Overall and disease-free survival.



## Group members (researchers and support staff)

- José Manuel Asencio Pascual: Predoctoral
- José Luis García Sabrido: Postdoctoral
- Luis González Bayón: Group Director
- Luis Rodríguez-Bachiller Villaronga: Predoctoral
- Wenceslao Vásquez Jiménez: Postdoctoral



## Research Projects - Competitive Calls

- Principal investigator: Luis González Bayón  
Title: "Tratamiento de la carcinomatosis peritoneal de cáncer gástrico mediante quimioterapia neoadyuvante más quimioterapia intraperitoneal y sistemática simultáneas seguida de citorreducción más quimioterapia intra-peritoneal intraoperatoria hipertérmica".  
Funding body: Instituto de Salud Carlos III  
Start date: 2008  
End date: 2012

## Theses

Doctoral Student	Title	Director	University
Rosángela Obregón Reina	Radioterapia intraoperatoria (RIO) en el carcinoma de esófago y estómago localmente avanzados dentro de un programa de tratamiento multimodal	José Luis García Sabrido; Felipe Calvo Manuel	Universidad Complutense de Madrid
Pedro Álvarez de Sierra Hernández	Tratamiento de los tumores pélvicos avanzados primarios y recidivados con cirugía extendida y radioterapia infraoperatoria: resultados interdisciplinares de 15 años	José Luis García Sabrido; Felipe Calvo Manuel	Universidad Complutense de Madrid

## Publications

**Total Impact Factor: 4.76**

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

- Calvo FA; Gonzalez ME; Gonzalez-San Segundo C; Gonzalez-Bayon L; Lozano MA; Santos-Miranda JA; Alvarez E; Garcia-Sabrido JL. *Surgery and intraoperative electron radiotherapy in recurrent or metastatic oligotopic extrapelvic cancer: Long-term outcome.* EJSO. 2012; 38(10) 955-961. IF: 2.614. Quartile: 1.
- Cao C; Yan TD; Morris DL; van der Speeten K; Laurberg S; Glehen O; Link K; Piso P; Tentes AAK; Deraco M; Larsen SG; Kecmanovic D; Bayon LG; Melero JT; Gonzalez-Moreno S; Mahteme H; Gertsch P; Moran B; Esquivel J; Alexander R; Levine EA; Sugarbaker PH. *Prospective Registry On Mesothelioma Peritonei Treatment (PROMPT): study design and rationale.* TUMORI. 2012; 98(1) 166-171. IF: 0.922. Quartile: 4.
- Gonzalez-Moreno S; Gonzalez-Bayon L; Ortega-Perez G. *Hyperthermic Intra-peritoneal Chemotherapy: Methodology and Safety Considerations.* SURGICAL ONCOLOGY CLINICS OF NORTH AMERICA. 2012; 21(4) 543. IF: 1.222. Quartile: 3.

	Number of Documents	IF
Own publications	1	2.61
Joint publications	2	2.14
First-decile publications	0	0
First-quartile publications	1	2.61
Second-quartile publications	0	0
Third-quartile publications	1	1.22
Fourth-quartile publications	1	0.92
Nonindexed publications	0	-
Total publications	3	4.76

# Hematology-oncology in pediatric patients

Group director: Elena Cela de Julián

Group 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.

## Group members (researchers and support staff)

- Cristina Beléndez: Predoctoral
- Elena Cela de Julián: Group Director
- Paloma María Galarón García: Predoctoral
- Carmen Garrido Colino: Predoctoral
- Cristina Mata Fernández: Predoctoral
- Gabriela Medín Block: Predoctoral
- Rosario Zamarro Arranz: Predoctoral





## HEMATOLOGY-ONCOLOGY IN PEDIATRIC PATIENTS

### Publications

**Total Impact Factor: 2.80**

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

- Garrido C; Cela E; Belendez C; Mata C; Huerta J. *Status of vitamin D in children with sickle cell disease living in Madrid, Spain.* EUROPEAN JOURNAL OF PEDIATRICS. 2012; 171(12) 1793-1798. IF: 1.907. Quartile: 2.
- Vilaplana VE; Aragones JH; Fernandez-Llamazares CM; Bieler CB; Rodriguez SM; Saez S. *Use of Romiplostim for Primary Immune Thrombocytopenia in Children.* PEDIATRIC HEMATOLOGY AND ONCOLOGY. 2012; 29(2) 197-205. IF: 0.895. Quartile: 3.

	Number of Documents	IF
Own publications	1	1.91
Joint publications	1	0.90
First-decile publications	0	0
First-quartile publications	0	0.00
Second-quartile publications	1	1.90
Third-quartile publications	1	0.89
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	2	2.80

# Angiogenesis in brain tumors

Group director: Juan Carlos Martínez Montero

Group type: ASSOCIATED CLINICAL

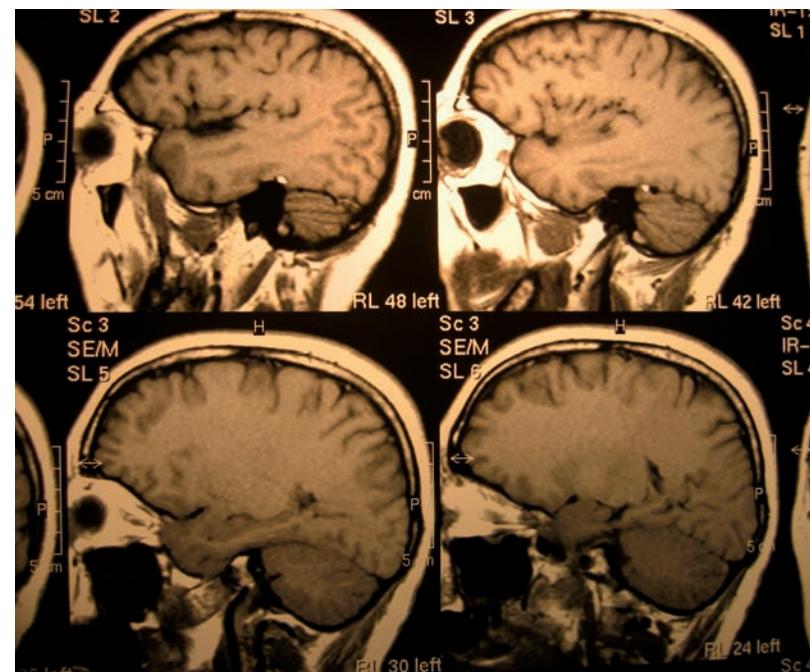
## Programs and research lines

### P1: Angiogenesis in brain tumors

- ✓ L1: Alterations in the Delta ligand like4/Notch1 pathway in oligodendroglial tumors.
- ✓ L2: Alterations in the Delta ligand like4/Notch1 pathway in human tumors and nontumor reactive lesions.

## Group members (researchers and support staff)

- **Lucía Hernández Pérez:** Predoctoral
- **Juan Carlos Martínez Montero:** Group Director
- **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

**Total Impact Factor: 7.36**

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

- Quintavalle C; Garofalo M; Zanca C; Romano G; Iaboni M; De Caro MD; Martínez-Montero JC; Incoronato M; Nuovo G; Croce CM; Condorelli G. *miR-221/222 overexpression in human glioblastoma increases invasiveness by targeting the protein phosphate PTP mu.* ONCOGENE. 2012; 31(7) 858-868.  
IF: 7.357. Quartile: 1.

	Number of Documents	IF
Own publications	0	0.00
Joint publications	1	7.36
First-decile publications	1	7.35
First-quartile publications	1	7.36
Second-quartile publications	0	0
Third-quartile publications	0	0
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	1	7.36

# AREA 7

Area coordinator:  
Dr. Rafael Bañares Cañizares

## Systemic Diseases and Organ Transplantation

The Area of Systemic Diseases comprises a broad spectrum of mainly clinical research groups. Its most fruitful research lines range from acute and chronic kidney failure to the biology of aging, covering fields such as the pathophysiology of liver and digestive diseases and abdominal organ transplantation. In addition, some of the groups in the Area participate in cooperative research structures funded by the ISCIII, such as the Centro de Investigación Biomédica en Red: Enfermedades Hepáticas y Digestivas (CIBEREHD [*Networked Center for Biomedical Research in Liver and Digestive Diseases*]), and have made a relevant contribution to the development and implementation of clinical practice guidelines or participate 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 involves the clear increase in scientific production 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. Research problems can only be solved by a gradual process of addressing clinical issues in the laboratory. In the third axis, scaled application by researchers and groups for competitive funding calls is promoted through appropriate support and advice, 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.

# Research axes and lines

## Strategic axes

- ✓ A1: Promotion of alliances and collaborations with groups of interest
- ✓ A2: Consolidation of research lines in the Area of Systemic Diseases
- ✓ A3: Training.
- ✓ A4: Infrastructure.

## Strategic lines

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

#### 1. Encouraging collaborations with other IISGM groups and HGUGM services

*Strategic objectives:*

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

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

*Strategic objectives:*

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

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

# Strategic lines

## Axis 2: Consolidation of research lines in the Area of Systemic Diseases

### 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 newborn small 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:*

- ✓ Scaled 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.



## Strategic lines

### 8. Maintenance and consolidation of scientific production

*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. Creation of a basic research area in nephroprotection

#### Axis 3: Training

##### 1. Increase the provision of 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 new teaching technology in health education. Creation of an advanced medical simulation center for undergraduate and postgraduate teaching and research

##### 3. Improvement of 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.

# Strategic lines

## Axis 4: Infrastructure

### 1. Consolidation of physical space 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 renal 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 Clinical Nephrology Laboratory to the 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 Disease 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
- Neonatal and developmental pathophysiology
- Pathophysiology and course of COPD
- 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
- Hospital pharmacy and pharmacogenomics
- Clinical nutrition
- Peritransplant evaluation of the liver
- Perianesthesia evaluation
- Pediatric endocrinology
- Regeneration and biomaterials in musculoskeletal disease
- Iron metabolism disorders
- Emergency medicine
- Pathophysiology, development, and therapeutic strategies in chronic respiratory insufficiency and respiratory sleep disorders
- Anesthesia, toxins, and arrhythmias

# Pathophysiology and natural history of liver and digestive diseases

Group director: Rafael Bañares Cañizares

Group type: CONSOLIDATED

## Research programs and lines

### P1: Complications of cirrhosis: natural history of liver cirrhosis

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

### P2: Liver transplantation

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

### P3: Pathophysiology of the intestinal barrier and mucosal inflammation

- ✓ L1: Molecular mechanisms of mucosal inflammation in human and experimental inflammatory bowel disease (rat and mouse).
- ✓ L2: Dysfunction of the intestinal barrier in systemic processes: psychosocial stress, cerebral ischemia, sepsis, liver cirrhosis.

- ✓ L3: Intestinal anti-inflammatory receptors as therapeutic targets in intestinal inflammation. PPAR $\gamma$ , liver X receptor, cannabinoid receptors.

- ✓ L4: Expression and biologic functions of the NOGO protein in the intestinal epithelium.

### P4: Liver regeneration

- ✓ L1: Mechanisms of liver regeneration.

### P5: Viral hepatitis

In recent years, the pathophysiology and natural history of liver and digestive diseases group has carried out its research work in digestive diseases both in the clinical setting and in the laboratory. The basic objective of its activity is the development of 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 biologic 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 Ramón y Cajal researchers represents a considerable qualitative advance in this area.



In the clinical setting, the group's activity is mainly centered on research into the pathophysiology and clinical course of portal hypertension and post-transplant outcome, as well as on the natural history of inflammatory bowel disease. The group works actively both in pathophysiology studies and in proof-of-concept studies such as clinical trials, which are usually independent and have 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 (researchers and support staff)

- **Rafael Bañares Cañizares:** Group Director
- **María de la Vega Catalina Rodríguez:** Predoctoral
- **Gerardo Clemente Ricote:** Principal Investigator
- **Enrique Cos Arregui:** Predoctoral
- **Carolina Fernández Mena:** Predoctoral
- **José Ignacio Fortea Ormaechea:** Predoctoral
- **Judith Gómez Camarero:** Predoctoral
- **Cecilia González Asanza:** Postdoctoral
- **Ignacio Marín Jiménez:** Predoctoral
- **Ana María Matilla Peña:** Postdoctoral
- **Pedro Menchén Fernández-Pacheco:** Postdoctoral

- **Luis Alberto Menchén Viso:** Principal Investigator
- **Beatriz Merino Rodríguez:** Predoctoral
- **Óscar Nogales Rincón:** Predoctoral
- **José Antonio Pajares Díaz:** Predoctoral
- **Marta Puerto Cantero:** Postdoctoral
- **Diego Rincón Rodríguez:** Postdoctoral
- **Cristina Alberta Ripoll Noiseux:** Principal Investigator
- **Juan Antonio Rodríguez Feo:** Postdoctoral
- **Magdalena Salcedo Plaza:** Postdoctoral
- **María Senosiain Labiano:** Predoctoral
- **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: Rafael Bañares Cañizares  
Title: "Proyecto PROMIIS 2012. Infraestructuras".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2013
- Principal investigator: Rafael Bañares Cañizares  
Title: "Proyecto Petra Miciin Convocatoria Innide 2011 (OTRI) Plan estratégico de transferencia de la FIBHGM (Fase I) 01/04/2011 - 31/03/2013".  
Funding body: Ministerio de Economía y Competitividad  
Start date: 2011  
End date: 2013
- Principal investigator: Luis Alberto Menchén Viso  
Title: "Receptores nucleares de las células epiteliales intestinales como dianas terapéuticas en la enfermedad de Crohn".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2013
- 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 CCl4".  
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

## Clinical Practice Guidelines

Authors	Title	Publication
Bosch J; Abraldes JG; Albillos A; Aracil C; Banares R; Berzigotti A; Calleja JL; De la Pena J; Escorsell A; García-Pagan JC; Genesca J; Hernández-Guerra M; Ripoll C; Planas R; Villanueva C	Portal hypertension: Recommendations for evaluation and treatment Consensus document sponsored by the Spanish Association for the Study of the Liver (AEEH) and the Biomedical Research Network Center for Liver and Digestive Diseases (CIBERehd)	Gastroenterología y hepatología; 2012, 6(35): 421-450
Aisa AP; Nuevo J; Morante AAL; Galilea AG; de Argila CM; Arreal DA; Feu F; Celaya FB; Gisbert JP; Roldán FP; Sorribes JMG; Azorin JMP; Romero MP; Fernández MC; Rodríguez MVC; Montañes SG; Calvet X; Sáez LR; Huguet MM; Méndez YG; Hernández AS; Hernández ES	Current management of nonvariceal upper gastrointestinal bleeding in Spain	Gastroenterología y hepatología; 2012, 7(35): 468-475

**Publications****Total Impact Factor: 48.54**

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

- Barreiro-de Acosta M; Garcia-Bosch O; Souto R; Manosa M; Miranda J; Garcia-Sanchez V; Gordillo J; Chacon S; Loras C; Carpio D; Maroto N; Menchen L; Rojas-Feria M; Sierra M; Villoria A; Marin-Jimenez I. *Efficacy of infliximab rescue therapy in patients with chronic refractory pouchitis: A multicenter study.* INFLAMMATORY BOWEL DISEASES. 2012; 18(5) 812-817. IF: 5.119. Quartile: 1.
- Aisa AP; Nuevo J; Morante AAL; Galilea AG; de Argila CM; Arreal DA; Feu F; Celaya FB; Gisbert JP; Roldan FP; Sorribes JMG; Azorin JMP; Romero MP; Fernandez MC; Rodriguez MVC; Montanes SG; Calvet X; Saez LR; Huguet MM; Mendez YG; Hernandez AS; Hernandez ES. *Current management of nonvariceal upper gastrointestinal bleeding in Spain.* GASTROENTEROLOGÍA Y HEPATOLOGÍA. 2012; 35(7) 468-475. IF: 0.567. Quartile: 4.
- Zoppi S; Madrigal JLM; Perez-Nievas BG; Marin-Jimenez I; Caso JR; Alou L; Garcia-Bueno B; Colon A; Manzanares J; Gomez-Lus ML; Menchen L; Leza JC. *Endogenous cannabinoid system regulates intestinal barrier function in vivo through cannabinoid type 1 receptor activation.* AMERICAN JOURNAL OF PHYSIOLOGY-GASTROINTESTINAL AND LIVER PHYSIOLOGY. 2012; 302(5) G565-G571. IF: 3.649. Quartile: 1.
- Barreiro-de Acosta M; Garcia-Bosch O; Gordillo J; Manosa M; Menchen L; Souto R; Marin-Jimenez I. *Efficacy of adalimumab rescue therapy in patients with chronic refractory pouchitis previously treated with infliximab: a case series.* EUROPEAN JOURNAL OF GASTROENTEROLOGY & HEPATOLOGY. 2012; 24(7) 756-758. IF: 1.915. Quartile: 3.
- Moreno A; Cervera C; Fortun J; Blanes M; Montejo E; Abradelo M; Len O; Rafeicas A; Martin-Davila P; Torre-Cisneros J; Salcedo M; Cordero E; Lozano R; Perez I; Rimola A; Miro JM. *Epidemiology and outcome of infections in human immunodeficiency virus/hepatitis c virus-coinfected liver transplant recipients: A FIPSE/GESIDA Prospective Cohort Study.* LIVER TRANSPLANTATION. 2012; 18(1) 70-82. IF: 3.944. Quartile: 1.
- Delgado MG; Seijo S; Yepes I; Achecar L; Catalina MV; Garcia-Criado A; Abraldes JG; de la Pena J; Banares R; Albillas A; Bosch J; Garcia-Pagan JC. *Efficacy and Safety of Anticoagulation on Patients With Cirrhosis and Portal Vein Thrombosis.* CLINICAL GASTROENTEROLOGY AND HEPATOLOGY. 2012; 10(7) 776-783. IF: 6.648. Quartile: 1.
- Gomez-Martin C; Bustamante J; Castroagudin JF; Salcedo M; Garralda E; Testillano M; Herrero I; Matilla A; Sangro B. *Efficacy and safety of sorafenib in combination with mammalian target of rapamycin inhibitors for recurrent hepatocellular carcinoma after liver transplantation.* LIVER TRANSPLANTATION. 2012; 18(1) 45-52. IF: 3.944. Quartile: 1.
- Gisbert JP; Menchen L; Garcia-Sanchez V; Marin I; Villagrasa JR; Chaparro M. *Comparison of the effectiveness of two protocols for vaccination (standard and double dosage) against hepatitis B virus in patients with inflammatory bowel disease.* ALIMENTARY PHARMACOLOGY & THERAPEUTICS. 2012; 35(12) 1379-1385. IF: 4.548. Quartile: 1.
- Vaquero J. *Therapeutic hypothermia in the management of acute liver failure.* NEUROCHEMISTRY INTERNATIONAL. 2012; 60(7) 723-735. IF: 2.659. Quartile: 3.
- Ripoll C; Lastra P; Rincon D; Catalina V; Banares R. *Comparison of MELD, HVPG, and their changes to predict clinically relevant endpoints in cirrhosis.* SCANDINAVIAN JOURNAL OF GASTROENTEROLOGY. 2012; 47(2) 204-211. IF: 2.156. Quartile: 3.
- Bosch J; Abraldes JG; Albillas A; Aracil C; Banares R; Berzigotti A; Calleja JL; de la Pena J; Escorsell A; Garcia-Pagan JC; Genesca J; Hernandez-Guerra M; Ripoll C; Planas R; Villanueva C. *Portal hypertension: Recommendations for evaluation and treatment Consensus document sponsored by the Spanish Association for the Study of the Liver (AEEH) and the Biomedical Research Network Center for Liver and Digestive Diseases (CIBERehd).* GASTROENTEROLOGÍA Y HEPATOLOGÍA. 2012; 35(6) 421-450. IF: 0.567. Quartile: 4.
- Bautista JM; Marin-Jimenez I; Moreno LH. *Mucinous Adenocarcinoma.* GASTROENTEROLOGY. 2012; 142(1) 12. IF: 12.821. Quartile: 1.

	Number of Documents	IF
Own publications	4	11.85
Joint publications	8	36.69
First-decile publications	3	20.709
First-quartile publications	7	40.67
Second-quartile publications	0	0
Third-quartile publications	3	6.73
Fourth-quartile publications	2	1.134
Nonindexed publications	0	-
Total publications	12	48.54

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

Group director: José Luño Fernández

Group type: CONSOLIDATED

## Research lines

- ✓ L1. Prevention and treatment of chronic kidney disease.
- ✓ L2. Evaluation of antiproteinuric treatment of 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).



