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Director’s Foreword
One more year of activity has passed at the Maimonides Institute of Biomedical Research of Córdoba, the IMIBIC, and thus, the annual report gets ready to summarize the accomplishments achieved by all the scientific and research teams, and the invaluable support personnel of the Institute, during 2017.

However, this is not one more report, it is not a regular one, for it is the 10th Report that we compile to provide the records of our activity at IMIBIC. Throughout these pages, you will recognize the efforts made by the people who made it possible to arrive here. Not everyone that was involved in the original project is still active at the Institute, however they are all with us, showing the right path to continue advancing.

This 10th report also (re)presents an overview of what we have become through the years, thanks to the efforts of the people that works here and the institutions that support us. Because the IMIBIC is, above all and beyond anything else, a joint collaborative project, a common endeavor shared by many people and nurtured by our key founding institutions, to which we are greatly thankful: Universidad de Córdoba, Hospital Universitario Reina Sofia, Consejería de Salud, and Consejería de Conocimiento, Innovación y Universidad; thanks for helping us to make what we are, to climb to this summit, and for your continued compromise and support in the coming future.

Turning “only” 10 years old means, in fact, youth; and yes, the IMIBIC is a young project, as young are their most relevant protagonists, not just by age, but most of all by their mentality: “No prejudices, nothing is impossible if we all walk together”. That is the spirit of the IMIBIC: of the researchers, basic and clinicians alike, the resident doctors, the nurses, PhD students, the technicians, the administrative personnel and the managers of the Institute. That is how it is now and how it should continue being: theirs is the present, and the future also belongs to them. This is, in essence, the fundamental pillar of IMIBIC: to walk together and stay young regardless how many years you celebrate.

But, one decade also provides enough grounds to make some history and to reflect on the pathway covered: the achievements and the failures, the challenges waiting ahead and the wishes for the future. The strategic lines that we designed for the IMBIC in 2008 were progressively fulfilled. The Institute obtained the national accreditation from the Instituto de Salud Carlos III in 2011, which was subsequently renewed in 2016, and has been growing and progressively achieving higher levels of production and quality, providing new employments.
to and forging tighter bonds with our social environment; meanwhile, we have become a valuable, appreciated resource for our institutions of reference.

The figures and the data contained in this report clearly evidence this growth. Over the last years, our Institute has reached higher levels of scientific production of increasing quality (424 publications in 2017, with over 1800 IF) and has consistently attracted more than 9.5 million euros for its general budget, through research grants, clinical trials and competitive funding for human resources. We have also consolidated a series of annual activities to provide opportunities for researchers in training, such as the 8th Young Investigators Meeting, to promote translation, with the V IMIBIC-Roche Innovation Prize, and to retain talent (e.g. STOP Fuga de Cerebros Fellowship); as well as to recognize, through the VII Maimonides Commemorative Lecture and Research Awards, the best research arising from the Institute, and a researcher that uniquely contributed to the development of the IMIBIC.

In addition, with the precious help of our Training and Communications Units, we have organized or collaborated with a number of seminars, workshops, and meetings throughout 2017, and have also continued consolidating innovative activities like the Public–Private Procurement, and offering new, advanced services through our invaluable Core Technology Units. Thus, although there are still many goals to pursue, the people that worked hard and did research at the Institute, those who helped research teams to improve their success rates, and the institutions that made a great effort to make it possible, can be proud of what has been achieved, and should be hopeful for the future of the IMIBIC.

Indeed, the master lines for our tomorrow are already designed and start being deployed. We will apply our research to make Precision Personalized Medicine a reality, wherein Cell Biology, Molecular Biology, Clinical Medicine, Bioinformatics, Technology, Big Data, and Artificial Intelligence converge towards the patient: something that is nowadays becoming more and more plausible. Part of our success will rely on the adequate incorporation of Innovation as an advance tool to enable translating the discoveries into real and useful applications. Translational Biomedical Research, which unites and leads our teams, which made us what we are and will bring us to the future, needs innovation in order to transform discoveries into patents, and those into medical applications. THIS is the real meaning of an institute of biomedical research: to
transform and translate, to transfer and apply the advances of knowledge into improvements of the health of the society.

And all of these can be best exemplified by high quality Clinical Research, the research and trials that are every day growing and improving in our environment, thanks to the impulse, the collaboration, and the joint efforts of our professionals and institutions, and the support of our Clinical Research Unit. This is, indisputably, the best means, current and future, whereby the knowledge and the results from research can reach the patients, provide treatments, enable the prevention of diseases, and hence, impact and improve the health of the citizens.

In order to achieve these strategic goals in the coming future, it is first essential to keep maintaining the utmost exigency and quality in our daily practice; to rely on the best possible formative resources for the training of the most talented young researchers and professionals, those coming through the University of Córdoba and the Reina Sofia University Hospital, and also, importantly, from abroad, for it is critical to recruit and maintain the best researchers to achieve the best results, no matter if they come from within or outside our borders. And it is also essential to increase the role of female researchers in our environment, to appreciate and take into account their talent, and to promote and support their leadership, because the growth of us all relies on their success.

To develop and fulfill our joint plans, it is necessary to attain and maintain a sufficient level of funding, which should never be called expenditure, because it is not: it is the best investment that our society can make for its own future, our common future, that of the young people that embodies the Institute, the University, the Hospital, and populates Córdoba, young people who only awaits our trust and support to give back to the society what this generation, that certainly is the best prepared ever in our history, has ready for us: a better future for us all.

Justo P. Castaño
Scientific Director
Organization Chart, Human and Economic Resources
2. Human, Technological and Economic Resources. Facilities

2.1 Organization Chart

IMIBIC’s governing and representative bodies are detailed below:

A. Collegiate Bodies

The collegiate bodies composing IMIBIC are the Governing Council, the Executive Committee, the Scientific Council and the External Scientific Board. Each body has its competencies and is composed of several specialists.

Governing Council
The Governing Council is the uppermost governing body of IMIBIC. The Governing Council is composed of the following members:

Two representatives from the Regional Ministry of Equity, Health and Social Policies of the Andalusian Regional Government

Mª Isabel Baena Parejo. General Director of Research and Management of Knowledge of the Health Council

Valle García Sánchez. Managing Director of the Reina Sofia University Hospital and President of FIBICO
Two representatives from the Regional Ministry of Economy, Innovation, Science and Employment
**Manuel García León.** General Director for Research, Technology and Business
**Manuel Carmona Jiménez.** Provincial Delegate of Economy, Innovation, Science and Employment of Córdoba

Two representatives from the University of Córdoba
**Antonio Cubero Atienza.** Vice rector of Institutional Coordination and Infrastructures
**Luisa M. Rancaño Martín.** Managing Director.

IMIBIC’s Scientific Director
**Justo P. Castaño Fuentes**

One representative from the Progress and Health Foundation (FPS)
**Ana Madera Molano.** Managing Director.

IMIBIC’s General Manager
**José Miguel Guzmán de Damas**

**Executive Committee**
To facilitate agile decision making, the Governing Council has adopted, on July 27 2015, an agreement to create an Executive Committee. The Executive Committee is composed of one member from each of the institutions that constitute the Governing Board, as set forth in the collaboration agreement between the Regional Ministry of Health, the Ministry of Economy and Knowledge and the University of Córdoba. The Scientific Direction, General Manager and the Governing Council will participate with voice but without vote.

**Scientific Council**
The Scientific Council is an advisory body to the Scientific Director. It is composed of the Scientific Director, the Deputy Scientific Director of IMIBIC, the Principal Investigators (PI), the Emerging Researchers (ER), the Associated Researchers (AR), a representative of the Reina Sofia University Hospital Board of Directors (RSUH), the IMIBIC’s General Manager and representatives of the technical and management staff. It was established on July 9, 2009.