## Group members (researchers and support staff)

- Soraya Abad Estébanez: Predoctoral
- Fernando Anaya Fernández-Lomana: Postdoctoral
- Soledad García de Vinuesa Rojas: Postdoctoral
- María Ángeles Goicoechea Diezhondino: Postdoctoral
- Blanca Humanes Sánchez: Postdoctoral
- Juan Carlos Jado Rodríguez: Predoctoral
- Alberto Lázaro Fernández: Postdoctoral
- José Antonio Lázaro Manero
- Juan Manuel López Gómez: Postdoctoral
- José Luño Fernández: Principal Investigator

- 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: Principal Investigator
- María Almudena Vega Martínez: Predoctoral
- Úrsula Verdalles Guzmán: Predoctoral
- Eduardo Verde Moreno: Predoctoral

## Research Projects - Competitive Calls

- Principal investigator: Alberto Tejedor Jorge  
Title: "El fracaso renal en la toxicidad aguda por quimioterapia oncológica y contrastes iodados: bloqueo de las balsas de colesterol del túbulo proximal como mecanismo de nefroprotección".  
Funding body: F. Mutua Madrileña  
Start date: 2011  
End date: 2013
- Principal investigator: Alberto Tejedor Jorge  
Title: "Aproximación experimental al desarrollo de estrategias de protección renal en la toxicidad por aguda por contrastes yodados y antibióticos nefrotóxicos".  
Funding body: Instituto de Salud Carlos III  
Start date: 2012  
End date: 2014
- Principal investigator: Alberto Tejedor Jorge  
Title: "Utilización de modelos animales y celulares para caracterizar el fracaso renal agudo y multiorgánico".  
Funding body: Comunidad de Madrid  
Start date: 2012  
End date: 2015

## Theses

Doctoral Student	Title	Director	University
Blanca Humanes Sánchez	Cilastatina, una nueva alternativa terapéutica en la nefrotoxicidad aguda inducida por cisplatino	Alberto Lázaro Fernández, Alberto Tejedor Jorge	Universidad Autónoma de Madrid

Doctoral Student	Title	Director	University
Simóna Alexandru	Estudio sobre la etiología de la hiponatremia postquirúrgica	Alberto Tejedor Jorge	Universidad Autónoma de Madrid

## 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 Camano 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

## Publications

**Total Impact Factor: 55.13**

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

- Humanes B; Lazaro A; Camano S; Moreno-Gordaliza E; Lazaro JA; Blanco-Codesido M; Lara JM; Ortiz A; Gomez-Gomez MM; Martin-Vasallo P; Tejedor A. *Cilastatin protects against cisplatin-induced nephrotoxicity without compromising its anticancer efficiency in rats.* KIDNEY INTERNATIONAL. 2012; 82(6) 652-663. IF: 7.916. Quartile: 1.

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

- Fernandez-Sanchez R; Berzal S; Sanchez-Nino MD; Neria F; Goncalves S; Calabria O; Tejedor A; Calzada MJ; Caramelo C; Deudero JJP; Ortiz A. *AG490 Promotes HIF-1 alpha Accumulation by Inhibiting Its Hydroxylation.* CURRENT MEDICINAL CHEMISTRY. 2012; 19(23) 4014-4023. IF: 4.07. Quartile: 1.
- Verdalles U; de Vinuesa SG; Goicoechea M; Quiroga B; Reque J; Panizo N; Arroyo D; Luno J. *Utility of bioimpedance spectroscopy (BIS) in the management of refractory hypertension in patients with chronic kidney disease (CKD).* NEPHROLOGY DIALYSIS TRANSPLANTATION. 2012; 27. iv31-iv35. IF: 3.371. Quartile: 1.
- Morales JM; Marcen R; del Castillo D; Andres A; Gonzalez-Molina M; Oppenheimer F; Seron D; Gil-Vernet S; Lampreave I; Gainza FJ; Valdes F; Cabello M; Anaya F; Escuin F; Arias M; Pallardo L; Bustamante J. *Risk factors for graft loss and mortality after renal transplantation according to recipient age: a prospective multicentre study.* NEPHROLOGY DIALYSIS TRANSPLANTATION. 2012; 27. iv39-iv46. IF: 3.371. Quartile: 1.
- Perez-Garcia R; Palomares-Sancho I; Merello-Godino JI; Aljama-Garcia P; Bustamante-Bustamante J; Luno J; Maduell-Canals F; Martin-de Francisco AL; Martin-Malo A; Mirapeix-i-Vicens E; Molina-Nunez M; Praga-Terente M; Tetta C; Marcelli D. *Epidemiological study of 7316 patients on haemodialysis treated in FME clinics in Spain, using data from the EuCliD (R) database: results from years 2009–2010.* NEFROLOGÍA. 2012; 32(6) 743-753. IF: 1.274. Quartile: 4.
- Quiroga B; Santos A; Verdalles U; Reque J; de Vinuesa MG; Goicoechea M; de JOSÉ AP; Macias N; Luno J. *Renal infarction in patient with long-standing ventricular aneurysm.* NEFROLOGÍA. 2012; 32(2) 233-234. IF: 1.274. Quartile: 4.
- Verde E; Quiroga B; Rivera F; Lopez-Gomez JM. *Renal Biopsy in Very Elderly Patients: Data from the Spanish Registry of Glomerulonephritis.* AMERICAN JOURNAL OF NEPHROLOGY. 2012; 35(3) 230-237. IF: 2.623. Quartile: 2.
- Gutierrez E; Zamora I; Ballarin JA; Arce Y; Jimenez S; Quereda C; Olea T; Martinez-Ara J; Segarra A; Bernis C; Garcia A; Goicoechea M; de Vinuesa SG; Rojas-Rivera J; Praga M. *Long-Term Outcomes of IgA Nephropathy Presenting with Minimal or No Proteinuria.* JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY. 2012; 23(10) 1753-1760. IF: 8.987. Quartile: 1.
- Thompson C; Berl T; Tejedor A; Johannsson G. *Differential diagnosis of hyponatraemia.* BEST PRACTICE & RESEARCH CLINICAL ENDOCRINOLOGY & METABOLISM. 2012; 26. S7-S15. IF: 4.912. Quartile: 1.
- Moreno-Gordaliza E; Esteban-Fernandez D; Giesen C; Lehmann K; Lazaro A; Tejedor A; Scheler C; Canas B; Jakubowski N; Linscheid MW; Gomez-Gomez MM. *LA-ICP-MS and nHPLC-ESI-LTO-FT-MS/MS for the analysis of cisplatin-protein complexes separated by two dimensional gel electrophoresis in biological samples.* JOURNAL OF ANALYTICAL ATOMIC SPECTROMETRY. 2012; 27(9) 1474-1483. IF: 3.155. Quartile: 1.
- Panizo N; Goicoechea M; de Vinuesa SG; Arroyo D; Yuste C; Rincon A; Verdalles U; Ruiz-Caro C; Quiroga B; Luno J. *Chronic kidney disease progression in patients with autosomal dominant polycystic kidney disease.* NEFROLOGÍA. 2012; 32(2) 197-205. IF: 1.274. Quartile: 4.
- Yuste C; Quiroga B; Verde E; Barraca D; Reque JE; de JOSÉ AP; Luno J. *The non-casual relation between eosinophilia and thrombotic microangiopathy.* TRANSFUSION AND APHERESIS SCIENCE. 2012; 47(3) 365-367. IF: 1.225. Quartile: 4.
- Goicoechea M; Quiroga B; de Vinuesa SG; Verdalles U; Reque J; Panizo N; Arroyo D; Santos A; Macias N; Luno J. *Intraindividual Interleukin-6 Variations on the Cardiovascular Prognosis of Patients with Chronic Renal Disease.* RENAL FAILURE. 2012; 34(8) 1002-1009. IF: 0.941. Quartile: 4.
- Arroyo D; Panizo N; de Vinuesa SG; Goicoechea M; Verdalles U; Luno J. *Hypercalcemia as a side effect of potassium binding agents.* NEFROLOGÍA. 2012; 32(5) 655-658. IF: 1.274. Quartile: 4.

- Arroyo D; Quiroga B; Panizo N; Rodriguez-Ferrero M; Macias N; Reque J; Anaya F; Luno J. *High-Sensitivity Troponin T Levels in Kidney Transplant Recipients*. TRANSPLANTATION PROCEEDINGS. 2012; 44(9) 2545-2547. IF: 0.952. Quartile: 3.
- Ferrero MLR; Arroyo D; Panizo N; Vicario JL; Balas A; Anaya F. *Monitoring of Circulating Antibodies in a Renal Transplantation Population: Preliminary Results*. TRANSPLANTATION PROCEEDINGS. 2012; 44(9) 2548-2550. IF: 0.952. Quartile: 3.
- Quiroga B; Goicoechea M; de Vinuesa SG; Verde E; Verdalles U; Yuste C; Reque J; Luno J. *Cardiac markers in different degrees of chronic kidney disease: influence of inflammation and previous heart disease*. MEDICINA CLÍNICA. 2012; 139(3) 98-102. IF: 1.399. Quartile: 2.
- Goicoechea M; de Vinuesa SG; Quiroga B; Verdalles U; Barraca D; Yuste C; Panizo N; Verde E; Munoz MA; Luno J. *Effects of pentoxifylline on inflammatory parameters in chronic kidney disease patients: a randomized trial*. JOURNAL OF NEPHROLOGY. 2012; 25(6) 969-975. IF: 2.015. Quartile: 2.
- Puente-Maestu L; Tejedor A; Lazaro A; de Miguel J; Alvarez-Sala L; Gonzalez-Aragoneses F; Simon C; Agusti A. *Site of Mitochondrial Reactive Oxygen Species Production in Skeletal Muscle of Chronic Obstructive Pulmonary Disease and Its Relationship with Exercise Oxidative Stress*. AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY. 2012; 47(3) 358-362. IF: 4.148. Quartile: 1.

	Number of Documents	IF
Own publications	12	25.22
Joint publications	7	29.92
First-decile publications	3	20.973
First-quartile publications	8	39.93
Second-quartile publications	3	6.037
Third-quartile publications	2	1.904
Fourth-quartile publications	6	7.262
Nonindexed publications	0	-
Total publications	19	55.13

# Diseases of the critically ill child

Group director: Jesús López-Herce Cid

Group type: CONSOLIDATED

## Research lines

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

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

The group develops experimental, academic, and clinical research lines with projects that bring together translational animal experimentation, clinical research, and application of research results to 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 (researchers and support staff)

- **Andrés Alcaraz Romero:** Postdoctoral
- **Amaya Bustinza Arriortúa:**
- **Ángel Carrillo Álvarez:** Postdoctoral
- **Jimena del Castillo Peral:** Predoctoral
- **Rafael González Cortés:** PFIS
- **Jorge López González:** Predoctoral
- **Jesús López-Herce Cid:** Group Director
- **Santiago Mencía Bartolomé:** Postdoctoral
- **Amelia Sánchez Galindo:**
- **César Sánchez Sánchez:** Postdoctoral
- **María José Santiago Lozano:** Postdoctoral
- **María José Solana García:** Río Hortega
- **Javier Urbano Villaescusa:** Postdoctoral

## Research Projects - Competitive Calls

- Principal investigator: Jesús López-Herce Cid  
Title: "Proyecto de colaboración para la creación de un programa de formación en reanimación cardiopulmonar pediátrica y neonatal en San Pedro Sula".  
Funding body: Ministry of Economy and Competitiveness  
Start date: 2012  
End date: 2012
- Principal investigator: Jesús López-Herce Cid  
Title: "Red Iberoamericana de Estudio de la Parada Cardiorrespiratoria en la Infancia (209RT0377 RIBEPCI)".  
Funding body: Ciencia y Tecnología para el Desarrollo  
Start date: 2009  
End date: 2012
- Principal investigator: Jesús López-Herce Cid  
Title: "Corticoides para la prevención de las complicaciones de la vía aérea postextubación en niños en estado crítico".  
Funding body: Ministry of Health, Social Services and Equality  
Start date: 2012  
End date: 2013
- Principal investigator: César Sánchez Sánchez  
Title: "Incidencia, factores relacionados y repercusión del estreñimiento en el niño crítico".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013
- Principal investigator: Ángel Carrillo Álvarez  
Title: "Efecto de la dieta hiperproteica en el metabolismo proteico en lactantes críticamente enfermos".  
Funding body: Instituto de Salud Carlos III  
Start date: 2012  
End date: 2014
- Principal investigator: Jesús López-Herce Cid  
Title: "Efecto de la frecuencia respiratoria durante la reanimación cardiopulmonar sobre la supervivencia, hemodinámica, oxigenación, ventilación y el daño celular en un modelo animal infantil de parada cardíaca".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2015
- Principal investigator: María José Santiago Lozano  
Title: "Repercusión de las tecnoncias nacionales de investigaciones cardiovasculares de depuración extrarrrenal sobre la hemodinámica 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: Jesús López-Herce Cid  
Title: "Evaluación de la eficacia de la asociación adrenalina, terlipresina y corticoides en el tratamiento de la parada cardíaca asfíctica en un modelo animal infantil".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012
- Principal investigator: Jesús López-Herce Cid  
Title: "Red de salud materno-infantil y del desarrollo".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2013

**Publications****Total Impact Factor: 60.7**

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

- Santiago MJ; Lopez-Herce J; Zarzoso S; Sanchez A; Mencia S; Carrillo A. *Thrombolytic therapy using a low dose of tissue plasminogen activator in children.* ANALES DE PEDIATRÍA. 2012; 76(2) 77-82. IF: 0.867. Quartile: 4.
- Ballesteros Y; Urbano J; Lopez-Herce J; Solana MJ; Botran M; Vinciguerra D; Bellon JM. *Pulmonary arterial thermodilution, femoral arterial thermodilution and bioreactance cardiac output monitoring in a pediatric hemorrhagic hypovolemic shock model.* RESUSCITATION. 2012; 83(1) 125-129. IF: 4.104. Quartile: 1.
- Urbano J; del Castillo J; Lopez-Herce J; Gallardo JA; Solana MJ; Carrillo A. *High-Flow Oxygen Therapy: Pressure Analysis in a Pediatric Airway Model.* RESPIRATORY CARE. 2012; 57(5) 721-726. IF: 2.03. Quartile: 3.
- Lopez-Fernandez Y; Martinez-de Azagra A; de la Oliva P; Modesto V; Sanchez JI; Parrilla J; Arroyo MJ; Reyes SB; Pons-Odena M; Lopez-Herce J; Fernandez RL; Kacmarek RM; Villar J. *Pediatric Acute Lung Injury Epidemiology and Natural History Study: Incidence and outcome of the acute respiratory distress syndrome in children.* CRITICAL CARE MEDICINE. 2012; 40(12) 3238-3245. IF: 6.124. Quartile: 1.
- Castillo A; Lopez J; Panadero E; Cerdá J; Padilla B; Bustíenza A. *Conservative surgical treatment for toxic megacolon due to Clostridium difficile infection in a transplanted pediatric patient.* TRANSPLANT INFECTIOUS DISEASE. 2012; 14(4) E34-E37. IF: 1.984. Quartile: 3.
- del Castillo J; Lopez-Herce J; Matamoros M; Canadas S; Rodriguez-Calvo A; Cechetti C; Rodriguez-Nunez A; Alvarez AC. *Hyperoxia, hypocapnia and hypercapnia as outcome factors after cardiac arrest in children.* RESUSCITATION. 2012; 83(12) 1456-1461. IF: 4.104. Quartile: 1.
- Guembe M; Bustíenza A; Luna MS; Carrillo-Alvarez A; Sheriff VP; Bouza E. *Guidelines for preventing catheter infection: assessment of knowledge and practice among paediatric and neonatal intensive care healthcare workers.* JOURNAL OF HOSPITAL INFECTION. 2012; 81(2) 123-127. IF: 2.855. Quartile: 2.
- Urbano J; Lopez-Herce J; Solana MJ; del Castillo J; Botran M; Bellon JM. *Comparison of normal saline, hypertonic saline and hypertonic saline colloid resuscitation fluids in an infant animal model of hypovolemic shock.* RESUSCITATION. 2012; 83(9) 1159-1165. IF: 4.104. Quartile: 1.
- Nishisaki A; Maltese MR; Niles DE; Sutton RM; Urbano J; Berg RA; Nadkarni VM. *Backboards are important when chest compressions are provided on a soft mattress.* RESUSCITATION. 2012; 83(8) 1013-1020. IF: 4.104. Quartile: 1.
- Lopez-Herce J; Carrillo A. *How can we improve the results of cardiopulmonary resuscitation in out-of-hospital cardiac arrest in children. Dispatcher-assisted cardiopulmonary resuscitation is a link in the chain of survival.* CRITICAL CARE MEDICINE. 2012; 40(5) 1646-1647. IF: 6.124. Quartile: 1.
- Manrique-Rodriguez S; Sanchez-Galindo A; Fernandez-Llamazares CM; Lopez-Herce J; Echarri-Martinez L; Escudero-Vilaplana V; Sanjuro-Saez M; Carrillo-Alvarez A. *Smart pump alerts: All that glitters is not gold.* INTERNATIONAL JOURNAL OF MEDICAL INFORMATICS. 2012; 81(5) 344-350. IF: 2.061. Quartile: 1.
- Manrique-Rodriguez S; Sanchez-Galindo A; Fernandez-Llamazares CM; Lopez-Herce J; Garcia-Lopez I; Carrillo-Alvarez A; Sanjuro-Saez M. *Developing a drug library for smart pumps in a pediatric intensive care unit.* ARTIFICIAL INTELLIGENCE IN MEDICINE. 2012; 54(3) 155-161. IF: 1.355. Quartile: 2.
- Lopez-Herce J; Ferrero L; Mencia S; Anton M; Rodriguez-Nunez A; Rey C; Rodriguez L. *Teaching and training acute renal replacement therapy in children.* NEPHROLOGY DIALYSIS TRANSPLANTATION. 2012; 27(5) 1807-1811. IF: 3.371. Quartile: 1.

- Gil-Ruiz MA; Alcaraz AJ; Maranon RJ; Navarro N; Huidobro B; Luque A. *Electrolyte disturbances in acute pyelonephritis*. PEDIATRIC NEPHROLOGY. 2012; 27(3) 429-433. IF: 2.939. Quartile: 1.
  - Hernani MT; Medina MC; Herrero VL; Lopez CM; Posadas AS; Calatayud GA; Perez JLM; Sanchez CS. *Comparison between conventional pH measurement and multichannel intraluminal esophageal impedance in children with respiratory disorders*. ANALES DE PEDIATRÍA. 2012; 77(2) 103-110. IF: 0.867. Quartile: 4.
  - Solana MJ; Lopez-Herce J; Urbano J; Mencia S; del Castillo J; Bellon JM. *Measuring tidal volume during paediatric oscillatory and jet high-frequency ventilation*. ANALES DE PEDIATRÍA. 2012; 76(1) 11-15. IF: 0.867. Quartile: 4.
  - Guembe M; Perez-Parra A; Gomez E; Sanchez-Luna M; Bustinza A; Zamora E; Carrillo-Alvarez A; Cuenca A; Padilla B; Martin-Rabadan P. *Impact on knowledge and practice of an intervention to control catheter infection in the ICU*. EUROPEAN JOURNAL OF CLINICAL MICROBIOLOGY & INFECTION. 2012; 31(10) 2799-2808. IF: 3.024. Quartile: 2.
  - Gonzalez L; Rodriguez R; Mencia S; Gil-Ruiz M; Sanavia E; Herce JL. *Utility of monitoring intra-abdominal pressure in critically ill children*. ANALES DE PEDIATRÍA. 2012; 77(4) 254-260. IF: 0.867. Quartile: 4.
  - Agudelo SC; Mencia S; Faro A; Escudero V; Sanavia E; Lopez-Herce J. *Continuous propofol perfusion in critically ill children*. MEDICINA INTENSIVA. 2012; 36(6) 410-415. IF: 1.323. Quartile: 4.
  - Castillo A; Santiago MJ; Lopez-Herce J; Montoro S; Lopez J; Bustinza A; Moral R; Bellon JM. *Nutritional status and clinical outcome of children on continuous renal replacement therapy: a prospective observational study*. BMC NEPHROLOGY. 2012; 13. IF: 1.644. Quartile: 3.
  - Miranda MC; Lopez-Herce J; Martinez MC; Carrillo A. *Relationship between PAO<sub>2</sub>/FIO<sub>2</sub> and SATO<sub>2</sub>/FIO<sub>2</sub> with mortality and duration of admission in critically ill children*. ANALES DE PEDIATRÍA. 2012; 76(1) 16-22. IF: 0.867. Quartile: 4.
  - Solana MJ; Lopez-Herce J; Sanchez C; Cordero M; Urbano J; Botran M; del Castillo J; Bellon JM; Carrillo A. *Comparison of continuous pH-meter and intermittent pH paper monitoring of gastric pH in critically ill children*. EUROPEAN JOURNAL OF GASTROENTEROLOGY & HEPATOLOGY. 2012; 24(1) 33-36. IF: 1.915. Quartile: 3.
  - Santiago MJ; Lopez-Herce J; Urbano J; Solana MJ; del Castillo J; Sanchez A; Bellon JM. *Evolution and Mortality Risk Factors in Children With Continuous Renal Replacement Therapy After Cardiac Surgery*. REVISTA ESPAÑOLA DE CARDIOLOGÍA. 2012; 65(9) 795-800. IF: 3.204. Quartile: 2.
- Publications in journals without impact factor indexed in the Journal Citation Reports:*
- Echarri-Martinez L; Fernandez-Llamazares CM; Manrique-Rodriguez S; Garcia-Lopez I; Lopez-Herce J; Sanjurjo-Saez M. *Pharmaceutical care in paediatric intensive care unit: activities and interdisciplinary learning in a Spanish hospital*. EUROPEAN JOURNAL OF HOSPITAL PHARMACY-SCIENCE AND PRACTICE. 2012; 19(4) 416-422.
- Publications in journals not indexed in the Journal Citation Reports:*
- Manrique-Rodríguez S; Sánchez-Galindo A; Mora-García T; Fernández-Llamazares CM; Echarri-Martínez L; López-Herce J; Rodríguez-Gómez M; Bellón-Cano JM; Sanjuro-Sáez. *Development of a compatibility chart for intravenous Y-site drug administration in a pediatric intensive care unit*. Infus Nurs. 2012; 35(2):109-14.

## Patents

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



## DISEASES OF THE CRITICALLY ILL CHILD

	Number of Documents	IF
Own publications	15	37.79
Joint publications	8	22.91
First-decile publications	7	31.60
First-quartile publications	9	37.04
Second-quartile publications	4	10.43
Third-quartile publications	4	7.57
Fourth-quartile publications	6	5.65
Nonindexed publications	2	-
Total publications	25	60.70

# Biopathology of aging

Group director: José Antonio Serra Rexach

Group type: CONSOLIDATED

## Research programs and lines

### P1: Collaborative care models for the management of elderly patients

- ✓ L1: Hip fracture.
- ✓ L2: Heart disease.
- ✓ L3: Cancer.
- ✓ L4: Prevention of acute confusional state.
- ✓ L5: Dysphagia.

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

### P3: Physical activity in the elderly

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

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

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

The group was recently 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, analysis of the prevalence of frailty, determination of associations between frailty and chronic diseases (especially with respect to onset of disability), to discover and evaluate preventive strategies, and to 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 (researchers and support staff)

- **Mar Alonso Armesto:** Predoctoral
- **Verónica Domingo García:** Postdoctoral
- **Eva Gallego González:** Predoctoral
- **María de los Ángeles García Alhambra:** Predoctoral
- **Rosario Yassira Gracia de San Román:** Predoctoral
- **Eugenio Marañón Fernández:** Predoctoral
- **Nuria Montero Fernández:** Predoctoral
- **Javier Ortiz Alonso:** Principal Investigator
- **Carmen Osuna del Pozo:** Predoctoral
- **Elizabet María Sánchez García:** Predoctoral
- **José Antonio Serra Rexach:** Group Director
- **Luis Silveira Guijarro:** Predoctoral
- **Selene Soria Félix:** Predoctoral
- **María Teresa Vidán Asteiz:** Principal Investigator

## 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: "Prevencion del deterioro funcional asociado a la hospitalizacion en ancianos mediante un programa de ejercicio fisico".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2015
- Principal investigator: José Antonio Serra Rexach  
Title: "Retic de envejecimiento y fragilidad".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2013

## Publications

**Total Impact Factor: 8.41**

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

- Serra-Rexach JA; Jimenez AB; Garcia-Alhambra MA; Pla R; Vidan M; Rodriguez P; Ortiz J; Garcia-Alfo. *Differences in the Therapeutic Approach to Colorectal Cancer in Young and Elderly Patients.* ONCOLOGIST. 2012; 17(10) 1277-1285. IF: 4.095. Quartile: 2.

- Ortiz-Alonso FJ; Vidan-Astiz M; Alonso-Armesto M; Toledano-Iglesias M; Alvarez-Nebreda L; Branas-Baztan F; Serra-Rexach JA. *The Pattern of Recovery of Ambulation After Hip Fracture Differs With Age in Elderly Patients.* JOURNALS OF GERONTOLOGY SERIES A-BIOLOGICAL SCIENCES AND MEDICAL SCIENCES. 2012; 67(6) 690-697. IF: 4.314. Quartile: 1.

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

- Fleck SJ; Bustamante-Ara N; Ortiz J; Vidan MT; Lucia A; Serra-Rexach JA. *Activity in GEriatic acute CARE (AGECAR): rationale, design and methods.* BMC GERIATRICS. 2012; 12.

	Number of Documents	IF
Own publications	2	8.41
Joint publications	0	0.00
First-decile publications	1	4.31
First-quartile publications	1	4.31
Second-quartile publications	1	4.09
Third-quartile publications	0	0
Fourth-quartile publications	0	0
Nonindexed publications	1	-
Total publications	3	8.41

# Neonatal and developmental pathophysiology

Group director: Manuel Sánchez Luna

Group type: IN PROCESS OF CONSOLIDATION

## Research programs and lines

### P1: Prevention and treatment of bronchopulmonary dysplasia

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

### P2: Neonatal neuroprotection

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

### P3: Neonatal infection

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

### P4: Imaging in neonatology

- ✓ L1: Development of a nonionizing neonatal imaging incubator.

### P5: Neonatal nutrition

- ✓ L1: Cyclic parenteral nutrition.

## Group members (researchers and support staff)

- María Arriaga Redondo: Predoctoral
- Belén Bernardo Atienza: Predoctoral
- Dorotea Blanco Bravo: Predoctoral
- Sylvia Caballero Martín: Predoctoral
- Paz Chimenti Camacho: Predoctoral
- María Luisa Franco Fernández: Predoctoral
- Elena Maderuelo Rodríguez: Predoctoral
- María Itziar Marsinyach Ros: Predoctoral
- Nelia Navarro Patiño: Predoctoral
- Vicente Pérez Sheriff: Postdoctoral
- María Isabel Pescador Chamorro: Predoctoral
- María del Carmen Sánchez Gómez de Orgaz: Predoctoral
- Manuel Sánchez Luna: Postdoctoral
- Esther Sanz López
- Sonia Villar Castro: Predoctoral
- Elena Zamora Flores: Predoctoral
- Gonzalo Zeballos Sarrato: Predoctoral
- Susana Elena Zeballos Sarrato: Predoctoral

**Publications****Total Impact Factor: 18.29**

*Publicaciones en revistas indexadas en el Journal Citation Reports con Factor de Impacto:*

- Gil-Ruiz MA; Alcaraz AJ; Maranon RJ; Navarro N; Huidobro B; Luque A. *Electrolyte disturbances in acute pyelonephritis.* PEDIATRIC NEPHROLOGY. 2012; 27(3) 429-433. IF: 2.939. Quartile: 1.
- Guembe M; Bustinza A; Luna MS; Carrillo-Alvarez A; Sheriff VP; Bouza E. *Guidelines for preventing catheter infection: assessment of knowledge and practice among paediatric and neonatal intensive care healthcare workers.* JOURNAL OF HOSPITAL INFECTION. 2012; 81(2) 123-127. IF: 2.855. Quartile: 2.
- Cortes JIA; Domingo AA; Mir LA; Roura LC; Lopez MC; Sastre JL; Marcos JCM; Prieto AP; Fraile MD; Abizanda SS; Luna MS; Perez MJS; Cardoso RT. *Prevention of perinatal group B Streptococcal disease. Updated Spanish recommendations 2012.* REVISTA ESPAÑOLA DE QUIMIOTERAPIA. 2012; 25(1) 79-88. IF: 0.836. Quartile: 4.
- Oteo J; Cercenado E; Fernandez-Romero S; Saez D; Padilla B; Zamora E; Cuevas O; Bautista V; Campos J. *Extended-Spectrum-beta-Lactamase-Producing Escherichia coli as a Cause of Pediatric Infections: Report of a Neonatal Intensive Care Unit Outbreak Due to a CTX-M-14-Producing Strain.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(1) 54-58. IF: 4.565. Quartile: 1.
- Luna MS; Franco ML; Bernardo B. *Therapeutic Strategies in Pulmonary Hypertension of the Newborn: Where Are We Now.* CURRENT MEDICINAL CHEMISTRY. 2012; 19(27) 4640-4653. IF: 4.07. Quartile: 1.
- Guembe M; Perez-Parra A; Gomez E; Sanchez-Luna M; Bustinza A; Zamora E; Carrillo-Alvarez A; Cuenca A; Padilla B; Martin-Rabadan P. *Impact on knowledge and practice of an intervention to control catheter infection in the ICU.* EUROPEAN JOURNAL OF CLINICAL MICROBIOLOGY & INFECTIOUS DISEASES. 2012; 31(10) 2799-2808. IF: 3.024. 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, MªJesús Ledesma Carballo, Andrés de Santos Lleó, José Luis Rubio Guiernau

	Number of Documents	IF
Own publications	1	4.07
Joint publications	5	14.22
First-decile publications	2	7.00
First-quartile publications	3	11.57
Second-quartile publications	2	5.87
Third-quartile publications	0	0
Fourth-quartile publications	1	0.83
Nonindexed publications	0	-
Total publications	6	18.29

# Pathophysiology and clinical aspects of COPD

Group director: Luis Puente Maestu

Group type: IN PROCESS OF CONSOLIDATION

## Research programs and lines

### P1: Clinical and therapeutic aspects of COPD

- ✓ L1: Clinical drug development.
- ✓ L2: Clinical aspects of bronchoscopy and associated techniques.

### P2: Pulmonary circulation

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

## Group members (researchers and support staff)

- María Jesús Chillón Martín: Postdoctoral
- Miguel Javier de Miguel Díez: Postdoctoral
- Marta Fuentes Alonso: Predoctoral
- Julia García de Pedro: Postdoctoral
- Fernando Pedraza Serrano: Predoctoral
- Luis Puente Maestu: Group Director
- Gema Sánchez Muñoz: Predoctoral
- Pilar Sanz Sanz: Predoctoral



## Research Projects - Competitive Calls

- Principal investigator: Luis Puente Maestu  
Title: "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
- Principal investigator: Luis Puente Maestu  
Title: "Relaciones entre el fenotipo mitocondrial del músculo esquelético de pacientes EPOC y la inflamación sistémica, local y función endotelial. Similitudes con un modelo murino de enfisema".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012

## Clinical Practice Guidelines

Authors	Title	Publication
Miravitles M, Soler-Cataluña JJ, Calle M, Molina J, Almagro P, Quintano JA, Riesco JA, Trigueros JA, Piñera P, Simón A, López-Campos JL, Soriano JB, Ancochea J	Guía de práctica clínica para el diagnóstico y tratamiento de pacientes con enfermedad pulmonar obstructiva crónica (EPOC) - Guía Española de la EPOC (GesEPOC)	Arch Bronconeumol. 2012 Jul;48(7):247-57. PMID:22561012
Soler-Cataluña JJ, Cosío B, Izquierdo JL, López-Campos JL, Marín JM, Agüero R, Baloira A, Carrizo S, Esteban C, Galdiz JB, González MC, Miravitles M, Monsó E, Montemayor T, Morera J, Ortega F, Peces-Barba G, Puente L, Rodríguez JM, Sala E, Sauleda J, Soriano JB, Viejo JL	Consensus document on the mixed asthma-COPD phenotype in COPD	Arch Bronconeumol. 2012 Sep;48(9):331-7. PMID:22341911

## Theses

Doctoral Student	Title	Director	University
Julio Hernández Vázquez	Tratamiento del síndrome de apnea obstructiva del sueño asociado a síndrome de hipoventilación-obesidad. Presión positiva continua versus ventilación con presión positiva bi-nivel	Javier de Miguel Díez	Universidad Complutense de Madrid

## Publications

**Total Impact Factor: 13.43**

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

- Garcia-Polo C; Alcazar-Navarrete B; Ruiz-Iturriaga LA; Herrejon A; Ros-Lucas JA; Garcia-Sidro P; Tirado-Conde G; Lopez-Campos JL; Martinez-Rivera C; Costan-Galicia J; Mayoralas-Alises S; De Miguel-Diez J; Miravitles M. *Factors associated with high healthcare resource utilisation among COPD patients.* RESPIRATORY MEDICINE. 2012; 106(12) 1734-1742. IF: 2.585. Quartile: 2.
- Diez JD; Garcia RJ; Barrera VH; Rodriguez PR; Maestu LP; Garrido PC. *Mental health among adults with asthma and chronic bronchitis. A population-based study in Spain.* RESPIRATORY MEDICINE. 2012; 106(7) 924-932. IF: 2.585. Quartile: 2.



- Puente-Maestu L; Tejedor A; Lazaro A; de Miguel J; Alvarez-Sala I; Gonzalez-Aragonese F; Simon C; Agusti A. *Site of Mitochondrial Reactive Oxygen Species Production in Skeletal Muscle of Chronic Obstructive Pulmonary Disease and Its Relationship with Exercise Oxidative Stress.* AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY. 2012; 47(3) 358-362. IF: 4.148. Quartile: 1.
- Soler-Cataluna JJ; Cosio B; Izquierdo JL; Lopez-Campos JL; Marin JM; Aguero R; Baloira A; Carrizo S; Esteban C; Galdiz JB; Gonzalez MC; Miravitles M; Monso E; Montemayor T; Morera J; Ortega F; Peces-Barba G; Puente L; Rodriguez JM; Sala E; Saulea J; Sor. *NSENSUS DOCUMENT ON THE MIXED ASTHMA-COPD PHENOTYPE IN COPD.* Archivos de Bronconeumología. 2012; 48(9):331-7.
- Rodriguez PR; Diez JD; Caicedo LPM; Morales MCJ; Garcia RJ; Castro DJ. *Unsuspected pulmonary thromboembolism in the Emergency Department.* REVISTA CLÍNICA ESPAÑOLA. 2012; 212(4) 165-171.
- Miravitles M; Soler-Cataluna JJ; Calle M; Molina J; Almagro P; Quintano JA; Riesco JA; Trigueros JA; Piñera P; Simón A; López-Campos JL; Soriano JB; Ancochea J. *Guía de Práctica Clínica para el Diagnóstico y Tratamiento de Pacientes con Enfermedad Pulmonar Obstructiva Crónica (EPOC) - Guía Española de la EPOC (GesEPOC).* ARCHIVOS DE BRONconeumología. 2012; 48(7):247-57.
- Maestu LP; de Pedro JG. *Lung Function Tests in Clinical Decision-Making.* ARCHIVOS DE BRONconeumología. 2012; 48(5) 161-169. IF: 1.372. Quartile: 4.

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

- Jimenez-Garcia R; Hernandez-Barrera V; Rodriguez-Rieiro C; de Andres AL; de Miguel-Diez J; Trujillo IJ; Carrasco-Garrido P. *Are age-based strategies effective in increasing influenza vaccination coverage? The Spanish experience.* HUMAN VACCINES & IMMUNOTHERAPEUTICS. 2012; 8(2).
- Fernandez-Herranz J; de Miguel-Diez J; del Castillo-Rueda A; Bellon-Cano JM; Jimenez-Garcia R; Alvarez-Sala-Walther LA. *Influence of systemic corticosteroid administration in the prognosis of patients with community-acquired pneumonia.* REVISTA CLÍNICA ESPAÑOLA. 2012; 212(7) 337-343.

	Number of Documents	IF
Own publications	3	8.11
Joint publications	3	5.33
First-decile publications	0	0
First-quartile publications	1	4.15
Second-quartile publications	2	5.17
Third-quartile publications	0	0
Fourth-quartile publications	3	4.11
Nonindexed publications	5	-
Total publications	11	13.43

# Regenerative medicine in plastic surgery

Group director: Rosa M.<sup>a</sup> Pérez Cano / Dr. José María Lasso Vázquez

Group type: EMERGING

## Research programs and lines

### P1: Regenerative medicine

- ✓ L1: Breast reconstruction with stem cells from adipose tissue.
- ✓ L2: Regeneration of peripheral nerve with stem cells.
- ✓ L3: Regeneration in other diseases.

### P2: Gene therapy with viral vehicles

- ✓ L1: VEGF in the axial nerve.
- ✓ L2: Peripheral nerve.
- ✓ L3: Vascular.

### P3: Hematopoietic chimerism methods



## Group members (researchers and support staff)

- Luis Javier Arenas Domingo: Predoctoral
- Edgar Alfonso Cortina Acevedo: Predoctoral
- José María Lasso Vázquez: Postdoctoral
- Paola Nava Pérez: Predoctoral
- Rosa Pérez Cano: Group Director



## Patents

- Title: Matriz artificial de gel de fibrina endotelizada superproductora de factores proangiogénicos.
- Reference: P200501182.
- Owner: FIBHGM.
- Inventors: José M<sup>a</sup> Lasso Vázquez, Paola Nava Pérez.

## Publications

**Total Impact Factor: 2.61**

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

- Perez-Cano R; Vranckx JJ; Lasso JM; Calabrese C; Merck B; Milstein AM; Sassoon E; Delay E; Weiler-Mithoff EM. *Prospective trial of Adipose-Derived Regenerative Cell (ADRC)-enriched fat grafting for partial mastectomy defects: The RESTORE-2 trial.* EJSO. 2012; 38(5) 382-389. IF: 2.614. Quartile: 1.

	Number of Documents	IF
Own publications	1	2.61
Joint publications	0	0.00
First-decile publications	0	0
First-quartile publications	1	2.61
Second-quartile publications	0	0
Third-quartile publications	0	0
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	1	2.61

# Anesthesia in chest surgery

Group director: Ignacio Garutti Martínez

Group type: EMERGING

## Research programs and lines

### P1: Anesthesia in chest surgery

- ✓ L1: Pathophysiology of one-lung ventilation.
- ✓ L2: Thoracic paravertebral block.
- ✓ L3: Postoperative management.
- ✓ L4: Experimental line: lung autotransplantation.

## Group members (researchers and support staff)

- **Patricia Cruz Pardos:** Postdoctoral
- **Francisco Andrés de la Gala García:** Postdoctoral
- **Patricia Duque González:** Postdoctoral
- **María Cruz García García:** Postdoctoral
- **Ignacio Garutti Martínez:** Group Director
- **Guillermo González Casaurrán:** Predoctoral
- **Patricia Piñeiro Otero:** Predoctoral
- **Carlos María Simón Adiego:** Postdoctoral
- **Elena Vara Ruiz:** Postdoctoral





## Research Projects - Competitive Calls

- Principal investigator: Francisco Andrés de la Gala García  
Title: "Estudio de la respuesta inflamatoria pulmonar y sistémica secundaria a cirugía de resección pulmonar con anestesia intravenosa versus anestesia inhalatoria con agentes halogenados".  
Funding body: Ministry of Health Social Services and Equality  
Start date: 2012  
End date: 2013
- Principal investigator: Ignacio Garutti Martínez  
Title: "Estudio de nuevas terapias para atenuar la respuesta inflamatoria secundaria a la ventilación unipulmonar en un modelo experimental de cirugía de resección pulmonar".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013

## Theses

Doctoral Student	Title	Director	University
Patricia Duque González	Impacto de la técnica quirúrgica y anestésica sobre la respuesta inflamatoria y angiogénica en cirugía de tumor colorrectal	Elena Vara Ameigeiras; Ignacio Garutti	Universidad Complutense de Madrid

Doctoral Student	Title	Director	University
Patricia Cruz Pardos	Efectos del modo ventilatorio utilizado durante la ventilación unipulmonar en la oxigenación arterial intraoperatoria y postoperatoria. Ventilación controlada por volumen	Ignacio Garutti, Fernando Gilsanz	Universidad Autónoma de Madrid

## Publications

**Total Impact Factor: 6.86**

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

- Colomina MJ; Lobo AD; Garutti I; Gomez-Luque A; Llau JV; Pita E. *Perioperative use of prothrombin complex concentrates.* MINERVA ANESTESIOLÓGICA. 2012; 78(3) 358-368. IF: 2.818. Quartile: 2.
- Simon C; Vara E; Garutti I; Gonzalez-Casaurran G; Azcarate L; Isea J; Huerta L; Gonzalez-Aragoneses F. *Modulation of monocyte chemoattractant protein-1 expression by ischaemic preconditioning in a lung autotransplant model (dagger).* EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY. 2012; 41(4) 933-939. IF: 2.674. Quartile: 1.
- Leon-Atance P; Moreno-Mata N; Gonzalez-Aragoneses F; Canizares-Carretero MA; Poblet-Martinez E; Genoves-Crespo M; Garcia-Jimenez MD; Honguero-Martinez AF; Rombola CA; Simon-Adiego CM; Penalver-Pacual R; Alvarez-Fernandez E. *Prognostic Influence of Loss of Blood Group A Antigen Expression in Pathologic Stage I Non-Small-Cell Lung Cancer.* ARCHIVOS DE BRONCONEUMOLOGÍA. 2012; 48(2) 49-54. IF: 1.372. Quartile: 4.