**External Scientific Advisory Board**
The External Scientific Advisory Board is a body appointed by the Governing Council, whose mission is to assist the Scientific Director in the performance of his duties. It is an advisory body to the Scientific Direction but its decisions are not legally binding. It was established on July 9, 2009 under the name of External Advisory Board, and it was ratified by the Governing Council on December 21, 2009.
B. Individual Bodies

The Management Team is responsible for ensuring the correct performance, in order to increase the quality and impact of IMIBIC’s research activity.

Scientific Director

Justo P. Castaño Fuentes. Full Professor of Cell Biology of University of Cordoba. He was appointed scientific director of IMIBIC by the Governing Council at a meeting held on April 08, 2015.

Deputy Scientific Director of Basic Research

Manuel Tena Sempere. Full Professor of Physiology at the Faculty of Medicine of the University of Córdoba. He was re-appointed deputy scientific director of Basic Research of IMIBIC by the Governing Council at a meeting held on April 08, 2015.

Deputy Scientific Director of Clinical Research

José López Miranda. Full professor of the University of Cordoba and Head of the Internal Medicine Unit at Reina Sofia University Hospital. He was appointed deputy scientific director of clinical research of IMIBIC by the Governing Council at a meeting held on April 08, 2015.

General Manager

José Miguel Guzmán de Damas. BSc in Pharmacy, BSc in Business Administration, MsC in Health Economics and Health Care Management, MBA. He was appointed General Manager of IMIBIC by the Governing Council at a meeting held on December 21, 2010.

2.2 Scientific Structure

The research activities of IMIBIC are organised into five scientific programmes, which integrate various different research groups. The scientific programs target prevalent and highly relevant health problems, identifying areas in which the researchers of the institute can join their efforts by transversal collaborative projects and are inspired and aim to give response to the main health challenges faced by the European society today, in line with the priorities set by the European Union’s Horizon 2020 program. The structure defines a framework that guides researchers towards the improvement of health of patients and the community through excellent translational and clinical research and innovation. It encourages interaction and cooperation among the different groups, as well as aims for attraction of talent and continuous improvement of career development opportunities of young researchers. Our Scientific Programs are a reflection of the strength of our research teams and show the unique specialization of IMIBIC. The programs are as follows:

1. Active ageing and Frailty

This program is oriented towards understanding the molecular pathogenic basis of the aging process, its relation to quality of life and the search for new strategies for patience care assistance. It includes the following lines of research:
• Immunology and senescence
• Attention and care of the chronically ill
• Frailty and quality of life in the elderly

2. Nutrition and endocrine and metabolic diseases
This program is oriented towards studying diseases of the metabolism and the endocrine system, with particular interest in the role of nutrition in the prevention and management of these processes at different stages of life. It also focuses on the study of reproductive health and neuroendocrine tumors. It includes the following lines of research:
  • Metabolic syndrome
  • Reproductive Health
  • Pediatric and perinatal diseases
  • Neuroendocrine Tumors

3. Infectious and immunological diseases and organ transplants
This program focuses on the study of diseases by different infectious agents, with a special emphasis on the infections in immunocompromised patients. It includes the following lines of research:
  • HIV + Hepatitis C Virus
  • Transplants
  • Multi-drug resistance

4. Cancer (Oncology and Oncohematology)
This program focuses on the study of neoplastic diseases, including both solid tumors and hematologic neoplasms. It includes the following lines of research:
  • Lung Cancer
  • Breast Cancer
  • Hepatocellular carcinoma
  • Leukemia and Lymphomas
  • Digestive Tumors
  • Other tumors

5. Chronic and Inflammatory Diseases
This program focuses on the study of a number of chronic diseases of modern society, with special emphasis on those of an inflammatory nature. This program includes both basic research and clinical studies, with the ultimate aim of promoting a better understanding of the basis of chronic/inflammatory diseases and the improvement of their therapies. It includes the following lines of research:
  • Cardiovascular diseases
  • Diseases of the locomotor system and connective tissue
  • Neurological diseases
• Mental health
• Kidney and urologic diseases
• Liver and digestive diseases
• Chronic inflammation and signaling

### 2.3. Research Groups

GC - Consolidated Group
GE - Emerging Group
GA - Associated Group

<table>
<thead>
<tr>
<th>CODE</th>
<th>GROUP and PROGRAMS</th>
<th>PRINCIPAL INVESTIGATOR(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GC1</td>
<td>Immunology and allergy PROGRAMS 1, 3, 5</td>
<td>Dr. Rafael Solana Lara (PI)</td>
</tr>
<tr>
<td>GC2</td>
<td>Oxidative and nitrosative stress in acute and chronic liver disease PROGRAMS 3, 4, 5</td>
<td>Dr. Manuel De La Mata García (PI) Dr. José Antonio Bárcena Ruiz (CO-PI)</td>
</tr>
<tr>
<td>GC3</td>
<td>Infectious diseases PROGRAMS 1, 3, 5</td>
<td>Dr. Julián De La Torre Cisneros (PI) Dr. Antonio Rivero Román (CO-PI)</td>
</tr>
<tr>
<td>GC4</td>
<td>Inflammation and cancer PROGRAMS 2, 3, 4, 5</td>
<td>Dr. Eduardo Muñoz Blanco (PI) Dr. Marco A. Calzado (ER)</td>
</tr>
<tr>
<td>GC5</td>
<td>Systemic and chronic inflammatory autoimmune diseases of the locomotor system and connective tissue PROGRAMS 2, 5</td>
<td>Dr. Rosario López Pedrera (PI) Dr. Eduardo Collantes Estévez (CO-PI) Dr. Nuria Barbarroja Puerto (ER)</td>
</tr>
<tr>
<td>GC6</td>
<td>New therapies in cancer PROGRAM 4</td>
<td>Dr. Enrique Aranda Aguilar (PI) Dr. Antonio Rodríguez Ariza (CO-PI) Dr. Juan de la Haba Rodríguez (ER)</td>
</tr>
<tr>
<td>GC7</td>
<td>Nephrology. Cell damage in chronic inflammation PROGRAMS 1, 5</td>
<td>Dr. Pedro Aljama García (PI)</td>
</tr>
<tr>
<td>GC8</td>
<td>Hormones and cancer PROGRAMS 2, 4</td>
<td>Dr. Justo P. Castaño Fuentes (PI) Dr. Francisco Gracia Navarro (CO-PI) Dr. Raúl M. Luque Huertas (CO-PI) Dr. Manuel David Gañete Ortiz (ER)</td>
</tr>
<tr>
<td>Code</td>
<td>Program Name</td>
<td>PI/Co-PI Details</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>GC9</td>
<td>Nutrigenomics. Metabolic syndrome PROGRAMS 1, 2, 4, 5</td>
<td>Dr. José López Miranda (PI) Dr. Francisco Pérez Jiménez (CO-PI) Dr. Yolanda Almadén Peña (CO-PI) Dr. Javier Delgado Lista (CO-PI) Dr. Pablo Pérez Martínez (CO-PI) Dr. Antonio Camargo García (ER) Dr. Antonio García Ríos (ER)</td>
</tr>
<tr>
<td>GC10</td>
<td>Hormonal regulation of energy balance, puberty and reproduction PROGRAMS 2, 4</td>
<td>Dr. Manuel Tena Sempere (PI)</td>
</tr>
<tr>
<td>GC11</td>
<td>Metabolism and Adipocyte Differentiation. Metabolic Syndrome PROGRAM 2</td>
<td>Dr. María del Mar Malagón Poyato (PI) Dr. Francisco Gracia Navarro (CO-PI)</td>
</tr>
<tr>
<td>GC12</td>
<td>Clinical and epidemiological research in primary care PROGRAMS 4, 5</td>
<td>Dr. Luis Ángel Pérula de Torres (PI)</td>
</tr>
<tr>
<td>GC13</td>
<td>Calcium metabolism. Vascular calcification PROGRAMS 2, 5</td>
<td>Dr. Mariano Rodríguez Portillo (PI) Dr. Juan Rafael Muñoz Castañeda (ER)</td>
</tr>
<tr>
<td>GC14</td>
<td>Cell therapy PROGRAM 5</td>
<td>Dr. I. Concepción Herrera Arroyo (PI)</td>
</tr>
<tr>
<td>GC15</td>
<td>Invasive cardiology and cell therapy PROGRAM 5</td>
<td>Dr. Manuel Pan Álvarez-Ossorio (PI)</td>
</tr>
<tr>
<td>GC16</td>
<td>Cellular biology in Hematology. Hypercoagulability PROGRAM 4</td>
<td>Dr. Joaquín Sánchez García (PI) Dr. Francisco Velasco Gimena (CO-IR)</td>
</tr>
<tr>
<td>GC17</td>
<td>Pathophysiology of the endocrine system of vitamin D. Biotechnology and aging PROGRAMS 1, 2</td>
<td>Dr. José Manuel Quesada Gómez (PI)</td>
</tr>
<tr>
<td>GC18</td>
<td>Translational research in surgery of solid organ transplantation PROGRAMS 4, 5</td>
<td>Dr. Javier Briceño Delgado (PI)</td>
</tr>
<tr>
<td>GC19</td>
<td>Artificial Vision Applications (A.V.A.) PROGRAM 5</td>
<td>Dr. Rafael Medina Carnicer (PI)</td>
</tr>
<tr>
<td>GC20</td>
<td>Genetics and behavioural diseases PROGRAM 5</td>
<td>Dr. Manuel Ruiz Rubio (PI) Dr. Juan A. Moriana (CO-PI)</td>
</tr>
<tr>
<td>GC21</td>
<td>Metabolomics and identification of bioactive compounds PROGRAMS 2, 4, 5</td>
<td>Dr. Feliciano Priego Capote (PI)</td>
</tr>
<tr>
<td>GC22</td>
<td>Epigenetics PROGRAM 4</td>
<td>Dr. Teresa Roldán Arjona (PI)</td>
</tr>
<tr>
<td>GC23</td>
<td>Metabolism in childhood PROGRAMS 2, 4</td>
<td>Dr. Mercedes Gil Campos (PI)</td>
</tr>
<tr>
<td>Code</td>
<td>Title</td>
<td>Programs</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>GC24</td>
<td>Clinical and molecular microbiology</td>
<td>PROGRAMS 1, 3, 5</td>
</tr>
<tr>
<td>GC25</td>
<td>Knowledge Discovery and Intelligent Systems in Biomedicine</td>
<td>PROGRAMS 1, 2, 3</td>
</tr>
<tr>
<td>GE1</td>
<td>Oxidative stress and nutrition</td>
<td>PROGRAMS 1, 2, 5</td>
</tr>
<tr>
<td>GE3</td>
<td>Inflammatory immune-mediated cutaneous diseases</td>
<td>PROGRAM 5</td>
</tr>
<tr>
<td>GE4</td>
<td>Applied psychology</td>
<td>PROGRAM 1</td>
</tr>
<tr>
<td>GE5</td>
<td>Urology and Sexual Medicine</td>
<td>PROGRAM 5</td>
</tr>
</tbody>
</table>
| GA1   | Lung transplantation. Thoracic malignancies                           | PROGRAM 4              | Dr. Ángel Salvatierra Velázquez (PI)  
                          |                                                        | Dr. Paula Moreno Casado (ER)                   |
| GA2   | Comprehensive Nursing Care. Multidisciplinary Perspective             | PROGRAMS 1, 5          | Dr. María Aurora Rodríguez Borrego (PI) |
| GA3   | Pneumology                                                           | PROGRAMS 2, 4, 5       | Dr. Bernabé Jurado Gámez (PI)   |
| GA4   | Endocrinology and nutrition. Insulin resistance, diabetes and metabolism | PROGRAM 2            | Dr. Mª Ángeles Gálvez Moreno (PI) |
| GA5   | Study of growth. Endocrinology and child nutrition                    | PROGRAM 2              | Dr. Ramón Cañete Estrada (PI)   |
| GA6   | Clinical analysis                                                    | PROGRAM 2              | Dr. Fernando Rodríguez Cantalejo (PI) |
| GA8   | Radiology                                                            | PROGRAMS 2, 4, 5       | Dr. Daniel López Ruiz (PI)      |
| GA9   | Cardiovascular Pathology                                             | PROGRAMS 2, 4, 5       | Dr. Ignacio Muñoz Carvajal (PI) |
| GA10  | Nuclear Medicine                                                     | PROGRAMS 2, 4          | Dr. Juan A. Vallejo Casas (PI)  |
| GA11  | Learning and Artificial Neural Networks-AYRNA                        | PROGRAMS 2, 3, 4, 5    | Dr. César Hervás Martínez (PI)  |
2.4. Economic Resources

The year 2017 has been a year of consolidation for the economic structure of IMIBIC. After the period between 2013 and 2015 in which the budget of the Institute was strongly marked by obtaining extraordinary funding for the development of 3 Pre-commercial Public Procurement projects, for a total of 9 million euros, the funding raised for the 2017 has managed to reach similar levels. It is also noteworthy to mention that the funding from private sources has increased.

The evolution of the funding raised since 2012:

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Funds Raised</td>
<td>11,277,608.23</td>
<td>18,499,562.55</td>
<td>12,424,933.05</td>
<td>11,325,478.50</td>
<td>10,351,059.17</td>
<td>9,628,230.27</td>
</tr>
</tbody>
</table>

Considering that the abovementioned figures include also the funding raised for the acquisition of infrastructures (i.e. scientific equipment), we consider presenting the same figures without the budget item for infrastructures. This allows to evaluate the growth and capacity to attract specific financing for the development of R & D projects. The total funds raised, excluding the funds for infrastructures, has been as follows:
The division of the funds is as follows:

<table>
<thead>
<tr>
<th>PUBLIC</th>
<th>6,231,726.71</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional</td>
<td>2,728,309.01</td>
</tr>
<tr>
<td>National</td>
<td>3,361,978.61</td>
</tr>
<tr>
<td>International</td>
<td>141,439.09</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRIVATE</th>
<th>3,396,503.56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Research</td>
<td>1,789,050.00</td>
</tr>
<tr>
<td>Contracts with companies and donations</td>
<td>1,607,453.56</td>
</tr>
</tbody>
</table>

### Total Funds Raised Without Infrastructure

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>4,231,754.11</td>
</tr>
<tr>
<td>2013</td>
<td>9,535,436.81</td>
</tr>
<tr>
<td>2014</td>
<td>8,915,342.79</td>
</tr>
<tr>
<td>2015</td>
<td>11,175,450.20</td>
</tr>
<tr>
<td>2016</td>
<td>9,616,514.40</td>
</tr>
<tr>
<td>2017</td>
<td>9,628,230.27</td>
</tr>
</tbody>
</table>
Similar to previous years, the balance between private and public funding shows that public funding remains higher than private funding. However, an increase in private funding can be observed in the last years:

<table>
<thead>
<tr>
<th>FUNDING SOURCES</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC</td>
<td>65%</td>
<td>77%</td>
<td>70%</td>
<td>76%</td>
<td>70%</td>
<td>65%</td>
</tr>
<tr>
<td>PRIVATE</td>
<td>35%</td>
<td>23%</td>
<td>30%</td>
<td>24%</td>
<td>30%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Regarding private funding from industry for the development of clinical studies, it is evident from the figures presented in the following table and the results reflecting the development of the institution’s Plan for Clinical Research that there has been practically no growth in the amount of raised funds over the last years. IMIBIC is taking appropriate measures to reactivate the attraction of funding from industry for the coming years:

<table>
<thead>
<tr>
<th>PRIVATE FUNDS</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Research</td>
<td>975,149,79</td>
<td>1,132,818,84</td>
<td>1,772,682,05</td>
<td>1,786,513,67</td>
<td>1,689,229,30</td>
<td>1,789,050,00</td>
</tr>
<tr>
<td>Contracts with companies and donations</td>
<td>491,816,75</td>
<td>1,014,231,85</td>
<td>882,070,62</td>
<td>870,238,09</td>
<td>985,203,45</td>
<td>1,607,453,56</td>
</tr>
</tbody>
</table>
3 Goals achieved in 2017
# 3. Goals achieved in 2017

<table>
<thead>
<tr>
<th>Objectives and indicators for 2017</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Promote and consolidate institutional integration in relation to human resources (Specific Actions 5, 6 and 7 of the Integration Plan) and promote and consolidate access to the different services that IMIBIC institutions provide to their professionals (Action 9). Successful realization of the planned activities</td>
<td>-Action 5: Promote compensatory mechanisms for teaching activities (teaching support for non-university researchers). The Direction and Management has met with the dean of the Faculty of Medicine and Nursing, Faculty of Veterinary Medicine, and Faculty of Sciences of UCO with the aim of presenting new lines of research for the final projects (TFG) of the different degrees tutored by IMIBIC researchers, thus promoting their teaching profiles. -Action 6: Enable measures to establish and design a model to link university professors to the hospital and their relationships with the clinical management units. The Direction and Management has suggested that UCO professors would have the option of being considered researchers within the clinical management units of HURS they are working with. -Action 7: Favour the relations of non-university researchers with the university. The Direction and Management has proposed to the institutions to consider those researchers with Miguel Servet or other international competitive HR contracts (Marie Skłodowska Curie fellowships, ERC Grants, ...) to be recognised with the same contractual benefits as the holders of Ramón y Cajal grants, i.e be offered a contract as a professor at the university. Action 9: Make it possible for IMIBIC researchers hired by FIBICO to access university services under the same conditions as the UCO personnel. The Direction and Management has established an agreement with UCO to establish collaboration agreements with the UCO-Languages and UCO-Sports organisations.</td>
</tr>
<tr>
<td>2. Develop strategies to increase the quality and number of scientific publications and leadership of IMIBIC researchers. ≥ 27% of articles published in first decile journals</td>
<td>73 articles in first decile (17% of total nr of articles)</td>
</tr>
<tr>
<td>3. Promote and improve clinical research at IMIBIC, increasing the number, quality and efficiency of independent clinical research projects. ≥ 10 trials carried out as promoter</td>
<td>11 trials carried out as promoter</td>
</tr>
<tr>
<td>Objectives and indicators for 2017</td>
<td>Results</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------</td>
</tr>
</tbody>
</table>
| **4. Maximize and improve IMIBIC’s self-sustainability. Optimize the management of own resources by increasing the funds from European and public competitive calls, as well as via fostering collaborations with the business fabric.** | - The estimated budget of core funding for 2017 was 2.2 million euro. The final total revenue to finance the institute’s core structure was 2.1 million euro. However, the expenses were adjusted to the revenues and the result does not present economic deficit.  
- 46% of the total budgeted funds correspond to private funds: the result of this indicator is 44%, which is very close to expected, and presents an increase in comparison with the previous years. |
| **5. Develop a strategy for incorporating new clinical and academic groups, as well as for promoting the existing groups.** | 2 new groups (of which at least one emerging group) incorporated to IMIBIC. 1 group promoted to Emerging or Consolidated group category. 1 new associated group: “Visual Quality”. 1 new emerging group: “Preventive Medicine”. 1 group promoted to consolidated group category: “Knowledge Discovery and Intelligence Systems” |
| **6. Increase the attraction of research talent and promote their professional development.** | Nr of researcher contracts funded by competitive calls > 8% of 2016 value  
Nr. of new Emerging Researchers > 3  
Dr. Manuel Gahete  
Dr. Paula Moreno  
Dr. Antonio García  
Dr. Juan Muñoz Castañeda  
Dr. Nuria Barbarroja  
Nr of contracts funded by competitive calls > 15% of 2016 value (57 vs. 66)  
Nr. of new Emerging Researchers = 5 |
| **7. Foster, specify and consolidate international alliances and collaborations.** | Apply funding for more than 24 international projects  
31 international projects applied for funding |
| **8. Promote and increase the protection of intellectual property generated and the transfer of technology to the business fabric.** | >20% of the patents exploited  
22% of the patents exploited |
| **9. Ensure the quality of the service provided by the Research Support Units and institute’s management units, and promote cross-sector innovation through them.** | User satisfaction ≥ 85%  
Although satisfactory, the result didn’t reach the target, which may have been overestimated. The evaluation of the possibility of redesigning the procedure to collect the data that forms part of this study has been transferred to the Quality Commission.  
User satisfaction 77,20 % |
| **10. Develop and implement an action plan to promote the research activities of medical residents.** | 70% of the plan implemented  
75% of the plan implemented |
| **11. Develop and implement an action plan to promote research in primary care and nursing.** | 70% of the plan implemented  
IMIBIC has participated in the activities planned within the Primary Research Promotion Plan for the region of Andalusia. |
4. External Scientific Advisory Board

The composition of the External Scientific Advisory Board was modified in 2014. The members of the board are:

Dr. Lina Badimon Maestro. Director of the Cardiovascular Research Centre (CSIC-ICCC) (Barcelona)

Dr. Carlos Diéguez González. Director of the Centre for Research in Molecular Medicine and Chronic Diseases (CIMUS) (Santiago de Compostela)

Dr. José María Ordovás. Senior Scientist and Director for the Nutrition and Genomics Laboratory and Chair of the Functional Genomics Core of the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University (USA). Scientific Director of IMDEA Food (Madrid)
Dr. Francisco Sánchez Madrid. Professor of Immunology at the Universidad Autónoma de Madrid and Scientific Director of La Princesa Research Institute (Madrid)

Dr. Carlos López-Otín. Professor of Biochemistry and Molecular Biology at the University of Oviedo (Oviedo)

The annual ordinary meeting took place on November 22, 2017. The members expressed their opinions on matters such as the management of the Institute, incorporation of new research groups, the implementation of strategic initiatives, the scientific structure, and budget for 2017.
Participation in Networks
5. Participation in Networks

IMIBIC researchers are involved in a wide range of strategic initiatives coordinated by the National Institute of Health Carlos III (ISCIII) and they participate in its National Research Networks program, through the Networks for Cooperative Research in Health (RETICs in Spanish) and the Biomedical Research Networking Centers (CIBERs in Spanish). In addition, IMIBIC is member of the new platforms that support research in health sciences and technologies.

Among the 42 groups integrated in the IMIBIC, 22 participate in partnership programs related to different ISCIII strategic initiatives. 11 groups are involved in 8 different RETICs. Additionally, 11 groups are involved in 5 CIBERs and there are 33 groups involved in the Andalusian Plan for Research, Development & Innovation (PAIDI Program).