	Number of Documents	IF
Own publications	1	2.67
Joint publications	2	4.19
First-decile publications	0	0
First-quartile publications	1	2.67
Second-quartile publications	1	2.81
Third-quartile publications	0	0
Fourth-quartile publications	1	1.37
Nonindexed publications	0	-
Total publications	3	6.86

# Regenerative medicine and systems development (cardiovascular and osteochondral)

Group director: M.<sup>a</sup> Begoña Quintana Villamandos  
Group type: EMERGING

## Research programs and lines

### P1: Ventricular remodeling: natural history, pathophysiology, and treatment

- ✓ L1: Immunohistopathology and ultrastructure of ventricular remodeling.
- ✓ L2: Pathophysiology of ventricular remodeling.
- ✓ L3: New therapies in regression of ventricular remodeling.

### P2: Growth plate transplant

- ✓ L1: Formation of a cryopreserved growth plate biobank.
- ✓ L2: Immunosuppressive therapy.
- ✓ L3: Mixed transplant of growth plate and bone graft.

### P3: Development of the osteochondral system

- ✓ L1: Comparative anatomy in the osteochondral system. Evo-devo implications.
- ✓ L2: Study of experimental models.

### P4: Vascular disease

- ✓ L1: Fetal origin of cardiovascular disease and nutrition.
- ✓ L2: Antioxidant and antihypertensive action of liver growth factor.
- ✓ L3: Applications of confocal microscopy to the study of vascular remodeling.
- ✓ L4: Serum biomarkers of cardiovascular disease.
- ✓ L5: High-altitude pulmonary hypertension.



## Group members (researchers and support staff)

- **Silvia Magdalena Arribas Rodríguez:** Postdoctoral
- **Fernando Manuel Canillas del Rey:** Postdoctoral
- **Emilio Delgado Baeza:** Principal Investigator
- **María Jesús Delgado Martos**
- **María del Carmen González García:** Postdoctoral
- **Antonia Martos Rodríguez:** Predoctoral
- **Begoña Quintana Villamandos:** Group Director
- **Guillermo Juan Rodríguez Bernal:** Predoctoral

## Research Projects - Competitive Calls

- Principal investigator: Begoña Quintana Villamandos  
Title: "Regresión precoz del remodelado ventricular tras tratamiento con esmolol en un modelo experimental de rata hipertensa".  
Funding body: Instituto de Salud Carlos III  
Start date: 2011  
End date: 2013

## Theses

Doctoral Student	Title	Director	University
Carmen Fernández Riveira	Efecto del bloqueo beta1 adrenérgico en la regresión precoz del remodelado ventricular. Estudio experimental en un modelo de rata hipertensa	Mª Begoña Quintana Villamandos, Mª Jesús Delgado Martos	Universidad Autónoma de Madrid
Alberto Touza	Placa de crecimiento: alotrasplante simple y alotrasplante combinado con hueso. Estudio experimental en ratas	Mª Jesús Delgado Martos	Universidad Autónoma de Madrid

## Clinical Practice Guidelines

Authors	Title	Publication
Mª Begoña Quintana Villamandos	Guía Plasmatyte	

## Publications

**Total Impact Factor: 4.18**

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

- Quintana-Villamandos B; Rodriguez-Bernal GJ; Perez-Caballero R; Otero J; Ruiz M; Delgado-Martos MJ; Sanchez-Hernandez JJ; Delgado-Baeza E. Severe hypoxaemia with a left ventricular assist device in a minipig model with an undiagnosed congenital cardiac disease. LABORATORY ANIMALS. 2012; 46(1) 77-80. IF: 1.257. Quartile: 2.
- Canillas F; Delgado-Martos MJ; Martos-Rodriguez A; Quintana-Villamandos B; Delgado-Baeza E. Contribution to the Initial Pathodynamics of Hip Luxation in Young Rats. JOURNAL OF PEDIATRIC ORTHOPAEDICS. 2012; 32(6) 613-620. IF: 1.163. Quartile: 3.
- Heredero A; Perez-Caballero R; Otero J; Rodriguez-Martinez D; Quintana-Villamandos B; Rodriguez-Bernal G; Gonzalez-Pinto A; Ruiz-Fernandez M.; Synchrony relationships between the left ventricle and a left ventricular assist device: an experimental study in pigs. INTERNATIONAL JOURNAL OF ARTIFICIAL ORGANS. 2012; 35(4) 272-278. IF: 1.759. Quartile: 2.

*Publications in journals not indexed in the Journal Citation Reports:*

- Quintana B. Guía Plasmatyte. 2012.



	Number of Documents	IF
Own publications	2	2.42
Joint publications	1	1.76
First-decile publications	0	0
First-quartile publications	0	0.00
Second-quartile publications	2	3.01
Third-quartile publications	1	1.16
Fourth-quartile publications	0	0
Nonindexed publications	1	-
Total publications	4	4.18

# Pediatric endocrinology and hereditary diseases

Group director: Begoña Ezquieta Zubicaray

Group type: EMERGING

## Research lines

- ✓ L1: Congenital suprarenal hyperplasia.
- ✓ L2: Neuro-cardio-facial-cutaneous syndromes and RASopathies.

## Group members (researchers and support staff)

- Consuelo Cansado Funes: Predoctoral
- Begoña Ezquieta Zubicaray: Group Director
- Liliana Galbis Martínez
- Rafael Muñoz-Pacheco Román: Predoctoral



**Publications****Total Impact Factor: 3.20**

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

- Ezquieta B; Santome JL; Carcavilla A; Guillen-Navarro E; Perez-Aytes A; del Pozo JS; Garcia-Minaur S; Castillo E; Alonso M; Vendrell T; Santana A; Maroto E; Galbis L. *Alterations in RAS-MAPK Genes in 200 Spanish Patients With Noonan and Other Neuro-Cardio-Facio-Cutaneous Syndromes. Genotype and Cardiopathy.* REVISTA ESPAÑOLA DE CARDIOLOGÍA. 2012; 65(5) 447-455. IF: 3.204. Quartile: 2.

	Number of Documents	IF
Own publications	1	3.20
Joint publications	0	0.00
First-decile publications	0	0
First-quartile publications	0	0.00
Second-quartile publications	1	3.20
Third-quartile publications	0	0
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	1	3.20

# Experimental kidney transplantation

Group director: Enrique Lledó García

Group type: EMERGING

## Research programs and lines

### P1: Preservation of the kidney graft

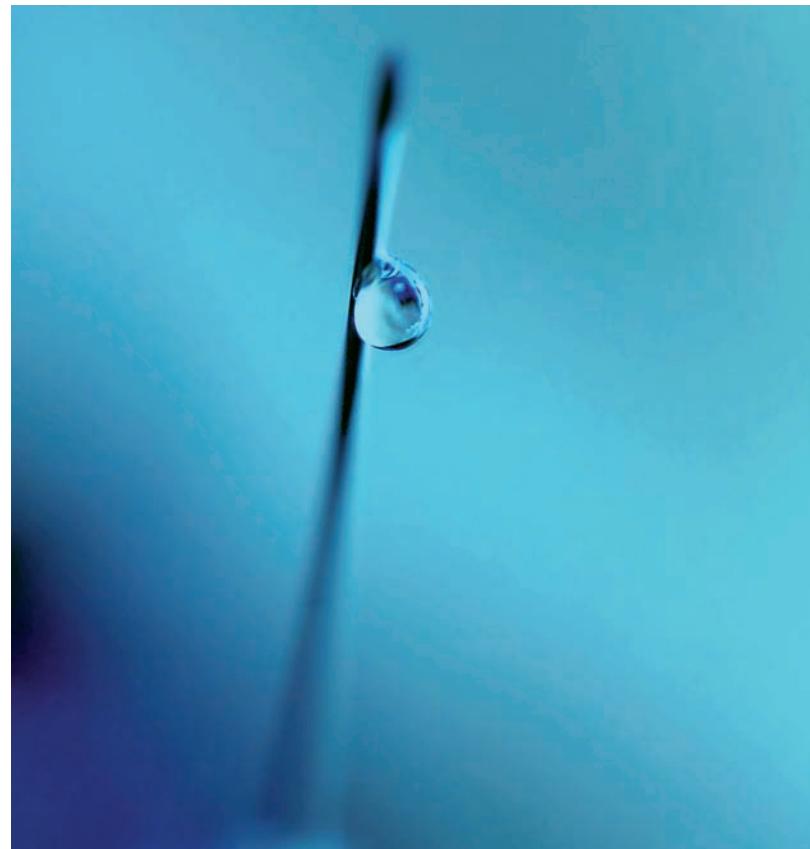
- ✓ L1: Renal ischemia-reperfusion injury.
- ✓ L2: Hypothermic perfusion of the kidney graft.
- ✓ L3: Pharmacologic preconditioning and protection of the kidney graft.

### 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 (researchers and support staff)

- **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**
- **David Subirá Ríos:** Predoctoral



**Publications****Total Impact Factor: 14.08**

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

- Cozar-Olmo JM; Hernandez-Fenandez C; Minana-Lopez B; Amon-Sesmero JH; Montilleo-Gonzalez M; Rodriguez-Antolin A; Caballero-Martinez F. *Consensus on the Clinical Impact of the New Scientific Evidence Available on Benign Prostatic Hyperplasia.* ACTAS UROLÓGICAS ESPAÑOLAS. 2012; 36(5) 265-275. IF: 1.144. Quartile: 4.
- Hatzimouratidis K; Eardley I; Giuliano F; Hatzichristou D; Moncada I; Salonia A; Vardi Y; Wespes E. *EAU Guidelines on Penile Curvature.* EUROPEAN UROLOGY. 2012; 62(3) 543-552. IF: 10.476. Quartile: 1.
- Fernandez CH; Bermudez FB; Iribarren IM. *Update of the usefulness of alpha-blockers in the treatment of different urologic pathologies.* MEDICINA CLÍNICA. 2012; 139(13) 582-587. IF: 1.399. Quartile: 2.
- Escudero RM; Gil MJC; Alonso AH; Garcia EL; Amo FH; Pinies GO; Botella ER; Simo G; Martinez MCN; Fernandez CH. *Traumatic Rupture of Horseshoe Kidney.* UROLOGÍA INTERNATIONALIS. 2012; 88(1) 112-114. IF: 1.065. Quartile: 4.

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

- Escudero RM; Amo FH; Garcia EL; Alonso AH; Lopez Gopel; Vallenilla AM; Garcia AP; Fernandez CH. *Impossible bladder catheter removal. What can we do.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(4) 489-492.
- Amo FH; Segundo CGS. *Biochemical recurrence in prostate cancer after radical treatment.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 1-3.
- Escudero RM; Gil MJC; Garcia EL; Alonso AH; Pinies GO; Chamizo JA; Fernandez CH. *Renal ischemia secondary to retroperitoneal hematoma.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(7) 721-722.

- Amo FH; Segundo CGS; Facundo EVP; Gonzalez AA; Espi MG; Garcia EL; Garcia JT; Tartajo FV; Fernandez CH. *Biochemical recurrence in patients with prostate cancer after radical treatment. Comparative study of prostatectomy vs. radiotherapy.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 176-184.
- Pinies GO; Amo FH; Patino GE; Garcia EL; Escudero RM; Alonso AH; Fernandez CH. *Urachal adenocarcinoma. Case report and bibliographic review.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(4) 498-501.
- Fagundo EVP; Amo FH; Lopez EL; Sanchez JP; Jimenez GD; Chamizo JA; Cordero JMD; Fernandez MER; Fernandez CH. *Risk factors for biochemical recurrence after radical prostatectomy in patients with clinically localized prostate cancer. Implications of adjuvant treatment.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 158-165.
- Garcia EL; Amo FH; Segundo CGS; Fagundo EP; Escudero RM; Alonso AH; Pinies GO; Rascon JJ; Fernandez CH. *Rescue cryotherapy for prostate cancer after radiotherapy.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 93-100.
- Fernandez CH; Patino GE; Merino RD; Chomon GB; Rios DS; Garate MM; Gil MJC. *Management of prostate cancer biochemical recurrence in the clinical guidelines.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 79-83.

	Number of Documents	IF
Own publications	2	2.46
Joint publications	2	11.62
First-decile publications	1	10.48
First-quartile publications	1	10.48
Second-quartile publications	1	1.40
Third-quartile publications	0	0
Fourth-quartile publications	2	2.21
Nonindexed publications	8	-
Total publications	12	14.08

# Artificial circulation laboratory

Group director: Juan Francisco del Cañizo López

Group type: EMERGING

## Research programs and lines

P1: Mechanical circulatory support

- ✓ L1: Renal preservation.
- ✓ L2: Hemodiafiltration.

P2: Decellularizaton and recellularization of the liver

P3: Isolated perfused liver

## Group members (researchers and support staff)

- José María Barrio Gutiérrez: Predoctoral
- Rosario Beneyto Cruz: Support Specialist
- 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
- Javier Sicilia Alonso: ISCIII Support
- Enrique Velasco Sánchez: Predoctoral
- José Ángel Zamorano Serrano: Specialist





## 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

## Publications

## Total Impact Factor: 6.40

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

- Carbone J; Lanio N; Gallego A; Kern F; Navarro J; Munoz P; Alonso R; Catalan P; Fernandez-Yanez J; Palomo J; Ruiz M; Fernandez-Cruz E. *Simultaneous Monitoring of Cytomegalovirus-Specific Antibody and T-cell levels in Seropositive Heart Transplant Recipients.* JOURNAL OF CLINICAL IMMUNOLOGY. 2012; 32(4) 809-819. IF: 3.382. Quartile: 2.
- Heredero A; Perez-Caballero R; Otero J; Rodriguez-Martinez D; Quintana-Villamandos B; Rodriguez-Bernal G; Gonzalez-Pinto A; Ruiz-Fernandez M;. *Synchrony relationships between the left ventricle and a left ventricular assist device: an experimental study in pigs.* INTERNATIONAL JOURNAL OF ARTIFICIAL ORGANS. 2012; 35(4) 272-278. IF: 1.759. Quartile: 2.
- Quintana-Villamandos B; Rodriguez-Bernal GJ; Perez-Caballero R; Otero J; Ruiz M; Delgado-Martos MJ; Sanchez-Hernandez JJ; Delgado-Baeza E. *Severe hypoxaemia with a left ventricular assist device in a minipig model with an undiagnosed congenital cardiac disease.* LABORATORY ANIMALS. 2012; 46(1) 77-80. IF: 1.257. Quartile: 2.

## Patents

- Title: Método y Aparato de Hemodiafiltración.  
Reference: PCT/ES2007/070081 EP 07730519.1  
Owner: FIBHGM.  
Inventor: Juan Francisco del Cañizo López.
- Title: Dispositivo de Asistencia Ventricular.  
Reference: P201230211  
Owner: FIBHGM.  
Inventor: Juan Francisco del Cañizo López, Manuel Ruiz Hernández.
- Title: Blood pump and application thereof.  
Reference: P9501070  
Owner: SERMAS – HGUGM.  
Inventor: Juan Francisco del Cañizo López.

	Number of Documents	IF
Own publications	2	3.02
Joint publications	1	3.38
First-decile publications	0	0
First-quartile publications	0	0.00
Second-quartile publications	3	6.39
Third-quartile publications	0	0
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	3	6.40

# Evaluation of health services and clinical epidemiology

Group director: M.<sup>a</sup> Paz Rodríguez Pérez

Group type: EMERGING

## Research lines

- ✓ L1: Evaluation of health care services and public health programs.
- ✓ L2: Patient safety and management of risks stemming from clinical practice.
- ✓ L3: Medication errors.
- ✓ L4: Prevention of health care-associated infection.

## Group members (researchers and support staff)

- **Mireia Cantero Caballero:** Predoctoral
- **Marta Beatriz Grande Armesto:** Predoctoral
- **Ana Belén Jiménez Muñoz:** Predoctoral
- **Rosa Plá Mestre:** Predoctoral
- **María de la Paz Rodríguez Pérez:** Group Director
- **Concepción Sanchidrián de Blas:** Predoctoral





## Research Projects - Competitive Calls

- Principal investigator: Rosa Plá Mestre  
Title: "Calidad de vida y complicaciones según el tipo de parto".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2015

## Publications

**Total Impact Factor: 6.14**

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

- Serra-Rexach JA; Jimenez AB; Garcia-Alhambra MA; Pla R; Vidan M; Rodriguez P; Ortiz J; Garcia-Alfo. *Differences in the Therapeutic Approach to Colorectal Cancer in Young and Elderly Patients.* ONCOLOGIST. 2012; 17(10) 1277-1285. IF: 4.095. Quartile: 2.
- Zoni AC; Garcia MED; Munoz ABJ; Perez RS; Martin P; Alonso AH. *The impact of medication reconciliation program at admission in an internal medicine department.* EUROPEAN JOURNAL OF INTERNAL MEDICINE. 2012; 23(8) 696-700. IF: 2.049. Quartile: 2.

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

- Rodriguez PR; Diez JD; Caicedo LPM; Morales MCJ; Garcia RJ; Castro DJ. *Unsuspected pulmonary thromboembolism in the Emergency Department.* REVISTA CLÍNICA ESPAÑOLA. 2012; 212(4) 165-171.
- Jimenez-Garcia R; Hernandez-Barrera V; Rodriguez-Rieiro C; de Andres AL; de Miguel-Diez J; Trujillo IJ; Carrasco-Garrido P. *Are age-based strategies effective in increasing influenza vaccination coverage. The Spanish experience.* HUMAN VACCINES & IMMUNOTHERAPEUTICS. 2012; 8(2).

	Number of Documents	IF
Own publications	0	0.00
Joint publications	2	6.14
First-decile publications	0	0
First-quartile publications	0	0.00
Second-quartile publications	2	6.14
Third-quartile publications	0	0
Fourth-quartile publications	0	0
Nonindexed publications	2	-
Total publications	4	6.14

# Hospital pharmacy and pharmacogenomics

Group director: María Sanjurjo Sáez

Group type: EMERGING

## 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 (researchers and support staff)

- María Aránzazu Ais Larisgoitia
- Paula Arrabal Durán: Predoctoral
- Silvia Buendía Bravo
- Betsabé Cáliz Hernández: Predoctoral
- Lourdes Caro González: Predoctoral
- Lucía Cortejoso Fernández: 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
- Miriam Giráldez Quiroga: Predoctoral
- Eva González-Haba Peña: Predoctoral
- Ana Herranz Alonso: Postdoctoral
- María Elena Lobato Matilla
- Luis Andrés López Fernández: Miguel Servet
- Silvia Manrique Rodríguez: Postdoctoral
- Cecilia Manzanares Secades: Postdoctoral
- Iratxe Marquínez Alonso: Predoctoral
- María Luisa Martín Barbero: Predoctoral
- Cecilia Martínez Fernández-Llamazares: Postdoctoral
- Belén Marzal Alfaro: Predoctoral
- Ana Mur Mur: Predoctoral
- Cristina Pérez Sanz: Postdoctoral
- María Sagrario Pernia López
- Almudena Ribed Sánchez: Predoctoral
- Carmen Guadalupe Rodríguez González: Predoctoral
- Rosa María Romero Jiménez
- María Norberta Sánchez Fresneda
- María Sanjurjo Sáez: Group Director
- Camino Sarobe González: Predoctoral
- María Tovar Pozo: Predoctoral
- Inés Yeste Gómez: Predoctoral

## Research Projects - Competitive Calls

- Principal investigator: Luis Andrés López Fernández  
Title: "Validación de polimorfismos genéticos asociados a toxicidad al tratamiento basado en fluoropirimidinas en cáncer colorrectal".  
Funding body: Instituto de Salud Carlos III  
Start date: 2013  
End date: 2015
- Principal investigator: Luis Andrés López Fernández  
Title: "Estudio del empleo de dendrímeros carbosilanos en fármacos repressores de la respuesta th17 en enfermedades autoinmunes".  
Funding body: Instituto de Salud Carlos III  
Start date: 2010  
End date: 2012
- Principal investigator: María Sanjurjo Sáez  
Title: "Identificación por radiofrecuencia para la producción, distribución y dispensación de medicamentos".  
Funding body: Ministerio de Industria, Turismo y Comercio  
Start date: 2011  
End date: 2013

## Publications

**Total Impact Factor: 56.85**

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

- Vicenta EV; Antonio MM; Esther DG; MARÍA GA; Teresa BM; MARÍA SS. *Impact of the implementation of a therapeutic equivalence program.* ATENCIÓN FARMACÉUTICA. 2012; 14(3) 210-212. IF: 0.125. Quartile: 4.