CIBER Program

Our researchers lead the following CIBER nodes:

<table>
<thead>
<tr>
<th>CIBER</th>
<th>Principal Investigator (PI) /Collaborators</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIBER on Obesity and Nutrition (CIBERobn)</td>
<td>José López Miranda (PI)</td>
</tr>
<tr>
<td></td>
<td>Manuel Tena-Sempere (PI)</td>
</tr>
<tr>
<td></td>
<td>Mercedes Gil Campos (PI)</td>
</tr>
<tr>
<td></td>
<td>Mª Mar Malagón Poyato</td>
</tr>
<tr>
<td></td>
<td>Justo P. Castaño Fuentes</td>
</tr>
<tr>
<td>CIBER on Liver and Digestive Diseases (CIBERehd)</td>
<td>Manuel de la Mata García (PI)</td>
</tr>
<tr>
<td>CIBER on Rare Diseases (CIBERER)</td>
<td>Eduardo López Laso</td>
</tr>
<tr>
<td></td>
<td>Rafael Camino León</td>
</tr>
<tr>
<td>CIBER on Fragility and Healthy Aging (CIBERFES)</td>
<td>Jose Manuel Quesada Gómez (PI)</td>
</tr>
<tr>
<td></td>
<td>Feliciano Priego Capote</td>
</tr>
<tr>
<td></td>
<td>Manuel Rich Ruiz</td>
</tr>
<tr>
<td>CIBER on Cancer (CIBERONC)</td>
<td>Enrique Aranda Aguilar (PI)</td>
</tr>
</tbody>
</table>

Platforms

IMIBIC has become member of the new platforms that support research in health sciences and technologies of the National Institute of Health Carlos III:
• Medical Technology Innovation Platform (ITEMAS)
• Biomolecular and Bioinformatics Resources Platform
• Spanish Clinical Research Network –SCReN
• Biobanks Platform

RETICS Program

List of ISCIII thematic network centers that the IMIBIC is involved in:

<table>
<thead>
<tr>
<th>Name of the Network</th>
<th>Principal Investigator (PI)/Collaborators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish AIDS research network (RIS)</td>
<td>Antonio Rivero Román (PI)</td>
</tr>
<tr>
<td>Spanish Renal Research Network (REDinREN)</td>
<td>Pedro Aljama García (PI)</td>
</tr>
<tr>
<td></td>
<td>Mariano Rodríguez Portillo</td>
</tr>
<tr>
<td>Spanish Network for Research in Infectious Diseases (REIPI)</td>
<td>Julián de la Torre Cisneros (PI)</td>
</tr>
<tr>
<td></td>
<td>Rafael Solana Lara</td>
</tr>
<tr>
<td></td>
<td>Luis Martínez Martínez</td>
</tr>
<tr>
<td>The Spanish National Biobank Network</td>
<td>Manuel Medina Pérez</td>
</tr>
<tr>
<td>Primary Care Prevention and Health Promotion Network (RedIAPP)</td>
<td>Luis A. Pérula de Torres</td>
</tr>
<tr>
<td>Spanish Network for asthma, adverse and allergic reactions (ARADYAL)</td>
<td>Carmen Moreno Aguilar (PI)</td>
</tr>
<tr>
<td>The Research Network for Inflammation and Rheumatic Diseases (RIER)</td>
<td>Eduardo Collantes Estévez (PI)</td>
</tr>
<tr>
<td>The Spanish Network of Multiple Sclerosis (REEM)</td>
<td>Eduardo Agüera Morales (PI)</td>
</tr>
<tr>
<td>Healthcare Research Unit (Investén–ISCIII)</td>
<td>Isaac Túnez Fiñana</td>
</tr>
<tr>
<td>Prevention, Early detection, Treatment and Rehabilitation of Ocular Pathologies</td>
<td>José Mª Gallardo Galera (PI)</td>
</tr>
</tbody>
</table>

The Andalusian Plan for Research, Development and Innovation (PAIDI)

Many IMIBIC researchers belong to or lead groups formed under the Andalusian Plan for Research, Development and Innovation (PAIDI, in Spanish).

<table>
<thead>
<tr>
<th>Principal investigator</th>
<th>Collaborator</th>
<th>Principal investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO–139</td>
<td>Justo P. Castaño Fuentes</td>
<td></td>
</tr>
<tr>
<td>BIO–139</td>
<td>María Del Mar Malagón Poyato</td>
<td></td>
</tr>
<tr>
<td>BIO–216</td>
<td>José Antonio Bárcena Ruiz</td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td>Role</td>
<td>Name</td>
</tr>
<tr>
<td>---------</td>
<td>---------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>BIO-272</td>
<td>Principal investigator</td>
<td>Manuel Ruiz Rubio</td>
</tr>
<tr>
<td>BIO-301</td>
<td>Principal investigator</td>
<td>Rafael Rodríguez Ariza</td>
</tr>
<tr>
<td>BIO-310</td>
<td>Principal investigator</td>
<td>Manuel Tena Sempere</td>
</tr>
<tr>
<td>BIO-304</td>
<td>Collaborator</td>
<td>Ángel Salvatierra Velázquez</td>
</tr>
<tr>
<td>CTS-208</td>
<td>Collaborator</td>
<td>Rafael Solana Lara</td>
</tr>
<tr>
<td>CTS-179</td>
<td>Principal investigator</td>
<td>Escolástico Aguilera Tejero</td>
</tr>
<tr>
<td>CTS-212</td>
<td>Principal investigator</td>
<td>Francisco Pérez Jiménez</td>
</tr>
<tr>
<td>CTS-273</td>
<td>Principal investigator</td>
<td>Manuel de la Mata García</td>
</tr>
<tr>
<td>CTS-234</td>
<td>Principal investigator</td>
<td>Enrique Aranda Aguilar</td>
</tr>
<tr>
<td>CTS-260</td>
<td>Principal investigator</td>
<td>Pedro Aljama García</td>
</tr>
<tr>
<td>CTS-273</td>
<td>Collaborator</td>
<td>Francisco Javier Briceño Delgado</td>
</tr>
<tr>
<td>CTS-329</td>
<td>Principal investigator</td>
<td>Ramón Cañete</td>
</tr>
<tr>
<td>CTS-413</td>
<td>Principal investigator</td>
<td>José Manuel Quesada Gómez</td>
</tr>
<tr>
<td>CTS-452</td>
<td>Principal investigator</td>
<td>Luis A. Pérula de Torres</td>
</tr>
<tr>
<td>CTS-525</td>
<td>Principal investigator</td>
<td>José López Miranda</td>
</tr>
<tr>
<td>CTS-639</td>
<td>Principal investigator</td>
<td>María Mercedes Gil Campos</td>
</tr>
<tr>
<td>CTS-620</td>
<td>Principal investigator</td>
<td>Francisco Velasco Gimena</td>
</tr>
<tr>
<td>CTS-624</td>
<td>Principal investigator</td>
<td>Isaac Túnez Fiñana</td>
</tr>
<tr>
<td>CTS-647</td>
<td>Principal investigator</td>
<td>Julián Carlos de la Torre Cisneros</td>
</tr>
<tr>
<td>CTS-651</td>
<td>Principal investigator</td>
<td>Juan Antonio Paniagua González</td>
</tr>
<tr>
<td>CTS-666</td>
<td>Principal investigator</td>
<td>Aurora Rodríguez Borrego</td>
</tr>
<tr>
<td>CTS-985</td>
<td>Principal investigator</td>
<td>José Peña Amaro</td>
</tr>
<tr>
<td>CTS-992</td>
<td>Principal investigator</td>
<td>Bernabé Jurado Gámez</td>
</tr>
<tr>
<td>CTS-1004</td>
<td>Principal investigator</td>
<td>Eduardo Collantes Estevez</td>
</tr>
<tr>
<td>FQM-227</td>
<td>Principal investigator</td>
<td>María Dolores Luque de Castro</td>
</tr>
<tr>
<td>HUM-414</td>
<td>Principal investigator</td>
<td>Carmen Taberneroro Urbieto</td>
</tr>
<tr>
<td>HUM-924</td>
<td>Principal investigator</td>
<td>Juan Antonio Moriana</td>
</tr>
<tr>
<td>TIC-122</td>
<td>Principal investigator</td>
<td>Sebastián Ventura Soto</td>
</tr>
<tr>
<td>TIC-148</td>
<td>Principal investigator</td>
<td>César Hervás Martínez</td>
</tr>
<tr>
<td>TIC-161</td>
<td>Principal investigator</td>
<td>Rafael Medina Carnicer</td>
</tr>
</tbody>
</table>
6 Training Activities
6. Training Activities