- Gras R; Reloso M; Garcia MI; de la Mata FJ; Gomez R; Lopez-Fernandez LA; Munoz-Fernandez MA. *The inhibition of Th17 immune response in vitro and in vivo by the carbosilane dendrimer 2G-NN16.* BIOMATERIALS. 2012; 33(15) 4002-4009. IF: 7.604. Quartile: 1.
- Cortejoso L; Lopez-Fernandez LA. *Pharmacogenetic markers of toxicity for chemotherapy in colorectal cancer patients.* PHARMACOGENOMICS. 2012; 13(10) 1173-1191. IF: 3.857. Quartile: 1.
- Agudelo SC; Mencia S; Faro A; Escudero V; Sanavia E; Lopez-Herce J. *Continuous propofol perfusion in critically ill children.* MEDICINA INTENSIVA. 2012; 36(6) 410-415. IF: 1.323. Quartile: 4.
- Fernandez-Llamazares CM; Calleja-Hernandez MA; Manrique-Rodriguez S; Perez-Sanz C; Duran-Garcia E; Sanjurjo-Saez M. *Prescribing errors intercep-ted by clinical pharmacists in paediatrics and obstetrics in a tertiary hospital in Spain.* EUROPEAN JOURNAL OF CLINICAL PHARMACOLOGY. 2012; 68(9) 1339-1345. IF: 2.741. Quartile: 2.
- Almudena RS; Alvaro GM; Iratxe MA; Ines YG; Raquel GS; MARÍA SS. *Safety of drugs with latex: electronic prescription alerts.* ATENCIÓN FARMACÉUTICA. 2012; 14(5) 337-342. IF: 0.125. Quartile: 4.
- Bodega G; Suarez I; Lopez-Fernandez LA; Garcia MI; Kober M; Penedo M; Luna M; Juarez S; Ciordia S; Oria M; Cordoba J; Fernandez B. *Ammonia induces aquaporin-4 rearrangement in the plasma membrane of cultured astrocytes.* NEUROCHEMISTRY INTERNATIONAL. 2012; 61(8) 1314-1324. IF: 2.659. Quartile: 3.
- Chicharro ND; Jimenez RMR; Zanuy MAV; Munoz PG; de Tejada AH. *Evaluation of drug administration through enteral feeding tubes in hospitalized patients.* NUTRICIÓN HOSPITALARIA. 2012; 27(3) 879-888. IF: 1.305. Quartile: 3.
- Munoz PG; Lozano GB; Morancos JB; Fernandez-Llamazares CM; Alonso CRP. *Profile of parenteral nutrition prescription in very low birth weight infants; period 2006 to 2010.* NUTRICIÓN HOSPITALARIA. 2012; 27(6) 1945-1951. IF: 1.305. Quartile: 3.

- Gras R; Garcia MI; Gomez R; de la Mata FJ; Munoz-Fernandez MA; Lopez-Fernandez LA. *Carbosilane Dendrimer 2G-NN16 Represses Tc17 Differentiation in Primary T CD8+ Lymphocytes*. MOLECULAR PHARMACEUTICS. 2012; 9(1) 102-110. IF: 4.57. Quartile: 1.
- Lucia C; Silvia MR; Cecilia MFL; Sanjurjo-Saez M. *Treatment and Prophylaxis of Catheter-Related Thromboembolic Events in Children*. JOURNAL OF PHARMACY AND PHARMACEUTICAL SCIENCES. 2012; 15(5) 632-641. IF: 2.198. Quartile: 2.
- Fernandez-Llamazares CM; Calleja-Hernandez MA; Manrique-Rodriguez S; Perez-Sanz C; Duran-Garcia E; Sanjurjo-Saez M. *Impact of clinical pharmacist interventions in reducing paediatric prescribing errors*. ARCHIVES OF DISEASE IN CHILDHOOD. 2012; 97(6) 564-568. IF: 3.051. Quartile: 1.
- Fernandez-Llamazares CM; Manrique-Rodriguez S; Perez-Sanz C; Duran-Garcia ME; Sanjurjo-Saez M; Calleja-Hernandez MA. *Validation of a method for recording pharmaceutical interventions*. JOURNAL OF CLINICAL PHARMACY AND THERAPEUTICS. 2012; 37(4) 459-463. IF: 2.104. Quartile: 3.
- Rodriguez-Gonzalez CG; Herranz-Alonso A; Martin-Barbero ML; Duran-Garcia E; Durango-Limarquez MI; Hernandez-Sampelayo P; Sanjurjo-Saez M. *Prevalence of medication administration errors in two medical units with automated prescription and dispensing*. JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION. 2012; 19(1) 72-78. IF: 3.571. Quartile: 1.
- Lopez-Casas PP; Mizrak SC; Lopez-Fernandez LA; Paz M; de Rooij DG; del Mazo J. *The effects of different endocrine disruptors defining compound-specific alterations of gene expression profiles in the developing testis*. REPRODUCTIVE TOXICOLOGY. 2012; 33(1) 106-115. IF: 3.141. Quartile: 2.
- Zoni AC; Garcia MED; Munoz ABJ; Perez RS; Martin P; Alonso AH. *The impact of medication reconciliation program at admission in an internal medicine department*. EUROPEAN JOURNAL OF INTERNAL MEDICINE. 2012; 23(8) 696-700. IF: 2.049. Quartile: 2.
- Vilaplana VE; Aragones JH; Fernandez-Llamazares CM; Bieler CB; Rodriguez SM; Saez S. *Use of Romiplostim for Primary Immune Thrombocytopenia in Children*. PEDIATRIC HEMATOLOGY AND ONCOLOGY. 2012; 29(2) 197-205. IF: 0.895. Quartile: 3.
- Escudero-Vilaplana V; Ramirez-Herraiz E; Trovato-Lopez N; Alanon-Plaza E; Bellini MJ; Herranz-Alonso A; Bellon-Cano JM; Morell-Baladron A; Sanjurjo-Saez M. *Influence on Effectiveness of Early Treatment with Anti-TNF Therapy in Rheumatoid Arthritis*. JOURNAL OF PHARMACY AND PHARMACEUTICAL SCIENCES. 2012; 15(3) 355-360. IF: 2.198. Quartile: 2.
- Manrique-Rodriguez S; Sanchez-Galindo A; Fernandez-Llamazares CM; Lopez-Herce J; Echarri-Martinez L; Escudero-Vilaplana V; Sanjuro-Saez M; Carrillo-Alvarez A. *Smart pump alerts: All that glitters is not gold*. INTERNATIONAL JOURNAL OF MEDICAL INFORMATICS. 2012; 81(5) 344-350. IF: 2.061. Quartile: 1.
- Ines YG; Monica FM; Esther DG; Belen MA; Alvaro GM; MARÍA SS. *FERRIC CARBOXYMALTOSE: EFFICACY AND SAFETY*. ATENCION FARMACEUTICA. 2012; 14(4) 251-261. IF: 0.125. Quartile: 4.
- Chonco L; Pion M; Vacas E; Rasines B; Maly M; Serramia MJ; Lopez-Fernandez L; De la Mata J; Alvarez S; Gomez R; Munoz-Fernandez MA. *Carbosilane dendrimer nanotechnology outlines of the broad HIV blocker profile*. JOURNAL OF CONTROLLED RELEASE. 2012; 161(3) 949-958. IF: 7.633. Quartile: 1.
- Manrique-Rodriguez S; Sanchez-Galindo A; Fernandez-Llamazares CM; Lopez-Herce J; Garcia-Lopez I; Carrillo-Alvarez A; Sanjuro-Saez M. *Developing a drug library for smart pumps in a pediatric intensive care unit*. ARTIFICIAL INTELLIGENCE IN MEDICINE. 2012; 54(3) 155-161. IF: 1.355. Quartile: 2.
- Duran-Garcia E; Fernandez-Llamazares C; Calleja-Hernandez MA. *Medication reconciliation: passing phase or real need*. INTERNATIONAL JOURNAL OF CLINICAL PHARMACY. 2012; 34(6) 797-802. IF: 0.859. Quartile: 4.



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

- Echarri-Martinez L; Fernandez-Llamazares CM; Manrique-Rodriguez S; Garcia-Lopez I; Lopez-Herce J; Sanjurjo-Saez M. *Pharmaceutical care in paediatric intensive care unit: activities and interdisciplinary learning in a Spanish hospital.* EUROPEAN JOURNAL OF HOSPITAL PHARMACY-SCIENCE AND PRACTICE. 2012; 19(4) 416-422.
- Parente A; Angulo JM; Rivas S; Romero RM; Corona C; Tardaguila A. *Percutaneous endopyelotomy with electrocautery: modified techniques in the treatment of ureteropelvic junction obstruction in a child under 2 years.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(9) 837-840. Urología Infantil.

*Publications in journals not indexed in the Journal Citation Reports:*

- Manrique-Rodriguez S; Sánchez-Galindo A; Mora-García T; Fernández-Llamazares CM; Echarri-Martínez L, López-Herce J, Rodríguez-Gómez M, Bellón-Cano JM, Sanjuro-Sáez. *Development of a compatibility chart for intravenous Y-site drug administration in a pediatric intensive care unit.* Infus Nurs. 2012; 35(2):109-14.

## Patents and intellectual property

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

	Number of Documents	IF
Own publications	16	31.88
Joint publications	7	24.97
First-decile publications	4	21.85
First-quartile publications	7	32.35
Second-quartile publications	6	13.68
Third-quartile publications	5	8.26
Fourth-quartile publications	5	2.55
Nonindexed publications	3	-
Total publications	26	56.85

# Clinical nutrition

Group director: Pilar García Peris

Group type: EMERGING

## Research programs and lines

- ✓ L1: Nutritional status of patients with peritoneal carcinomatosis undergoing cytoreductive surgery with hyperthermic intraperitoneal chemotherapy.
- ✓ L2: Nutritional intervention protocol with an enteral product formulated with partially hydrolyzed guar gum.
- ✓ L3: Quality of life in patients receiving home enteral nutrition.
- ✓ L4: Evaluation of nutritional status and micronutrients in patients receiving treatment with oral antineoplastic agents.
- ✓ L5: Diagnostic-therapeutic protocol for eosinophilic esophagitis.
- ✓ L6: Evaluation of cardiovascular risk according to the UKPDS table in diabetic smokers and diabetic nonsmokers.
- ✓ L7: Prospective study of catheter-related thrombosis.
- ✓ L8: Quality of care in home parenteral nutrition.
- ✓ L9: Evaluation of nutritional status in patients with advanced chronic liver disease.
- ✓ L10: Outcome of a series of HGUGM patients receiving home parenteral nutrition.
- ✓ L11: Nutrition and autism.
- ✓ L12: Evaluation of nutritional status in patients with renal insufficiency undergoing hemodialysis.



## Group members (researchers and support staff)

- Irene Bretón Lesmes: Predoctoral
- Miguel Cambor Álvarez: Predoctoral
- María Cristina de la Cuerda Compés: Postdoctoral
- Laura Frías Soriano: Predoctoral
- Pilar García Peris: Group Director
- Cristina Velasco Gimeno: Predoctoral

**Publications****Total Impact Factor: 10.85**

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

- Frias L; Puiggros C; Calanas A; Cuerda C; Garcia-Luna PP; Camarero E; Rabassa-Soler A; Irles JA; Martinez-Olmos MA; Romero A; Wanden-Berghe C; Laborda L; Vidal A; Gomez-Candela C; Penacho MA; de la Cruz AP; Lecha M; Luengo LM; Suarez P; De Luis D; Garcia. *Home enteral nutrition in Spain; nadya registry in 2010.* NUTRICIÓN HOSPITALARIA. 2012; 27(1) 266-269. IF: 1.305. Quartile: 3.
- Cancer E; Abiles V; Abiles J; Olmos MAM; Breton I; Pelaez N; Alvarez V; Culebras JM; Mazures RA. *Minimally invasive emergent techniques in obesity treatment.* NUTRICIÓN HOSPITALARIA. 2012; 27(4) 1025-1030. IF: 1.305. Quartile: 3.
- Palmeiro R; Arosa V; Cuerda C; Breton I; Cambor M; Rodriguez MC; Peris PG. *Persistent chylothorax in patient with lymphangioleiomyomatosis.* NUTRICIÓN HOSPITALARIA. 2012; 27(3) 940-942. IF: 1.305. Quartile: 3.
- Puiggros C; Cuerda C; Virgili N; Chicharro ML; Martinez C; Garde C; de Luis D. *Catheter occlusion and venous thrombosis prevention and incidence in adult Home Parenteral Nutrition (HPN) programme patients.* NUTRICIÓN HOSPITALARIA. 2012; 27(1) 256-261. IF: 1.305. Quartile: 3.
- Garcia-Peris P; Velasco C; Lozano MA; Moreno Y; Paron L; de la Cuerda C; Breton I; Cambor M; Garcia-Hernandez J; Guarner F; Hernandez M. *Effect of a mixture of inulin and fructo-oligosaccharide on lactobacillus and bifidobacterium intestinal microbiota of patients receiving radiotherapy; a randomised, double-blind, placebo-controlled trial.* NUTRICIÓN HOSPITALARIA. 2012; 27(6) 1908-1915. IF: 1.305. Quartile: 3.

- Abiles V; Olmos MAM; Escarti MA; Breton I; Cancer E; Pelaez N; Alvarez V; Culebras JM; Mazure RA. *Informed consent in the intragastric balloon supported by senpe seedo sen and seco; legal aspects.* NUTRICIÓN HOSPITALARIA. 2012; 27(2) 419-424. IF: 1.305. Quartile: 3.

- Guembe M; Perez-Parra A; Gomez E; Sanchez-Luna M; Bustinza A; Zamora E; Carrillo-Alvarez A; Cuenca A; Padilla B; Martin-Rabadan P. *Impact on knowledge and practice of an intervention to control catheter infection in the ICU.* EUROPEAN JOURNAL OF CLINICAL MICROBIOLOGY & INFECTIOUS DISEASES. 2012; 31(10) 2799-2808. IF: 3.024. Quartile: 2.

*Publications in journals not indexed in the Journal Citation Reports:*

- Lecube A; Burguera B; Rubio MÁ; en nombre del Grupo de Trabajo de Obesidad de la Sociedad Española de Endocrinología y Nutrición (GOSEEN). *Breaking therapeutic inertia: should metabolic surgery be considered one more option for the treatment of type 2 diabetes mellitus.* Endocrinol Nutr. 2012; 59(5) 281-3.

	Number of Documents	IF
Own publications	2	2.61
Joint publications	5	8.24
First-decile publications	0	0
First-quartile publications	0	0.00
Second-quartile publications	1	3.02
Third-quartile publications	6	7.83
Fourth-quartile publications	0	0
Nonindexed publications	1	-
Total publications	8	10.85

# Peritransplant evaluation of the liver

Group director: José María Pérez Peña

Group 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. Furthermore, they form part of the liver transplant anesthesia group and develop various research lines in this field and in major liver surgery through close collaboration with the Hepatology and Surgery Departments.

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; methods for the early diagnosis of early graft dysfunction in liver transplant; and, finally, the role of anesthetic agents in major liver surgery and liver transplant.



## Group members (researchers and support staff)

- Roberto de Diego Fernández: Predoctoral
- Miriam Herrero Traver
- Consolación Jiménez de la Fuente: Postdoctoral
- Juan Laso Pérez: Predoctoral
- Cristina Julia Lisbona Sáez: Predoctoral
- Luis Enrique Olmedilla Arnal: Postdoctoral
- José María Pérez Peña: Group Director
- Manuel Luis Tisner Madrid: Predoctoral

# Perianesthetic evaluation

Group director: Carmen Fernández Riveira

Group type: ASSOCIATED CLINICAL

## Research lines

- ✓ L1: Perianesthetic evaluation.

## Group members (researchers and support staff)

- **Teresa del Castillo:** Predoctoral
- **Susana Díaz Ruano:** Predoctoral
- **Alejandro Fernández Fernández:** Predoctoral
- **Carmen Fernández Riveira:** Group Director
- **M<sup>a</sup> José Membrillo Rubalcaba:** Predoctoral
- **M<sup>a</sup> 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
- **M<sup>a</sup> Teresa Torre Oñate:** Predoctoral
- **Jesús Alberto Varela Cabo:** Predoctoral



**Publications****Total Impact Factor: 4.21**

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

- De La Torre I; Leandro MJ; Valor L; Becerra E; Edwards JCW; Cambridge G. *Total serum immunoglobulin levels in patients with RA after multiple B-cell depletion cycles based on rituximab: relationship with B-cell kinetics.* RHEUMATOLOGY. 2012; 51(5) 833-840. IF: 4.212. Quartile: 1.

	Number of Documents	IF
Own publications	0	0.00
Joint publications	1	4.21
First-decile publications	0	0
First-quartile publications	1	4.21
Second-quartile publications	0	0
Third-quartile publications	0	0
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	1	4.21

# Pediatric endocrinology

Group director: María Dolores Rodríguez Arnao

Group type: ASSOCIATED CLINICAL

## Research lines

- ✓ L1: Pediatric endocrinology. Hypothyroidism.
- ✓ L2: Gene therapy: polymorphisms and mutations.
- ✓ L3: Hormone therapy.

## Group members (researchers and support staff)

- **Virginia Montero García:** Predoctoral
- **Isabel Morillas Cantero:** Predoctoral
- **María Dolores Rodríguez Arnao:** Group Director
- **Amparo Rodríguez Sánchez:** Predoctoral
- **Belén Roldán:** Predoctoral



## Research Projects - Competitive Calls

- Principal investigators: HF Escobar Morreale and B Roldán Martín  
Title: "Influencia de los andrógenos en el desarrollo de la adiposidad abdominal y de la disfunción metabólica del tejido adiposo visceral en humanos, como factores etiopatogénicos de la resistencia insulínica y la diabetes. (PI 080944)".  
Funding body: Instituto de Salud Carlos III, Ministerio de Ciencia e Innovación (CIBER)  
Start date: 2008  
End date: 2013

- Principal investigator: JC Moreno  
Associated investigators: Rodríguez Arnao MD, Rodríguez Sánchez MD and Dulín Íñiguez Elena  
Title: "Prevalencia poblacional y caracterización fenotípica de los defectos de dehalogenasa tiroidea: estudio mutacional y funcional del gen DEHAL 1 en niños con hipotiroidismo o hipertirotropinemia congénitos".  
Funding body: INGEMM. Instituto de Genética Médica y Molecular. CIBER en Enfermedades Raras  
Start date: 2010  
End date: 2012

# Regeneration and biomaterials in musculoskeletal disease

Group director: Francisco Javier Vaquero Martín

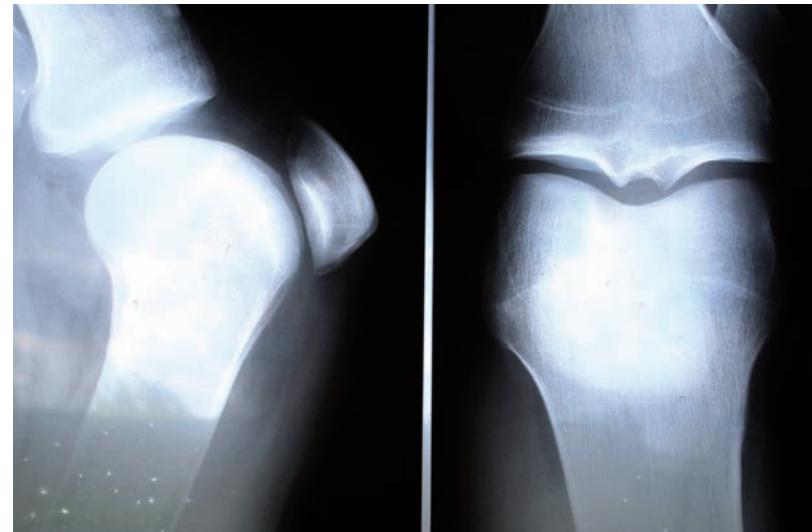
Group type: ASSOCIATED CLINICAL

## Research programs

- ✓ P1: Biomaterials in orthopedic surgery.
- ✓ P2: Stromal stem cells in the locomotor apparatus.
- ✓ P3: Biomarkers in inflammation/arthrosis.

## Group members (researchers and support staff)

- Francisco Chana Rodríguez: Postdoctoral
- Francisco Forriol Campos: Postdoctoral
- Rafael Laguna Aranda: Predoctoral
- José Antonio Matas
- Francisco Javier Narbona Cárcel: Predoctoral
- Ángel Oteo Álvaro
- José Manuel Rojo Manaute: Predoctoral
- Miguel San Martín Ruiz: Predoctoral
- Pablo Sanz Ruiz: Postdoctoral
- Francisco Javier Vaquero Martín: Group Director
- Manuel Villanueva Martínez: Postdoctoral



## Research Projects - Competitive Calls

- Principal investigator: Pablo Sanz Ruiz  
Title: "Proyecto experimental de la influencia de distintos antibióticos en las características, mecánicas, biológicas y microbiológicas del cemento biológico".  
Funding body: F. Mapfre Medicina  
Start date: 2011  
End date: 2012

## Theses

Doctoral student	Title	Director	University
Diego Jesús García Rodríguez	Efectos de la utilización de membrana amniótica en fresco en la regeneración condral en ovejas	Javier Vaquero Martín; Francisco Forriol Campos	Universidad Complutense de Madrid

## Publications

**Total Impact Factor: 14.69**

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

- Vaquero J; Forriol F. *Knee chondral injuries: Clinical treatment strategies and experimental models.* INJURY-INTERNATIONAL JOURNAL OF THE CARE OF THE INJURED. 2012; 43(6) 694-705. IF: 1.931. Quartile: 1.

- Rojo-Manaute JM; Capa-Grasa A; Del Cerro-Gutierrez M; Martinez MV; Chana-Rodriguez F; Martin JV. *Sonographically Guided Intrasheath Percutaneous Release of the First Annular Pulley for Trigger Digits, Part 2 Randomized Comparative Study of the Economic Impact of 3 Surgical Models.* JOURNAL OF ULTRASOUND IN MEDICINE. 2012; 31(3) 427-438. IF: 1.402. Quartile: 2.
- Marin M; Garcia-Lechuz JM; Alonso P; Villanueva M; Alcala L; Gimeno M; Cercenado E; Sanchez-Somolinos M; Radice C; Bouza E. *Role of Universal 16S rRNA Gene PCR and Sequencing in Diagnosis of Prosthetic Joint Infection.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(3) 583-589. IF: 4.068. Quartile: 1.
- Villanueva-Martinez M; Hernandez-Barrera V; Chana-Rodriguez F; Rojo-Manaute J; Rios-Luna A; Montero JSR; Gil-de-Miguel A; Jimenez-Garcia R. *Trends in incidence and outcomes of revision total hip arthroplasty in Spain: A population based study.* BMC MUSCULOSKELETAL DISORDERS. 2012; 13. IF: 1.875. Quartile: 2.
- Capa-Grasa A; Rojo-Manaute JM; Rodriguez-Maruri G; Sanchez-Heredero JD; Smith J; Martin JV. *Selective 360 degrees Percutaneous Extensor Carpi Radialis Brevis Tendon Release for Tennis Elbow An Experimental Study.* JOURNAL OF ULTRASOUND IN MEDICINE. 2012; 31(8) 1193-1201. IF: 1.402. Quartile: 2.
- Rojo-Manaute JM; Rodriguez-Maruri G; Capa-Grasa A; Chana-Rodriguez F; Soto MD; Martin JV. *Sonographically Guided Intrasheath Percutaneous Release of the First Annular Pulley for Trigger Digits, Part 1 Clinical Efficacy and Safety.* JOURNAL OF ULTRASOUND IN MEDICINE. 2012; 31(3) 417-424. IF: 1.402. Quartile: 2.
- Pergolizzi J; Alegre C; Blake D; Alen JC; Caporali R; Casser HR; Correa-Illanes G; Fernandes P; Galilea E; Jany R; Jones A; Mejjad O; Morovic-Vergles J; Alvaro AO; Araya FJR; Simoes MEC; Uomo G. *Current Considerations for the Treatment of Severe Chronic Pain: The Potential for Tapentadol.* PAIN PRACTICE. 2012; 12(4) 290-306. IF: 2.605. Quartile: 2.



	Number of Documents	IF
Own publications	4	6.08
Joint publications	3	8.60
First-decile publications	0	0
First-quartile publications	2	6.00
Second-quartile publications	5	8.68
Third-quartile publications	0	0
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	7	14.69

# Iron metabolism disorders

Group director: Alejandro del Castillo Rueda

Group type: ASSOCIATED CLINICAL

## Research lines

- ✓ 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 (researchers and support staff)

- **Alejandro del Castillo Rueda:** Group Director
- **Nadiya Matskiv:** Predoctoral
- **María Josefa Morán Jiménez:** Postdoctoral
- **Miguel Ángel Sánchez Pablo:** Predoctoral



**Publications****Total Impact Factor: 17.83**

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

- Qiao B; Sugianto P; Fung E; del-Castillo-Rueda A; Moran-Jimenez MJ; Ganz T; Nemeth E. *Hepcidin-Induced Endocytosis of Ferroportin Is Dependent on Ferroportin Ubiquitination.* CELL METABOLISM. 2012; 15(6) 918-924. IF: 14.619. Quartile: 1.
- Sanchez-Pablo MA; Gonzalez-Garcia V; del Castillo-Rueda A. *Study of total stimulated saliva flow and hyperpigmentation in the oral mucosa of patients diagnosed with hereditary hemochromatosis. Series of 25 cases.* MEDICINA ORAL PATOLOGÍA ORAL Y CIRUGÍA BUCAL. 2012; 17(1) E45-E49. IF: 1.017. Quartile: 3.
- del-Castillo-Rueda A; Moreno-Carralero MI; Cuadrado-Grande N; Alvarez-Sala-Walther LA; Enriquez-de-Salamanca R; Mendez M; Moran-Jimenez MJ. *Mutations in the HFE, TFR2, and SLC40A1 genes in patients with hemochromatosis.* GENE. 2012; 508(1) 15-20. IF: 2.196. Quartile: 3.

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

- Fernandez-Herranz J; de Miguel-Diez J; del Castillo-Rueda A; Bellon-Cano JM; Jimenez-Garcia R; Alvarez-Sala-Walther LA. *Influence of systemic corticosteroid administration in the prognosis of patients with community-acquired pneumonia.* REVISTA CLÍNICA ESPAÑOLA. 2012; 212(7) 337-343.

	Number of Documents	IF
Own publications	2	3.21
Joint publications	1	14.62
First-decile publications	1	14.619
First-quartile publications	1	14.62
Second-quartile publications	0	0
Third-quartile publications	2	3.213
Fourth-quartile publications	0	0
Nonindexed publications	1	-
Total publications	4	17.83

# Emergency medicine

Group director: Javier Muñoz González

Group type: ASSOCIATED CLINICAL

## Research lines

- ✓ L1: Pathogenic mechanisms in the critical patient.

## Group members (researchers and support staff)

- Braulio de la Calle Reviriego: Predoctoral
- Pablo García Olivares: Predoctoral
- José Eugenio Guerrero Sanz: Postdoctoral
- Javier Muñoz González: Group Director
- Patricia Santa Teresa Zamarro: Predoctoral
- Juan Carlos Sotillo Díaz: Predoctoral
- María Jesús Tomey Soria: Predoctoral



**Publications****Total Impact Factor: 5.40**

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

- Díaz E; Martín-Loeches I; Canadell L; Vidaur L; Suárez D; Socías L; Estella A; Rueda BG; Guerrero JE; Valverdu-Vidal M; Vergara JC; López-Pueyo MJ; Magret M; Recio T; Lopez D; Rello J; Rodriguez A. *Corticosteroid therapy in patients with primary viral pneumonia due to pandemic (H1N1) 2009 influenza.* JOURNAL OF INFECTION. 2012; 64(3) 311-318. IF: 4.073. Quartile: 1.
- Bonastre J; Suberviela B; Pozo JC; Guerrero JE; Torres A; Rodriguez A; Martín-Loeches I. *Extracorporeal lung support in patients with severe respiratory failure secondary to the 2010-2011 winter seasonal outbreak of influenza A (H1N1) in Spain.* MEDICINA INTENSIVA. 2012; 36(3) 193-199. IF: 1.323. Quartile: 4.

	Number of Documents	IF
Own publications	0	0.00
Joint publications	2	5.40
First-decile publications	0	0
First-quartile publications	1	4.07
Second-quartile publications	0	0
Third-quartile publications	0	0
Fourth-quartile publications	1	1.32
Nonindexed publications	0	-
Total publications	2	5.40

# Pathophysiology, course, and therapeutic strategies in chronic respiratory insufficiency and respiratory sleep disorders

Group director: Pilar de Lucas Ramos

Group type: ASSOCIATED CLINICAL

## Research programs and lines

### P1: COPD: natural history and comorbidity

- ✓ L1: Study of multidimensional progression 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 (researchers and support staff)

- M<sup>a</sup> Pilar De Lucas Ramos: Group Director
- Soledad López Martín: Predoctoral
- José Miguel Rodríguez González-Moro: Postdoctoral



## PATOPHYSIOLOGY, COURSE, AND THERAPEUTIC STRATEGIES IN CHRONIC RESPIRATORY INSUFFICIENCY AND RESPIRATORY SLEEP DISORDERS

### Publications

Total Impact Factor: 11.34

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

- Yanez AM; Guerrero D; de Alejo RP; Garcia-Rio F; Alvarez-Sala JL; Calle-Rubio M; de Molina RM; Falcones MV; Usetti P; Sauleda J; Garcia EZ; Rodriguez-Gonzalez-Moro JM; Gay MF; Torrent M; Agusti A. *Monitoring Breathing Rate at Home Allows Early Identification of COPD Exacerbations*. CHEST. 2012; 142(6) 1524-1529. IF: 5.854. Quartile: 1.
- Soler-Cataluna JJ; Cosio B; Izquierdo JL; Lopez-Campos JL; Marin JM; Aguero R; Baloira A; Carrizo S; Esteban C; Galdiz JB; Gonzalez MC; Miravitles M; Monso E; Montemayor T; Morera J; Ortega F; Peces-Barba G; Puente L; Rodriguez JM; Sala E; Sauleda. *Consensus Document on the Overlap Phenotype COPD-Asthma in COPD*. ARCHIVOS DE BRONCONEUMOLOGÍA. 2012; 48(9) 331-337. IF: 1.372. Quartile: 4.
- Lopez-Campos JL; Peces-Barba G; Soler-Cataluna JJ; Soriano JB; Ramos PD; de-Torres JP; Marin JM; Casanova C. *Chronic Obstructive Pulmonary Disease History Assessment in Spain: A Multidimensional Chronic Obstructive Pulmonary Disease Evaluation. Study Methods and Organization*. ARCHIVOS DE BRONCONEUMOLOGÍA. 2012; 48(12) 453-459. IF: 1.372. Quartile: 4.
- Alonso JLI; Glez-Moro JMR. *The Excessive Use of Inhaled Corticosteroids in Chronic Obstructive Pulmonary Disease*. ARCHIVOS DE BRONCONEUMOLOGÍA. 2012; 48(6) 207-212. IF: 1.372. Quartile: 4.

- Alonso JLI; Ramos PD; Glez-Moro JMR. *The Use of the Lower Limit of Normal as a Criterion for COPD Excludes Patients With Increased Morbidity and High Consumption of Health-Care Resources*. ARCHIVOS DE BRONCONEUMOLOGÍA. 2012; 48(7) 223-228. IF: 1.372. Quartile: 4.

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

- de Lucas-Ramos P; Izquierdo-Alonso JL; Moro JMRG; Frances JF; Lozano PV; Bellon-Cano JM. *Chronic obstructive pulmonary disease as a cardiovascular risk factor. Results of a case-control study (CONSISTE study)*. INTERNATIONAL JOURNAL OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE. 2012; 7: 679-686.

	Number of Documents	IF
Own publications	2	2.74
Joint publications	3	8.60
First-decile publications	1	5.85
First-quartile publications	1	5.85
Second-quartile publications	0	0
Third-quartile publications	0	0
Fourth-quartile publications	4	5.48
Nonindexed publications	1	-
Total publications	6	11.34

# Anesthesia, toxins, and arrhythmias

Group director: Matilde Zaballos García

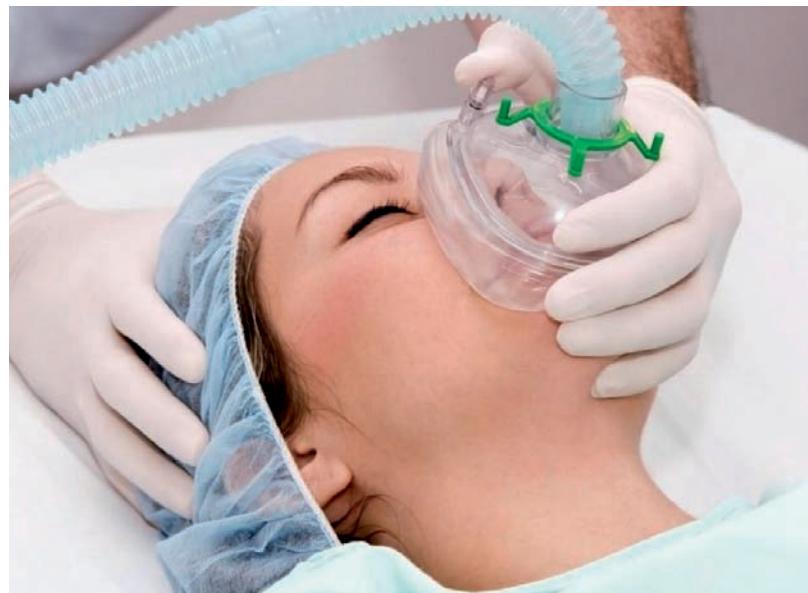
Group type: ASSOCIATED CLINICAL

## Research lines

- ✓ L1: Anesthetic agents and cardiac electrophysiology.

## Group members (researchers and support staff)

- Jesús Almendral Garrote: Principal Investigator
- 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: Group Director





## Research Projects - Competitive Calls

- Principal investigator: Jesús Almendral Garrote  
Title: "Molecular, cellular and pathophysiological mechanisms of human atrial fibrillation".  
Funding body: Centro Nacional de Investigaciones Cardiovasculares  
Start date: 2007  
End date: 2012
- Principal investigator: Matilde Zaballos García  
Title: "Estudio prospectivo, randomizado, doble ciego, monocéntrico, para estudiar la CP50 de propofol asociada o no a remifentanilo necesaria para la inserción de la ML-supreme".  
Funding body: Ministry of Health, Social Services and Equality  
Start date: 2012  
End date: 2013
- Principal investigator: Matilde Zaballos García  
Title: "Estudio de la eficacia del tratamiento con bicarbonato sódico versus intralipid en un modelo experimental porcino de toxicidad cardíaca inducida por bupivacaina. Comparación en los efectos electrofisiológicos y en la inducibilidad de arritmias ventriculares".  
Funding body: Instituto de Salud Carlos III  
Start date: 2012  
End date: 2014

## Publications

**Total Impact Factor: 10.22**

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

- Calvo D; Atienza F; Jalife J; Martinez-Alzamora N; Bravo L; Almendral J; Gonzalez-Torrecilla E; Arenal A; Bermejo J. *High-rate pacing-induced atrial fibrillation effectively reveals properties of spontaneously occurring paroxysmal atrial fibrillation in humans.* EUROPACE. 2012; 14(11) 1560-1566. IF: 2.765. Quartile: 2.

- Almendral J; Atienza F; Everss E; Castilla L; Gonzalez-Torrecilla E; Ormaetxe J; Arenal A; Ortiz M; Sanroman-Junquera M; Mora-Jimenez I; Bellon JM; Rojo JL. *Implantable Defibrillator Electrograms and Origin of Left Ventricular Impulses: An Analysis of Regionalization Ability and Visual Spatial Resolution.* JOURNAL OF CARDIOVASCULAR ELECTROPHYSIOLOGY. 2012; 23(5) 506-514. IF: 3.475. Quartile: 2.
- Lopez-Alvarez S; Mayo-Moldes M; Zaballos M; Iglesias BG; Blanco-Davilla R. *Esmolol versus ketamine-remifentanil combination for early postoperative analgesia after laparoscopic cholecystectomy: a randomized controlled trial.* CANADIAN JOURNAL OF ANESTHESIA-JOURNAL CANADIEN D'ANESTHÉSIE. 2012; 59(5) 442-448. IF: 2.127. Quartile: 3.
- Sanroman-Junquera M; Mora-Jimenez I; Caamano AJ; Almendral J; Atienza F; Castilla L; Garcia-Alberola A; Rojo-Alvarez JL. *Digital recovery of biomedical signals from binary images.* SIGNAL PROCESSING. 2012; 92(1) 43-53. IF: 1.851. Quartile: 1.

	Number of Documents	IF
Own publications	1	3.48
Joint publications	3	6.74
First-decile publications	0	0
First-quartile publications	1	1.85
Second-quartile publications	2	6.24
Third-quartile publications	1	2.12
Fourth-quartile publications	0	0
Nonindexed publications	0	-
Total publications	4	10.22

# NURSING GROUP

*Area coordinator:*  
**Ana M.<sup>a</sup> García Pozo**



# Research in nursing

Group director: Ana M.<sup>a</sup> García Pozo

## Research lines

- ✓ L1: Evidence-based nursing care: implementation and evaluation of results in clinical practice and patient quality of life.
- ✓ L2: Advanced role in clinical care.

Research on the care provided by the nursing group is beginning to produce a large number of major research projects that are mainly collaborative. Some of these projects are funded with 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.

The group's 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 an important certified research training plan for nurses and nursing trainees. It also runs a large number of activities to promote research, such as one-day courses, prizes for research, and access to documentary and research resources.

## Group members (researchers and support staff)

- **Sara Alcón Nájera:** Predoctoral
- **Mónica Blanco Daza:** Predoctoral
- **Elena Calderari Fernández:** Predoctoral
- **Laura Collados Gómez:** Predoctoral
- **Alejandra Cuenca Yunta:** Predoctoral
- **María Dolores de la Torre Barba:** 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
- **Paloma Ángela Hernández-Sampelayo Matos:** Predoctoral
- **Carmen Lobo Rodríguez:** Predoctoral
- **Raquel López Sánchez:** Predoctoral
- **Milagros Martín Fernández:** Predoctoral
- **Teresa Martínez Castellanos:** Predoctoral
- **Margarita Medina Torres:** Predoctoral
- **María Cruz Menárguez Palanca:** Predoctoral
- **Piedad Morales Lozano:** Predoctoral
- **María Nieves Moro Tejedor:** Predoctoral
- **Cristina Pascual Fernández:** Postdoctoral

## Group members (researchers and support staff)

- María de las Mercedes Peña Granger: Predoctoral
- David Peña Otero: Predoctoral
- Cristina Rincón Sanz: Predoctoral
- María Almudena Santano Magariño: Predoctoral
- María Consuelo Soto Lucía: Predoctoral
- M<sup>a</sup> José Toraño Olivera: Predoctoral
- Fernando Trujillo Gallego: Predoctoral
- Paz Vaquero Lozano: Predoctoral





## Research Projects - Competitive Calls

- Principal investigator: Ana María García Pozo  
Title: "Programa educativo multicéntrico para pacientes con enfermedad pulmonar obstructiva crónica (EPOC): aprender a respirar".  
Funding body: MSPS  
Start date: 2012  
End date: 2012
- Principal investigator: Ana María García Pozo  
Title: "Fondos de Cohesión 2011".  
Funding body: MSPS  
Start date: 2012  
End date: 2012
- Principal investigator: Luis Guerra Sánchez  
Title: "Impacto en la calidad de vida en los pacientes con insuficiencia cardíaca de una intervención enfermera de mejora nutricional".  
Funding body: ISCIII  
Start date: 2012  
End date: 2014
- Principal investigator: Ana María García Pozo  
Title: "Estudio de la relación de la autopercepción profesional de las enfermeras de la Comunidad de Madrid con los resultados de indicadores de calidad de cuidados".  
Funding body: ISCIII  
Start date: 2013  
End date: 2015
- Principal investigator: Laura Collados Gómez  
Title: "Eficacia de leche materna extraída oral o sacarosa oral para la analgesia en neonatos pretérmino sometidos a venopunción".  
Funding body: ISCIII  
Start date: 2013  
End date: 2015

## Multicenter Projects:

- Principal investigator: P. García Molina  
Collaborating investigators: Tierraseca Serrano, E; Massip Pi, S.  
Title: "Validación de una escala de valoración del riesgo de úlceras por presión en neonatos hospitalizados".  
Funding body: Conselleria de Sanitat y Agència Valenciana de Salut  
Start date: 2011  
End date: 2013
- Collaborating investigator: A. Santano Magariño  
Title: "Estudio Internacional observacional para la caracterización de adultos con Gripe A pandémica H1N1 (H1N1v). Estudio de pacientes ambulatorios de INSIGHT H1N1 (FLU003)".  
Funding body: National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), llevado a cabo por la International Network for Strategic Initiatives in Global HIV Trials (INSIGHT)  
Start date: 2009  
End date: Not confirmed

## Publications

**Total Impact Factor: 6.60**

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

- Rodriguez-Gonzalez CG; Herranz-Alonso A; Martin-Barbero ML; Duran-Garcia E; Durango-Limarquez MI; Hernandez-Sampelayo P; Sanjurjo-Saez M. *Prevalence of medication administration errors in two medical units with automated prescription and dispensing.* JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION. 2012; 19(1) 72-78. IF: 3.571. Quartile: 1.
- Guembe M; Perez-Parra A; Gomez E; Sanchez-Luna M; Bustinza A; Zamora E; Carrillo-Alvarez A; Cuenca A; Padilla B; Martin-Rabadan P. *Impact on knowledge and practice of an intervention to control catheter infection in the ICU.* EUROPEAN JOURNAL OF CLINICAL MICROBIOLOGY & INFECTIOUS DISEASES. 2012; 31(10) 2799-2808. IF: 3.024. Quartile: 2.