6.1. Introduction
The Institute conceives training as a fundamental institutional tool to fulfil and improve its scientific goals. Thus, a multifaceted program is designed on an annual basis to foster and provide high-quality scientific training to our researchers, which is adapted to the different stages of their scientific career. It includes the organization of an annual program of seminars by known national and international leaders in trending scientific topics, and courses that cover concepts related to our current lines of research as well as practical applications on the latest technologies. Along with these activities, the Institute maintains two key training activities: the annual Young Investigators Meeting, aimed at fostering the interaction and exchange of knowledge among our youngest researchers, and the “Maimonides Commemorative Lecture” which includes lectures by leading experts in Biomedicine, and is intended to recognize and award our top scientists. Finally, the IMIBIC is responsible of a PhD Program in Biomedicine and also participates in two additional PhD programs of the University of Cordoba, that, in all, are aimed to train highly qualified researchers, promote teaching and favour professional qualification in the field of biomedical sciences.
The Training Program Director: Prof. Mª del Mar Malagón, PhD.

6.2. Training Programmes

6.2.1 PhD in Biomedicine
IMIBIC leads a unique PhD Program in Biomedicine. This program, coordinated by Prof. Dr. María M. Malagón, aims to train qualified professionals and to promote the development of professional skills in the field of biomedical sciences.
Website: http://www.uco.es/idep/doutorado/programas/biomedicina

6.2.2. Master’s Degrees
The Master’s Degree Program associated to the IMIBIC encompasses three degrees, one of them led by a member of the IMIBIC, as follows
- Translational Biomedical Research
  Academic Director: Prof. Raúl M Luque Huertas, PhD. (IMIBIC)
  Website: http://www.uco.es/estudios/idep/masteres/investigacion-biomedica-traslacional
- Human Nutrition
  Academic Director: Prof. Rafael Moreno Rojas, PhD.
  Website: http://www.uco.es/estudios/idep/masteres/nutricion-metabolismo
- Biotechnology
  Academic Director: Prof. Nieves Abril Díaz, PhD.
  Website: https://www.uco.es/estudios/idep/masteres/biotecnologia
### 6.3. Training Activities

#### 6.3.1. Courses and Workshops

Specific courses, seminars and other training activities in different research areas were held during 2017 at the IMIBIC.

<table>
<thead>
<tr>
<th>Title</th>
<th>Duration</th>
<th>Organizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Analysis &amp; Visualization Club</td>
<td>3h</td>
<td>IMIBIC - Dr. Juan Ruano Ruiz</td>
</tr>
<tr>
<td>Técnicas avanzadas de genómica y aplicaciones: Aplicaciones de NGS (Next Generation Sequencing)</td>
<td>4h</td>
<td>IMIBIC &amp; WERFEN</td>
</tr>
<tr>
<td>Comercialización y Relación con las Empresas</td>
<td>1,5h</td>
<td>IMIBIC &amp; ITEMAS</td>
</tr>
<tr>
<td>Cómo preparar un CV en las plataformas Investigach y FECYT</td>
<td>1,5h</td>
<td>IMIBIC</td>
</tr>
<tr>
<td>Cómo realizar presentaciones orales en biomedicina</td>
<td>9h</td>
<td>IMIBIC &amp; Fundación Esteve</td>
</tr>
<tr>
<td>Creación y gestión de bases de datos en investigación clínica</td>
<td>2h</td>
<td>IMIBIC</td>
</tr>
<tr>
<td>Curso Avanzado de Lectura Crítica de Metodología y Estadística en Investigación Biomédica</td>
<td>2,5h</td>
<td>IMIBIC</td>
</tr>
<tr>
<td>CVN para convocatorias nacionales: Como cumplimentarlo correctamente</td>
<td>2h</td>
<td>IMIBIC</td>
</tr>
<tr>
<td>Diseñar la semilla empresarial: primera fase del proyecto emprendedor</td>
<td>1,5h</td>
<td>IMIBIC &amp; ITEMAS ISCIII</td>
</tr>
<tr>
<td>El know–how, su protección y transferencia a debate</td>
<td>1h</td>
<td>IMIBIC &amp; ITEMAS ISCIII</td>
</tr>
<tr>
<td>El Plan de Empresa: una herramienta esencial para una empresa de base tecnológica</td>
<td>1,5h</td>
<td>IMIBIC</td>
</tr>
<tr>
<td>El proceso de transferencia tecnológica en biomedicina</td>
<td>1,5h</td>
<td>IMIBIC</td>
</tr>
<tr>
<td>Enfermería basada en la evidencia</td>
<td>8h</td>
<td>IMIBIC – GA02: Comprehensive Nursing Care. Multidisciplinary Perspective</td>
</tr>
<tr>
<td>Estrategia financiera para las spin-off</td>
<td>1,5h</td>
<td>IMIBIC – ITEMAS ISCIII</td>
</tr>
<tr>
<td>Gestión de Servicios de Nefrología Módulo II</td>
<td>2 days</td>
<td>IMIBIC &amp; Escuela Andaluza de Salud Pública</td>
</tr>
<tr>
<td>I CAMPUS DE FORMACIÓN EN BIOMEDICINA. La interfase entre la industria y el médico clínico: ¿Se necesita un modelo especial?</td>
<td>17h</td>
<td>IMIBIC – HURS – Internal Medicine</td>
</tr>
<tr>
<td>II Curso teórico-práctico del tratamiento del queratocono</td>
<td>8h</td>
<td>IMIBIC – HURS</td>
</tr>
<tr>
<td>Lectura Crítica de Metodología y Estadística en Investigación Biomédica</td>
<td>5h</td>
<td>IMIBIC</td>
</tr>
<tr>
<td>Modelos de negocio de éxito</td>
<td>1,5h</td>
<td>IMIBIC &amp; ITEMAS ISCIII</td>
</tr>
<tr>
<td>Recuperación de la información en la biblioteca virtual-sspa. Gestores bibliográficos</td>
<td>4h</td>
<td>BVSSPA &amp; HURS &amp; IMIBIC</td>
</tr>
</tbody>
</table>
### 6.3.2. Events and conferences

<table>
<thead>
<tr>
<th>Title</th>
<th>Duration</th>
<th>Organizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abordaje multidisciplinar para pacientes con esclerosis múltiple</td>
<td>4h</td>
<td>IMIBIC - HURS</td>
</tr>
<tr>
<td>Bienvenida prácticas FP IMIBIC</td>
<td>1h</td>
<td>IMIBIC</td>
</tr>
<tr>
<td>Bienvenida Residentes IMIBIC</td>
<td>1h</td>
<td>IMIBIC - HURS</td>
</tr>
<tr>
<td>Feria de Posgrado UCO</td>
<td>2 days</td>
<td>UCO - IDEP</td>
</tr>
<tr>
<td>III Jornada de Investigación Traslacional en Enfermedades Raras</td>
<td>11,5h</td>
<td>IMIBIC - Centro de Referencia Andaluz de Enfermedades Raras</td>
</tr>
<tr>
<td>Investigación en Alzheimer</td>
<td>5h</td>
<td>IMIBIC &amp; Alzheimer Córdoba</td>
</tr>
<tr>
<td>IV Encuentro de Enfermería de Medicina Interna</td>
<td>4h</td>
<td>HURS</td>
</tr>
<tr>
<td>Jornada Hematología</td>
<td>7h</td>
<td>CELGENE</td>
</tr>
<tr>
<td>Manejo de insectos himenópteros en alergia</td>
<td>12h</td>
<td>ALK</td>
</tr>
</tbody>
</table>
### 6.3.4 Other activities