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

- de Lucas-Ramos P; Izquierdo-Alonso JL; Moro JMRG; Frances JF; Lozano PV; Bellon-Cano JM. *Chronic obstructive pulmonary disease as a cardiovascular risk factor. Results of a case-control study (CONSISTE study).* INTERNATIONAL JOURNAL OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE. 2012; (7) 679-686.

*Publications in journals not indexed in the Journal Citation Reports:*

- Ignacio Cerro MC; Pascual Fernández MC, Jiménez Carrascosa MA. *Validez del peso estimado por familiares y enfermeras de urgencias pediátricas.* Sociedad Española de Urgencias en Pediatría. 2012; 9:12-14.
- Grupo de trabajo de la GPC sobre Trastorno Bipolar. *Guía de práctica clínica sobre trastorno bipolar.* Universidad de Alcalá de Henares y Asociación Española de Neuropsiquiatría (eds.). 2012.
- Blanco Daza M. *Influencia del tipo de unidad de rotación en el estrés de los alumnos de enfermería.* Rev Paraninfo Digital. 2012; 15. Disponible en: <http://www.index-f.com/para/n15/0840.php>.
- Durango Limáquez MI. *Plan de Cuidados: Carcinoma Hepatocelular (estadio avanzado).* Reduca (Enfermería, Fisioterapia y Podología). Serie Trabajos Adaptación al Grado. 2012; 4 (2): 135-172.
- Solano Reina S; Vaquero Lozano P, Solano García-Tenorio R, de Granda Orive JI, Jiménez Ruiz C, León Carralafuente E, Garrido Martínez R, Saavedra Blanco MA. *Intervenciones de enfermería para el abandono del tabaco.* Prevención del Tabaquismo. 2012; 14 (2):83-84.
- Funes Molina C; Benito Conde B, Grandes Velasco S, González Turiño E, Ruiz Falcó MV, García Pastor A, et al. *Una cuestión de peso: variabilidad en la estimación del peso del paciente para el cálculo de la dosis de alteplasa IV en el tratamiento del ictus isquémico agudo.* Neurología. 2012; (37):48-52.
- Manrique-Rodríguez S; Sánchez-Galindo A; Mora-García T; Fernández-Llamazares CM; Echarri-Martínez L, López-Herce J, Rodríguez-Gómez M, Bellón-Cano JM, Sanjuro-Sáez. *Development of a compatibility chart for intravenous Y-site drug administration in a pediatric intensive care unit.* Infus Nurs. 2012; 35(2):109-14.
- Solano Reina S; Vaquero Lozano P, Solano García-Tenorio R, de Granda Orive JI, Jiménez Ruiz C. *Eficacia y seguridad de vareniclina en el abandono del tabaquismo.* Revista de Patología Respiratoria. 2012; 15(1):4-8.
- Solano Reina S; Vaquero Lozano P, Solano García-Tenorio R, de Granda Orive JI, Jiménez Ruiz C, León Carralafuente E, Garrido Martínez R, Saavedra Blanco MA. *Abandono del tabaco y Diabetes Mellitus.* Prevención del Tabaquismo. 2012; 14 (3):105-11.

# 4

## Other research activities



- Publications by groups in the integration phase
- Publications with the participation of IISGM technical staff
- Publications generated with the participation of Research Support Units

# Publications by groups in the integration phase

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

- Ruiz-Juretschke F; Garcia-Leal R; Garcia-Duque S; Panadero T; Aracil C. *Glossopharyngeal neuralgia in the context of a Chiari type I malformation.* JOURNAL OF CLINICAL NEUROSCIENCE. 2012; 19(4) 614-616. IF: 1.253. Quartile: 4.
- Ibarrola-Villava M; Hu HH; Guedj M; Fernandez LP; Descamps V; Bassett-Seguin N; Bagot M; Bensussan A; Saiag P; Farnoli MC; Peris K; Aviles JA; Lluch A; Ribas G; Soufir N. *MC1R, SLC45A2 and TYR genetic variants involved in melanoma susceptibility in Southern European populations: Results from a Meta-analysis.* EUROPEAN JOURNAL OF CANCER. 2012; 48(14) 2183-2191. IF: 5.061. Quartile: 1.
- Perez-Ruiz E; Caro P; Perez-Frias J; Cols M; Barrio I; Torrent A; Garcia MA; Asensio O; Pastor MD; Luna C; Torres J; Osona B; Salcedo A; Escribano A; Cortell I; Gaboli M; Valenzuela A; A. *Paediatric patients with a tracheostomy: a multicentre epidemiological study.* EUROPEAN RESPIRATORY JOURNAL. 2012; 40(6) 1502-1507. IF: 6.355. Quartile: 1.
- Martinez-Sanz E; Alkhraisat MH; Paradas I; Lopez Y; Maldonado E; Gonzalez-Meli B; Berenguer B; Lopez-Cabarcos E; Martinez ML; Martinez-Alvarez C. *Osteoinduction in the Palatal Submucosa by Injecting BMP-2 on 2 Different Carriers.* JOURNAL OF CRANIOFACIAL SURGERY. 2012; 23(2) 594-598. IF: 0.686. Quartile: 4.
- Fernandez MG; Marset JB; Lesmes IB; Izquierdo JQ; Sala XF; Salas-Salvado J. *Evidence-based nutritional recommendations for the prevention and treatment of overweight and obesity in adults (FESNAD-SEEDO consensus document), Methodology and executive summary (I/III).* NUTRICION HOSPITALARIA. 2012; 27(3) 789-799. IF: 1.305. Quartile: 3.
- Cenit MC; Simeon CP; Fonollosa V; Espinosa G; Beltran E; Saez-Comet L; Vicente-Rabaneda E; Garcia-Hernandez FJ; Martinez-Estupinan L; Rodriguez-Carballera M; Hernandez V; de la Pena PG; Fernandez-Castro M; Narvaez FJ; Pros A; Gallego M; Rios-Fernandez R;. *No evidence of association between functional polymorphisms located within IL6R and IL6ST genes and systemic sclerosis.* TISSUE ANTIGENS. 2012; 80(3) 254-258. IF: 2.934. Quartile: 1.
- Jensen J; Alvaro-Meca A; Micheloud D; Diaz A; Resino S. *Reduction in Mycobacterial Disease Among HIV-infected Children in the Highly Active Antiretroviral Therapy Era (1997-2008).* PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2012; 31(3) 278-283. IF: 3.569. Quartile: 1.
- Fernandez CP; San Roman LBO; Cidores ACP. *Casual finding of an osteochondritis after an injury.* ANALES DE PEDIATRIA. 2012; 77(6) 414-415. IF: 0.867. Quartile: 4.
- Merlo A; de Quiros SB; Secades P; Zambrano I; Balbin M; Astudillo A; Scola B; Aristegui M; Suarez C; Chiara MD. *Identification of a Signaling Axis HIF-1 alpha/MicroRNA-210/ISCU Independent of SDH Mutation That Defines a Subgroup of Head and Neck Paragangliomas.* JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM. 2012; 97(11) E2194-E2200. IF: 6.43. Quartile: 1.
- Sanchez-Gonzalez B; Penalver FJ; Medina A; Guillen H; Calleja M; Gironella M; Arranz R; Sebastian E; de Ona R; Canovas A; de la Fuente I; Grande C; Sancho JM; Perez R; Domingo E; Lopez-Lorenzo JL; Prieto E; Panizo C; Gorroquieta A; Perez I; Cervera JM; *Clinical experience of bendamustine treatment for non-Hodgkin lymphoma and chronic lymphocytic leukemia in Spain.* LEUKEMIA RESEARCH. 2012; 36(6) 709-714. IF: 2.764. Quartile: 2.

## PUBLICATIONS BY GROUPS IN THE INTEGRATION PHASE

- Prior N; Remor E; Gomez-Traseira C; Lopez-Serrano C; Cabanas R; Contreras J; Campos A; Cardona V; Cimballek S; Gonzalez-Quevedo T; Guilarte M; de Rojas DHF; Marcos C; Rubio M; Tejedor-Alonso MA; Cab. *Development of a disease-specific quality of life questionnaire for adult patients with hereditary angioedema due to C1 inhibitor deficiency (HAE-QoL): Spanish multi-centre research project.* HEALTH AND QUALITY OF LIFE OUTCOMES. 2012; 10. IF: 2.272. Quartile: 2.
- Boethig D; Schreiber C; Hazekamp M; Blanz U; Pretere R; Asfour B; Greco R; Alexi-Meskishvili V; Goncalves A; Breymann T. *Risk Factors for Distal Contra Stenosis: Results of a Prospective European Multicentre Study.* THORACIC AND CARDIOVASCULAR SURGEON. 2012; 60(3) 195-204. IF: 0.925. Quartile: 3.
- Tobias A; Armstrong B; Zuza I; Gasparrini A; Linares C; Diaz J. *Mortality on extreme heat days using official thresholds in Spain: a multi-city time series analysis.* BMC PUBLIC HEALTH. 2012; 17;12:133. IF: 2.076. Quartile: 2.
- Merino P; Merino M; De Liano PG; Blanco N. *Horizontal rectus surgery in Duane syndrome.* EUROPEAN JOURNAL OF OPHTHALMOLOGY. 2012; 22(2) 125-130. IF: 0.912. Quartile: 4.
- Micheloud D; Alvaro-Meca A; Jensen J; Diaz A; Resino S. *Trend of Pneumonia Incidence Among Children Infected With HIV in the Era of Highly Active Antiretroviral Therapy.* PEDIATRIC INFECTIOUS DISEASE JOURNAL. 2012; 31(6) 599-601. IF: 3.569. Quartile: 1.
- Rubio G; Marin-Lozano J; Ferre F; Martinez-Gras I; Rodriguez-Jimenez R; Sanz J; Jimenez-Arriero MA; Carrasco JL; Lora D; Jurado R; Lopez-Trabada JR; Palomo T. *Psychopathologic differences between cannabis-induced psychoses and recent-onset primary psychoses with abuse of cannabis.* COMPREHENSIVE PSYCHIATRY. 2012; 53(8) 1063-1070. IF: 2.376. Quartile: 2.
- Alvarado EA; Pacheco RPF; Alderete FG; Luis JAD; de la Cruz AA; Quintana LO. *Selective termination in dichorionic twins discordant for congenital defect.* EUROPEAN JOURNAL OF OBSTETRICS & GYNECOLOGY AND REPRODUCTIVE BIOLOGY. 2012; 161(1) 8-11. IF: 1.843. Quartile: 2.
- Lopez F; Llorente JL; Oviedo CM; Vivanco B; Marcos CA; Garcia-Inclan C; Scola B; Hermsen MA. *Gene Amplification and Protein Overexpression of EGFR and ERBB2 in Sinonasal Squamous Cell Carcinoma.* CANCER. 2012; 118(7) 1818-1826. IF: 5.201. Quartile: 1.
- Lopez F; Inclan CG; Perez-Escuredo J; Marcos CA; Scola B; Suarez C; Llorente JL; Hermsen MA. *KRAS and BRAF mutations in sinonasal cancer.* ORAL ONCOLOGY. 2012; 48(8) 692-697. IF: 2.695. Quartile: 1.
- Osma-Ruiz V; Godino-Llorente JI; Saenz-Lechon N; Gutierrez-Arriola JM; Arias-Londono JD; Fraile R; Scola-Yurrita B. *Towards collaborative work among speech therapists, phoniatricians, and ENT professionals: Analysis of the impact of ciphering techniques in the performance of an integrated tool for the diagnosis of voice disorders.* BIOMEDICAL SIGNAL PROCESSING AND CONTROL. 2012; 7(1) 27-36. IF: 1.074. Quartile: 3.
- De Leon-Luis J; Perez R; Recarte PP; Fernandez AA; Roman CR; Alvarado EA; Ortiz-Quintana L; Martinez MI. *Second trimester amniotic fluid adiponectin level is affected by maternal tobacco exposure, insulin, and PAPP-A level.* EUROPEAN JOURNAL OF OBSTETRICS & GYNECOLOGY AND REPRODUCTIVE BIOLOGY. 2012; 165(2) 189-193. IF: 1.843. Quartile: 2.
- Truyols C. *Fatal air embolism after upper endoscopy in a 48-year-old man.* ENDOSCOPY. 2012; 44() E282-E282. IF: 5.735. Quartile: 1.
- Perez PC; Segura JJ. *Osteoblastoma of Mandible.* INTERNATIONAL JOURNAL OF SURGICAL PATHOLOGY. 2012; 20(4) 375-376. IF: 0.756. Quartile: 4.
- Ruiz-Garcia J; Lerman A; Weisz G; Maehara A; Mintz GS; Fahy M; Xu K; Lansky AJ; Cristea E; Farah TG; Teles R; Botker HE; Templin B; Zhang Z; de Bruyne B; Serruys PW; Stone GW. *Age- and gender-related changes in plaque composition in patients with acute coronary syndrome: the PROSPECT study.* EUROINTERVENTION. 2012; 8(8) 929-938. IF: 3.173. Quartile: 2.
- Szerman N; Lopez-Castroman J; Arias F; Morant C; Babin F; Mesias B; Basurte I; Vega P; Baca-Garcia E. *Dual Diagnosis and Suicide Risk in a Spanish Outpatient Sample.* SUBSTANCE USE & MISUSE. 2012; 47(4) 383-389. IF: 1.109. Quartile: 3.

- Baldwin DS; Allgulander C; Bandelow B; Ferre F; Pallanti S. *An international survey of reported prescribing practice in the treatment of patients with generalised anxiety disorder.* WORLD JOURNAL OF BIOLOGICAL PSYCHIATRY. 2012; 13(7) 510-516. IF: 3.571. Quartile: 1.
- Julia A; Tortosa R; Hernanz JM; Canete JD; Fonseca E; Ferrandiz C; Unamuno P; Puig L; Fernandez-Sueiro JL; Sanmarti R; Rodriguez J; Gratacos J; Dauden E; Sanchez-Carazo JL; Lopez-Estebaranz JL; Moreno-Ramirez D; Queiro R; Montilla C; Torre-Alonso JC; Pere. *Risk variants for psoriasis vulgaris in a large casecontrol collection and association with clinical subphenotypes.* HUMAN MOLECULAR GENETICS. 2012; 21(20) 4549-4557. IF: 7.692. Quartile: 1.
- Parente A; Angulo JM; Romero RM; Rivas S; Tardaguila AR; Corona C. *High-Pressure Balloon Dilatation for Treatment of Orthotopic Ureterocele.* ACTAS UROLÓGICAS ESPAÑOLAS. 2012; 36(2) 117-120. IF: 1.144. Quartile: 4.
- Martinez-Martinez I; Navarro-Fernandez J; Ostergaard A; Gutierrez-Gallego R; Padilla J; Bohdan N; Minano A; Pascual C; Martinez C; de la Morena-Barrio ME; Aguila S; Pedersen S; Kristensen SR; Vicente V; Corral J. *Amelioration of the severity of heparin-binding antithrombin mutations by posttranslational mosaicism.* BLOOD. 2012; 120(4) 900-904. IF: 9.06. Quartile: 1.
- Heidenreich M; Lechner SG; Vardanyan V; Wetzel C; Cremers CW; De Leenheer EM; Aranguez G; Moreno-Pelayo MA; Jentsch TJ; Lewin GR. *KCNQ4 K(+) channels tune mechanoreceptors for normal touch sensation in mouse and man.* NATURE NEUROSCIENCE. 2012; 15(1) 138-U217. IF: 15.251. Quartile: 1.
- Gonzalez NLG; Goya M; Bellart J; Lopez J; Sancho MA; Mozas J; Medina V; Padron E; Megia A; Pintado P; Melchor JC; Di Renzo GC; Bartha JL. *Obstetric and perinatal outcome in women with twin pregnancy and gestational diabetes.* JOURNAL OF MATERNAL-FETAL & NEONATAL MEDICINE. 2012; 25(7) 1084-1089. IF: 1.518. Quartile: 3.
- Gutierrez-Galve L; Bruno S; Wheeler-Kingshott CAM; Summers M; Cipolotti L; Ron MA. *IQ and the Fronto-temporal Cortex in Bipolar Disorder.* JOURNAL OF THE INTERNATIONAL NEUROPSYCHOLOGICAL SOCIETY. 2012; 18(2) 370-374. IF: 2.697. Quartile: 2.
- Goethals K; Gunn J; Calcedo-Barba A. *Selling forensic psychiatry: Recruiting for the future, establishing services.* CRIMINAL BEHAVIOUR AND MENTAL HEALTH. 2012; 22(4) 261-270. IF: 1.923.
- Kulka U; Ainsbury L; Atkinson M; Barquinero JF; Barrios L; Beinke C; Bognar G; Cucu A; Darroudi F; Fattibene P; Gil O; Gregoire E; Hadjidekova V; Haghdoost S; Herranz R; Jaworska A; Lindholm C; Mkacher R; Morti S; Montoro A; Moquet J; Moreno M; Ogbazghi A. *Realising the European Network of Biodosimetry (RENEB).* RADIATION PROTECTION DOSIMETRY. 2012; 151(4) 621-625. IF: 0.909.
- Martin JE; Carmona FD; Broen JCA; Simeon CP; Vonk MC; Carreira P; Rios-Fernandez R; Espinosa G; Vicente-Rabaneda E; Tolosa C; Garcia-Hernandez FJ; Castellvi I; Fonollosa V; Gonzalez-Gay MA; Saez-Comet L; Portales RG; de la Pena PG; Fernandez-Castro M; Dia. *The autoimmune disease-associated IL2RA locus is involved in the clinical manifestations of systemic sclerosis.* GENES AND IMMUNITY. 2012; 13(2) 191-196. IF: 3.675. Quartile: 2.
- Abalo R; Vera G; Lopez-Perez AE; Martinez-Villaluenga M; Martin-Fontelles MI. *The Gastrointestinal Pharmacology of Cannabinoids: Focus on Motility.* PHARMACOLOGY. 2012; 90(1-2) 1-10. IF: 1.603. Quartile: 3.
- Trill MD. *Psychological aspects of depression in cancer patients: an update.* ANNALS OF ONCOLOGY. 2012; 23. 302-305. IF: 7.384. Quartile: 1.
- Alvarez-Rodriguez F; Gimeno-Aranguez M; Lopez-Varela C; Gonzalez-Perramato P; Tortoledo-Bruni A; Rodriguez-Costa J; Perna C; Jimenez-Hefernan JA. *Fine-Needle Aspiration Cytology of Mammary Myofibroblastoma: A Report of Six Cases.* ACTA CYTOLOGICA. 2012; 56(5) 501-505. IF: 0.693. Quartile: 4.