<table>
<thead>
<tr>
<th>TYPE OF ACTIVITY</th>
<th>TITLE</th>
<th>DURATION</th>
<th>ORGANIZER</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO SESSION</td>
<td>Carrera Investigadora</td>
<td>2,5h</td>
<td>IMIBIC &amp; FPS</td>
</tr>
<tr>
<td>INFO SESSION</td>
<td>Convocatoria de Ayudas de la Consejería de Salud en 2017 para la Financiación de la Investigación, Desarrollo e Innovación (I+D+i) Biomédica y en Ciencias de la Salud en Andalucía</td>
<td>1h</td>
<td>IMIBIC &amp; FPS</td>
</tr>
<tr>
<td>INFO SESSION</td>
<td>Novedades de las convocatorias del ISCIII 2017</td>
<td>1h</td>
<td>IMIBIC</td>
</tr>
<tr>
<td>INFO SESSION</td>
<td>Sesión informativa Work Programme SC1 2018-2020: Experto de OPE-IS-CIII y Encuentro</td>
<td>3h</td>
<td>IMIBIC &amp; FPS</td>
</tr>
<tr>
<td>LECTURE</td>
<td>Actualización en Leucemia Linfatica Crónica</td>
<td>4h</td>
<td>JANSSEN</td>
</tr>
<tr>
<td>CLINICAL SESSION</td>
<td>Sorafenib: &quot;10 años junto al Tratamiento del Hepatocarcinoma&quot;</td>
<td>3h</td>
<td>BAYER</td>
</tr>
<tr>
<td>CLINICAL SESSION</td>
<td>Darzalex: primer anticuerpo monoclonal anti CD38</td>
<td>1,5h</td>
<td>HEMATOLOGY JANSSEN</td>
</tr>
</tbody>
</table>

### 6.3.5 IMIBIC Research Seminars

Regular seminars and research events offer the opportunity to meet recognized national and international speakers covering a diverse range of topics in biomedicine. IMIBIC research seminars promote networking and contribute to strengthen the knowledge of the research community of the Institute. The Institute launches a yearly cycle of seminars aimed at promoting interactions, sharing ideas, and strengthening the bonds among IMIBIC scientists and recognised scientist from other research institutions. In 2017, a total of 21 external seminars were presented.

In addition, young researchers (preferentially post-doctoral researcher) of our Institute have the opportunity to present their ongoing studies in a fortnight-scheduled cycle of intramural seminars, which was launched for the first time in 2015. In 2017, a total of 9 intramural seminars were held.
## JANUARY

<table>
<thead>
<tr>
<th>WEEK</th>
<th>INTRAMURAL SEMINARS</th>
<th>EXTERNAL SEMINARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>Date: 12/01/2017</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Speaker: Elena López-Guadamillas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organisation: Centro Nacional de Investigaciones Oncológicas (CNIO)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Title: Papel de PI3K en obesidad y síndrome metabólico: Estudios mecanísticos y traslacionales</td>
</tr>
<tr>
<td>3</td>
<td>Date: 17/01/2017</td>
<td>Date: 19/01/2017</td>
</tr>
<tr>
<td></td>
<td>Speaker: Juana Serrano</td>
<td>Speaker: Mónica García Alloza</td>
</tr>
<tr>
<td></td>
<td>Group: GC16</td>
<td>Organisation: Área de Fisiología, Facultad de Medicina, Universidad de Cádiz</td>
</tr>
<tr>
<td></td>
<td>Title: Hematópoyesis e inflamación</td>
<td>Title: Análisis de las interacciones entre la obesidad y las enfermedades neurodegenerativas: Modelos preclínicos e implicaciones traslacionales</td>
</tr>
<tr>
<td>4</td>
<td>Date: 26/01/2017</td>
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<td></td>
<td>Speaker: Carmen García Martínez</td>
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<td></td>
<td>Group: Escuela Politécnica Superior de Córdoba, Profesora Titular de Física Aplicada</td>
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<tr>
<td></td>
<td>Title: Los plasmas en la Medicina</td>
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<td>5</td>
<td>Date: 31/01/2017</td>
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<td>Speaker: Carmen Navarrete</td>
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<tr>
<td></td>
<td>Title: Nuevos derivados cannabinoides en neuroprotección y neuroinflamación. Eficacia en Esclerosis Múltiple</td>
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## FEBRUARY

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<td>6</td>
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<td>Date: 9/02/2017</td>
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<tr>
<td></td>
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<td>Speaker: Alejandro Rodríguez González</td>
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<tr>
<td></td>
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<td>Organisation: Universidad Politécnica de Madrid</td>
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<tr>
<td></td>
<td></td>
<td>Title: Redes complejas de enfermedades humanas: análisis y creación a gran escala</td>
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<tr>
<td>7</td>
<td>Date: 14/02/2017</td>
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<tr>
<td></td>
<td>Speaker: Alicia Villa OSaba</td>
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<td>Group: GC08</td>
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<tr>
<td></td>
<td>Title: Avances en la (pato)fisiología de somatostatina y cortistatina en cáncer de mama y obesidad: ¿dos simples análogos?</td>
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<td>8</td>
<td>Date: 21/02/2017</td>
<td>Date: 23/02/2017</td>
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<tr>
<td></td>
<td>Speaker: José Miguel Bretones</td>
<td>Speaker: Guillermo Velasco Diez</td>
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<tr>
<td></td>
<td>Group: GA02</td>
<td>Organisation: Universidad Complutense de Madrid</td>
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<tr>
<td></td>
<td>Title: Cuidados enfermeros integrales. Perspectiva multidisciplinar</td>
<td>Title: Towards the utilization of cannabinoids as anticancer agents... and other stories inspired by cannabis</td>
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<td>MARCH</td>
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| 9    | -                | Date: 02/03/2017  
Speaker: María Domínguez  
Organisation: Instituto de Neurociencias, UMH-CSIC  
Title: The neurobiology of ‘puberty’ and reproduction: a view from Drosophila |
| 10   | Date: 07/03/2017  
Speaker: Rocío Guzmán  
Group: GC11  
Title: Identificación de nuevos marcadores de disfunción del tejido adiposo en obesidad y resistencia a insulina | Date: 09/03/2017  
Speaker: Teresa Giráldez  
Organisation: Institute of Biomedical Technologies (ITB) & University of La Laguna  
Title: Ion channels in health and disease |
| 11   | -                | Date: 16/03/2017  
Speaker: Savino Sciascia  
Organisation: Universidad de Torino, Italia  
Title: New perspectives in Antiphospholipid Syndrome |
| 12   | -                | Date: 23/03/2017  
Speaker: Jose Ramón Banegas Banegas  
Organisation: Universidad Autónoma de Madrid, Facultad de Medicina, Departamento de Medicina Preventiva y Salud Pública  
Title: Investigación clínica y epidemiológica en prevención cardiovascular. Algunos datos y retos |