## PUBLICATIONS BY GROUPS IN THE INTEGRATION PHASE

- Lopez-Gil M; Mantilla I; Blanco T; Teigell E; Hervias M; Fernandez-Lopez R. *The Size 1 ProSeal (TM) laryngeal mask airway in infants: a randomized, noncrossover study with the Classic (TM) laryngeal mask airway.* PEDIATRIC ANESTHESIA. 2012; 22(4) 365-370. IF: 2.436. Quartile: 1.
- Carmona FD; Gutala R; Simeon CP; Carreira P; Ortego-Centeno N; Vicente-Rabaneda E; Garcia-Hernandez FJ; de la Pena PG; Fernandez-Castro M; Martinez-Estudipan L; Egurbide MV; Tsao BP; Gourh P; Agarwal SK; Assassi S; Mayes MD; Arnett FC; Tan FK; Martin J. *Novel identification of the IRF7 region as an anticentromere autoantibody propensity locus in systemic sclerosis.* ANNALS OF THE RHEUMATIC DISEASES. 2012; 71(1) 114-119. IF: 9.111. Quartile: 1.
- Otero-Alvaro A; Marin MT; Ruiz-Iban MA; Armada B; Rejas J. *Treatment Satisfaction after Switching to Another Therapy in Spanish Orthopaedic Clinic Outpatients with Knee or Hip Osteoarthritis Previously Refractory to Paracetamol.* CLINICAL DRUG INVESTIGATION. 2012; 32(10) 685-695. IF: 1.915. Quartile: 3.
- Montalban C; Abraira V; Arcaini L; Domingo-Domenech E; Guisado-Vasco P; Iannito E; Mollejo M; Matutes E; Ferreri A; Salar A; Rattotti S; Carpaneto A; Fernandez RP; Bello JL; Hernandez M; Caballero D; Carbonell F; Piris MA. *Risk stratification for Splenic Marginal Zone Lymphoma based on haemoglobin concentration, platelet count, high lactate dehydrogenase level and extrahilar lymphadenopathy: development and validation on 593 cases.* BRITISH JOURNAL OF HAEMATOLOGY. 2012; 159(2) 164-171. IF: 4.942. Quartile: 1.

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

- Mardomingo-Sanz MJ. *Clinical use of 30:70 controlled-release methylphenidate in the treatment of attention deficit hyperactivity disorder.* Revista de Neurología. 2012; 55(6) 359-369.
- Perez-Poyato MD; Mila-Recasens M; Ferrer-Abizanda I; Cusi-Sanchez V; Vazquez-Lopez M; Camino-Leon R; Coll-Rosell MJ; Gort L; Pineda-Marfa M. *Neuronal ceroid lipofuscinosis: diagnostic algorithm and clinical description of the variants late infantile Finnish (CLN5) and Turkish (CLN7).* Revista de Neurología. 2012; 54(9) 544-550.
- Campos ED; Botella ER; Vallenilla AM. *Imaging diagnosis for prostate cancer biochemical recurrence after radical treatment.* ARCHIVOS ESPAÑOLES DE UROLOGÍA. 2012; 65(1) 51-60.

# Publications with the participation of IISGM technical staff

## Publications

**Total Impact Factor: 36.25**

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

- Ballesteros Y; Urbano J; Lopez-Herce J; Solana MJ; Botran M; Vinciguerra D; Bellon JM. *Pulmonary arterial thermodilution, femoral arterial thermodilution and bioreactance cardiac output monitoring in a pediatric hemorrhagic hypovolemic shock model.* RESUSCITATION. 2012; 83(1) 125-129. IF: 4.104. Quartile: 1.
- Castillo A; Santiago MJ; Lopez-Herce J; Montoro S; Lopez J; Bustinza A; Moral R; Bellon JM. *Nutritional status and clinical outcome of children on continuous renal replacement therapy: a prospective observational study.* BMC NEPHROLOGY. 2012; 13. IF: 1.644. Quartile: 3.
- Escudero-Vilaplana V; Ramirez-Herraiz E; Trovato-Lopez N; Alanon-Plaza E; Bellini MJ; Herranz-Alonso A; Bellon-Cano JM; Morell-Baladron A; Sanjurjo-Saez M. *Influence on Effectiveness of Early Treatment with Anti-TNF Therapy in Rheumatoid Arthritis.* JOURNAL OF PHARMACY AND PHARMACEUTICAL SCIENCES. 2012; 15(3) 355-360. IF: 2.198. Quartile: 2.
- Solana MJ; Lopez-Herce J; Urbano J; Mencia S; del Castillo J; Bellon JM. *Measuring tidal volume during paediatric oscillatory and jet high-frequency ventilation.* ANALES DE PEDIATRÍA. 2012; 76(1) 11-15. IF: 0.867. Quartile: 4.
- Sanz-Cuesta T; Gonzalez-Escobar P; Riesgo-Fuertes R; Garrido-Elustondo S; del Cura-Gonzalez I; Martin-Fernandez J; Escortell-Mayor E; Rodriguez-Salvanes F; Garcia-Solano M; Gonzalez-Gonzalez R; Martin-de la Sierra-San Agustin MA; Olmedo-Luceron C; Palmero. *Oral versus intramuscular administration of vitamin B12 for the treatment of patients with vitamin B12 deficiency: a pragmatic, randomised, multicentre, non-inferiority clinical trial undertaken in the primary healthcare setting (Project OB12).* BMC PUBLIC HEALTH. 2012; 12. IF: 2.076. Quartile: 2.
- Berenguer J; Rodriguez E; Miralles P; Von Wichmann MA; Lopez-Aldeguer J; Mallo-las J; Galindo MJ; Van Den Eynde E; Tellez MJ; Quereda C; Jou A; Sanz J; Barros C; Santos I; Pulido F; Guardiola JM; Ortega E; Rubio R; Jusdado JJ; Montes ML; Gaspar G; *Sustained Virological Response to Interferon Plus Ribavirin Reduces Non-Liver-Related Mortality in Patients Coinfected With HIV and Hepatitis C Virus.* CLINICAL INFECTIOUS DISEASES. 2012; 55(5) 728-736. IF: 9.374. Quartile: 1.
- Almendral J; Atienza F; Everss E; Castilla I; Gonzalez-Torrecilla E; Ormaetxe J; Arenal A; Ortiz M; Sanroman-Junquera M; Mora-Jimenez I; Bellon JM; Rojo JL. *Implantable Defibrillator Electrograms and Origin of Left Ventricular Impulses: An Analysis of Regionalization Ability and Visual Spatial Resolution.* JOURNAL OF CARDIOVASCULAR ELECTROPHYSIOLOGY. 2012; 23(5) 506-514. IF: 3.475. Quartile: 2.
- Santiago MJ; Lopez-Herce J; Urbano J; Solana MJ; del Castillo J; Sanchez A; Bellon JM. *Evolution and Mortality Risk Factors in Children With Continuous Renal Replacement Therapy After Cardiac Surgery.* REVISTA ESPAÑOLA DE CARDIOLOGÍA. 2012; 65(9) 795-800. IF: 3.204. Quartile: 2.
- Irastorza LJ; Rojano P; Gonzalez-Salvador T; Cotobal J; Leira M; Rojas C; Rubio G; Rodriguez-Rieiro C; Bellon JM; Alvarez M; Rodriguez C; Arango C. *Psychometric properties of the Spanish version of the Diagnostic Interview for Depressive Personality.* EUROPEAN PSYCHIATRY. 2012; 27(8) 582-590. IF: 3.285. Quartile: 1.
- Urbano J; Lopez-Herce J; Solana MJ; del Castillo J; Botran M; Bellon JM. *Comparison of normal saline, hypertonic saline and hypertonic saline colloid resuscitation fluids in an infant animal model of hypovolemic shock.* RESUSCITATION. 2012; 83(9) 1159-1165. IF: 4.104. Quartile: 1.

## PUBLICATIONS WITH THE PARTICIPATION OF IISGM TECHNICAL STAFF

- Solana MJ; Lopez-Herce J; Sanchez C; Cordero M; Urbano J; Botran M; del Castillo J; Bellon JM; Carrillo A. *Comparison of continuous pH-meter and intermittent pH paper monitoring of gastric pH in critically ill children.* EUROPEAN JOURNAL OF GASTROENTEROLOGY & HEPATOLOGY. 2012; 24(1) 33-36. IF: 1.915. Quartile: 3.

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

- Fernandez-Herranz J; de Miguel-Diez J; del Castillo-Rueda A; Bellon-Cano JM; Jimenez-Garcia R; Alvarez-Sala-Walther LA. *Influence of systemic corticosteroid administration in the prognosis of patients with community-acquired pneumonia.* REVISTA CLÍNICA ESPAÑOLA. 2012; 212(7) 337-343.

*Publications in journals not indexed in the Journal Citation Reports:*

- de Lucas-Ramos P; Izquierdo-Alonso JL, Rodríguez-González Moro JM, Frances JF, Lozano PV, Bellón-Cano JM; CONSISTE study group. *Chronic obstructive pulmonary disease as a cardiovascular risk factor. Results of a case-control study (CONSISTE study).* Int J Chron Obstruct Pulmon Dis. 2012; 7:679-86.
- Manrique-Rodríguez S; Sánchez-Galindo A; Mora-García T; Fernández-Llamazares CM; Echarri-Martínez L, López-Herce J, Rodríguez-Gómez M, Bellón-Cano JM, Sanjuro-Sáez. *Development of a compatibility chart for intravenous Y-site drug administration in a pediatric intensive care unit.* Infus Nurs. 2012; 35(2):109-14.

# Publications generated with the participation of Research Support Units

## Patient Platform

Support unit: Project design and statistical analysis

- Solana MJ; Lopez-Herce J; Sanchez C; Cordero M; Urbano J; Botran M; del Castillo J; Bellon JM; Carrillo A. *Comparison of continuous pH-meter and intermittent pH paper monitoring of gastric pH in critically ill children.* EUROPEAN JOURNAL OF GASTROENTEROLOGY & HEPATOLOGY. 2012; 24(1) 33-36. (IF: 1.915; Quartile: 3).
- Urbano J; Lopez-Herce J; Solana MJ; del Castillo J; Botran M; Bellon JM. *Comparison of normal saline, hypertonic saline and hypertonic saline colloid resuscitation fluids in an infant animal model of hypovolemic shock.* RESUSCITATION. 2012; 83(9) 1159-1165. (IF: 4.104; Quartile: 1).
- Cruz-Orduna I; Bellon JM; Torrero P; Aparicio E; Sanz A; Mula N; Marzana G; Begue C; Cabezon D; Olazaran J. *Detecting MCI and dementia in primary care: efficiency of the MMS, the FAQ and the IQCODE.* FAMILY PRACTICE. 2012; 29(4) 401-406. (IF: 1.828; Quartile: 1).
- Santiago MJ; Lopez-Herce J; Urbano J; Solana MJ; del Castillo J; Sanchez A; Bellon JM. *Evolution and Mortality Risk Factors in Children With Continuous Renal Replacement Therapy After Cardiac Surgery.* REVISTA ESPAÑOLA DE CARDIOLOGÍA. 2012; 65(9) 795-800. (IF: 3.204; Quartile: 2).
- Almendral J; Atienza F; Everss E; Castilla L; Gonzalez-Torrecilla E; Ormaetxe J; Arenal A; Ortiz M; Sanroman-Junquera M; Mora-Jimenez I; Bellon JM; Rojo JL. *Implantable Defibrillator Electrograms and Origin of Left Ventricular Impulses: An Analysis of Regionalization Ability and Visual Spatial Resolution.* JOURNAL OF CARDIOVASCULAR ELECTROPHYSIOLOGY. 2012; 23(5) 506-514. (IF: 3.475; Quartile: 2).

- Fernandez-Herranz J; de Miguel-Diez J; del Castillo-Rueda A; Bellon-Cano JM; Jimenez-Garcia R; Alvarez-Sala-Walther LA. *Influence of systemic corticosteroid administration in the prognosis of patients with community-acquired pneumonia.* REVISTA CLÍNICA ESPAÑOLA. 2012; 212(7) 337-343. (IF: No IF).
- Escudero-Vilaplana V; Ramirez-Herraiz E; Trovato-Lopez N; Alanon-Plaza E; Bellini MJ; Herranz-Alonso A; Bellon-Cano JM; Morell-Baladron A; Sanjurjo-Saez M. *Influence on Effectiveness of Early Treatment with Anti-TNF Therapy in Rheumatoid Arthritis.* JOURNAL OF PHARMACY AND PHARMACEUTICAL SCIENCES. 2012; 15(3) 355-360. (IF: 2.198; Quartile: 2).
- Solana MJ; Lopez-Herce J; Urbano J; Mencia S; del Castillo J; Bellon JM. *Measuring tidal volume during paediatric oscillatory and jet high-frequency ventilation.* ANALES DE PEDIATRÍA. 2012; 76(1) 11-15. (IF: 0.867; Quartile: 4).
- Castillo A; Santiago MJ; Lopez-Herce J; Montoro S; Lopez J; Bustinza A; Moral R; Bellon JM. *Nutritional status and clinical outcome of children on continuous renal replacement therapy: a prospective observational study.* BMC NEPHROLOGY. 2012; 13. (IF: 1.644; Quartile: 3).
- Irastorza LJ; Rojano P; Gonzalez-Salvador T; Cotobal J; Leira M; Rojas C; Rubio G; Rodriguez-Rieiro C; Bellon JM; Alvarez M; Rodriguez C; Arango C. *Psychometric properties of the Spanish version of the Diagnostic Interview for Depressive Personality.* EUROPEAN PSYCHIATRY. 2012; 27(8) 582-590. (IF: 3.285; Quartile: 1).
- Ballesteros Y; Urbano J; Lopez-Herce J; Solana MJ; Botran M; Vinciguerra D; Bellon JM. *Pulmonary arterial thermodilution, femoral arterial thermodilution and bioreactance cardiac output monitoring in a pediatric hemorrhagic hypovolemic shock model.* RESUSCITATION. 2012; 83(1) 125-129. (IF: 4.104; Quartile: 1).

## PUBLICATIONS GENERATED WITH THE PARTICIPATION OF RESEARCH SUPPORT UNITS

- Berenguer J; Rodriguez E; Miralles P; Von Wichmann MA; Lopez-Aldeguer J; Mallolas J; Galindo MJ; Van Den Eynde E; Tellez MJ; Quereda C; Jou A; Sanz J; Barros C; Santos I; Pulido F; Guardiola JM; Ortega E; Rubio R; Jusdado JJ; Montes ML; Gaspar G; Esteban. *Sustained Virological Response to Interferon Plus Ribavirin Reduces Non-Liver-Related Mortality in Patients Coinfected With HIV and Hepatitis C Virus.* CLINICAL INFECTIOUS DISEASES. 2012; 55(5) 728-736. (IF: 9.374; Quartile: 1).
- de Lucas-Ramos P; Izquierdo-Alonso JL; Moro JMRG; Frances JF; Lozano PV; Bellon-Cano JM. *Chronic obstructive pulmonary disease as a cardiovascular risk factor. Results of a case-control study (CONSISTE study).* INTERNATIONAL JOURNAL OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE. 2012; 7. 679-686. (IF: No IF).
- Manrique-Rodríguez S; Sánchez-Galindo A; Mora-García T; Fernández-Llamazares CM; Echarri-Martínez L; López-Herce J; Rodríguez-Gómez M; Bel-lón-Cano JM; Sanjuro-Sáez M. *Development of a compatibility chart for intravenous Y-site drug administration in a pediatric intensive care unit.* INFUS NURS. 2012; 35(2):109-14. (IF: No IF).
- Reloso M; Aragoneses-Fenoll L; Lasarte S; Bourgeois C; Romera G; Kuchler K; Corbi AL; Munoz-Fernandez MA; Nombela C; Rodriguez-Fernandez JL; Diez-Orejas R. *Estradiol impairs the Th17 immune response against Candida albicans.* JOURNAL OF LEUKOCYTE BIOLOGY. 2012; 91(1) 159-165. (IF: 4.992; Quartile: 1).
- Dulin E; Garcia-Barreno P; Guisasola MC. *Genetic variations of HSPA1A, the heat shock protein levels, and risk of atherosclerosis.* CELL STRESS & CHAPERONES. 2012; 17(4) 507-516. (IF: 3.013; Quartile: 3).
- Lopez-Herce J; del Castillo J; Matamoros M; Canadas S; Rodriguez-Calvo A; Cecchetti C; Rodriguez-Nunez A; Alvarez AC. *Factors associated with mortality in pediatric in-hospital cardiac arrest: a prospective multicenter multinational observational study.* INTENSIVE CARE MEDICINE. 2013; 39(2) 309-318. (IF: 5.258; Quartile: 1).

### Cell Platform

#### Confocal Microscopy:

- Escribese MM; Sierra-Filardi E; Nieto C; Samaniego R; Sanchez-Torres C; Matsuyama T; Calderon-Gomez E; Vega MA; Salas A; Sanchez-Mateos P; Corbi AL. *The Prolyl Hydroxylase PHD3 Identifies Proinflammatory Macrophages and Its Expression Is Regulated by Activin A.* JOURNAL OF IMMUNOLOGY. 2012; 189(4) 1946-1954. (IF: 5.788; Quartile: 1).
- Weber ND; Merkel OM; Kissel T; Munoz-Fernandez MA. *PEGylated poly(ethylene imine) copolymer-delivered siRNA inhibits HIV replication in vitro.* JOURNAL OF CONTROLLED RELEASE. 2012; 157(1) 55-63. (IF: 6.499; Quartile: 1).
- Chonco L; Pion M; Vacas E; Rasines B; Maly M; Serramia MJ; Lopez-Fernandez L; De la Mata J; Alvarez S; Gom. *Carbosilane dendrimer nanotechnology outlines of the broad HIV blocker profile.* JOURNAL OF CONTROLLED RELEASE. 2012; 161(3) 949-958. (IF: 6.499; Quartile: 1).
- Briz V; Serramia MJ; Madrid R; Hameau A; Caminade AM; Majoral JP; Munoz-Fernandez MA. *Validation of a Generation 4 Phosphorus-Containing Polycationic Dendrimer for Gene Delivery Against HIV-1.* CURRENT MEDICINAL CHEMISTRY. 2012; 19(29) 5044-5051. (IF: 4.859; Quartile: 1).
- Humanes B; Lazaro A; Camano S; Moreno-Gordaliza E; Lazaro JA; Blanco-Codesido M; Lara JM; Ortiz A; Gomez-Gomez MM; Martin-Vasallo P; Tejedor A. *Cilastatin protects against cisplatin-induced nephrotoxicity without compromising its anticancer efficiency in rats.* KIDNEY INTERNATIONAL. 2012; 82(6) 652-663. (IF: 6.606; Quartile: 1).
- Reloso M; Aragoneses-Fenoll L; Lasarte S; Bourgeois C; Romera G; Kuchler K; Corbi AL; Munoz-Fernandez MA; Nombela C; Rodriguez-Fernandez JL; Diez-Orejas R. *Estradiol impairs the Th17 immune response against Candida albicans.* JOURNAL OF LEUKOCYTE BIOLOGY. 2012; 91(1) 159-165. (IF: 4.992; Quartile: 1).

### Flow Cytometry and Cell Sorting:

- Díaz L; Mendez-Lagares G; Correa-Rocha R; Pacheco YM; Ferrando-Martinez S; Ruiz-Mateos E; del Pozo-Balado MD; Leon JA; Gurbido MD; de JOSÉ MI; Leal M; Munoz-Fernandez MA. *Detectable Viral Load Aggravates Immunosenescence Features of CD8 T-Cell Subsets in Vertically HIV-Infected Children.* JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2012; 60(5) 447-454. (IF: 4.653; Quartile: 1).
- Vallejo A; Gutierrez C; Hernandez-Novoa B; DÍAZ L; Madrid N; Abad-Fernandez M; Dronda F; Perez-Elias MJ; Zamora J; Munoz E; Munoz-Fernandez MA; Moreno S. *The effect of intensification with raltegravir on the HIV-1 reservoir of latently infected memory CD4 T cells in suppressed patients.* AIDS. 2012; 26(15) 1885-1894. (IF: 6.407; Quartile: 1).

### Molecular Platform

#### Sequencing and genotyping:

- Escribano P; Recio S; Pelaez T; Gonzalez-Rivera M; Bouza E; Guinea J. *In Vitro Acquisition of Secondary Azole Resistance in Aspergillus fumigatus Isolates after Prolonged Exposure to Itraconazole: Presence of Heteroresistant Populations.* ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2012; 56(1) 174-178. (IF: 4.565; Quartile: 1).
- Alonso M; Herranz M; Lirola MM; Gonzalez-Rivera M; Bouza E; de Viedma DG. *Real-Time Molecular Epidemiology of Tuberculosis by Direct Genotyping of Smear-Positive Clinical Specimens.* JOURNAL OF CLINICAL MICROBIOLOGY. 2012; 50(5) 1755-1757. (IF: 4.068; Quartile: 1).



Hospital General Universitario  
Gregorio Marañón

Comunidad de Madrid



FUNDACIÓN INVESTIGACIÓN BIOMÉDICA  
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