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<th>APRIL</th>
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| 14    | Date: 04/04/2017  
Speaker: Valeria Barresi  
Group: GE01  
Title: Molecular profile of brain tumours | Date: 06/04/2017  
Speaker: Juan C. Cigudosa  
Organisation: Asociación Española de Genética Humana. Centro Nacional de Investigaciones Oncológicas (CNIO) y Director Científico de NIMGenetics  
Title: Medicina Personalizada de Precisión |
| 16    | Date: 18/04/2017  
Speaker: Nuria Barbarroja  
Group: GC05  
Title: Papel patogénico de los neutrófilos en las enfermedades autoinmunes | - |
| 17    | -                | Date: 27/04/2017  
Speaker: Ernestina Menasalvas  
Organisation: Universidad Politécnica de Madrid  
Title: Electronic health record analysis to support evidence based medicine |
### MAY

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<td>18</td>
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<td>Speaker: Javier Casado García</td>
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<td>Organisation: Unidad de Terapia del Centro de Cirugía de Mínima Invasión,</td>
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<tr>
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<td>Title: Aplicabilidad de Células Madre Mesenquimales en el tratamiento de enfermedades de base inflamatoria</td>
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<td>19</td>
<td>-</td>
<td>Date: 08/05/2017</td>
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<td>Speaker: Nicolas Heureux</td>
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<td>Organisation: DIAsource Immunoassays</td>
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<td>Title: Should we measure free or total 25OH Vitamin D?</td>
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<td>20</td>
<td>Date: 16/05/2017</td>
<td>Date: 18/05/2017</td>
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<td>Speaker: Delphine Franssen Group: GC10</td>
<td>Speaker: Oriol de Barrios Barri</td>
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<tr>
<td></td>
<td>Title: Alteration of the neuroendocrine control of puberty after postnatal exposure to Endocrine Disrupting Chemicals</td>
<td>Organisation: Institut d’investigacions Biomèdiques August Pi i Sunyer (IDIBAPS)</td>
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<td>Title: ZEB1 promueve la progresión tumoral mediante la inhibición de la senescencia celular</td>
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<td>21</td>
<td>-</td>
<td>Date: 22/05/2017</td>
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<td>Speaker: Paulino Tallón de Lara</td>
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<td></td>
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<td>Organisation: Institute of Experimental Immunology, University of Zurich</td>
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<td>Title: Dual formation MD-PhD for physician scientists. Building bridges between lab and clinic</td>
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### JUNE

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<td>Speaker: Jesús María Hernández Rivas</td>
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<td>Organisation: Hospital Univ. Salamanca. Instituto Investigación del Cáncer de Salamanca</td>
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<tr>
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<td>Title: Edición génica CRISPR en Hemopatías</td>
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<td>24</td>
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<td>Speaker: Dr Eduardo Eyrás</td>
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<td>Organisation: Universitat Pompeu Fabra</td>
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<tr>
<td></td>
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<td>Title: Splicing y cáncer</td>
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### NOVEMBER

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| 44   | -                   | Date: 02/11/2017  
Speaker: María Laura García  
Organisation: Instituto Ramón y Cajal de Investigación Sanitaria (IRYCS)  
Title: MiRNAs como nuevos biomarcadores de nefropatías útiles en la práctica clínica |
| 47   | -                   | Date: 23/11/2017  
Speaker: Òscar Fornas  
Organisation: Universitat Pompeu Fabra  
Title: Identificación y aislamiento de exosomas mediante citometría de flujo |
| 48   | -                   | Date: 29/11/2017  
Speaker: Roberto Manfredi  
Organisation: University of Ferrara, Italy.  
Title: Chronobiology, gender and health |

### DECEMBER

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<th>INTRAMURAL SEMINARS</th>
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| 50   | -                   | Date: 14/12/2017  
Speaker: Miguel Valcárcel  
Organisation: Analytical Chemistry, University of Cordoba  
Title: Nanoteragnosis: combinación de terapias y diagnósticos con base nanotecnológica |
6.4 Institutional Events

6.4.1 8th IMIBIC Young Investigator Meeting

The IMIBIC Young Investigator Meetings is intended to provide the ideal environment to strengthen the skills and knowledge of young scientists, fostering translational research by facilitating the interface between experimental basic science and clinical medicine to improve health and the quality of life. By sharing the results obtained by young researchers at the IMIBIC and related centers, including other groups of the University of Cordoba, we intend to encourage inter-disciplinary research and, especially, quality training.

The objectives of the Meetings are:

- To provide a platform to discuss the latest knowledge and methods in translational medical research.
- To promote interactions and the exchange of ideas between pre- and post-doctoral scientists and strengthen the bonds among research groups.
- To facilitate interdisciplinary actions and communication in order to bring together basic and clinical research.
- To foster and provide high-quality scientific training to young researchers.
- To consolidate the annual IMIBIC Meetings as a youthful and fresh reference forum for the research community and, in particular, for our young researchers.

The 8th Meeting took place at the IMIBIC Building on 30-31 May 2017. The Meeting program included different sessions encompassing the IMIBIC Scientific Programs, as follows:
Programme

Day 1 (30th MAY)

08:30 - 09:00  Registration and Poster display
09:00 - 09:30  Opening ceremony

09:30 - 11:00  SESSION I. Nutrition, Endocrine and metabolic diseases

Ia 09:30 - 9:45  Atrial fibrillation, genetic and biomarkers in the Atherosclerosis Risk in Communities Study. Antonio Pablo Arenas de Larriva

Ib 09:45 - 10:00  Adipokines and their receptors are widely expressed in mouse prostate and are distinctly regulated therein by the metabolic environment. Andrés Sarmento Cabral

Ic 10:00 – 10:15  Perturbed central ceramide signaling as novel mechanism for obesity-induced precocious puberty. Evidence from preclinical studies. Violeta Heras Domínguez

Id 10:15 – 10:30  Unbalanced proteostasis in preadipocytes in obesity-related metabolic disease. Julia Sánchez Ceinos

Ie 10:30 – 10:45  Chronic consumption of a Mediterranean diet improves endothelial dysfunction in patients with diabetes mellitus. José David Torres Peña

If 10:45 – 11:00  Involvement of a novel AMPK-Kisspeptin pathway in the metabolic control of puberty. Alexia Barroso Romero

11:00 - 11:30  Coffee Break

11:30 - 12:15  Poster Showcase, SESSION I Nutrition, Endocrine and metabolic diseases & SESSION I Active ageing and fragility. Infectious and Immunological diseases. Organ transplantation

12:15 - 13:45  SESSION II. Active ageing and fragility. Infectious and Immunological diseases. Organ transplantation

Iia 12:15 - 12:30  A prospective study to evaluate the impact of early everolimus on the recurrence of hepatocellular carcinoma after liver transplantation. Beatriz Gros Alcalde

17:15 - 17:45  Posters

17:45 - 19:15  SESSION IV. Cancer (Oncology and Oncohematology)

IVa 17:45 - 18:00  Components of the splicing machinery are drastically dysregulated in neuroendocrine tumors and associated with malignancy and aggressiveness. Sergio Pedraza Arévalo

IVb 18:00 – 18:15  Development of a CRISPR-based system to reactivate epigenetically silenced genes. Iván Devesa Guerra

IVc 18:15 – 18:30  Use of MALDI imaging technology to predict the response to antiangiogenic therapy in colorectal cancer. Francisco Manuel Conde Pérez

IVd 18:30 – 18:45  Diagnostic accuracy of MRI-Transrectal Ultrasound Fusion prostate Biopsy in men with previous prostate biopsies. The FUPROSIB project. Enrique Gómez Gómez

IVe 18:45 – 19:00  Metabolomics analysis of human sweat by gas chromatography-time of flight/mass spectrometry. María del Mar Delgado Povedano

IVf 19:00 – 19:15  Alteration of nitric oxide production targets cancer stem cells in breast cancer and augments the efficacy of anti-hormonal therapy. Laura M. López Sánchez

Day 2 (31th MAY)

08:30 - 09:00  Registration and Poster display
09:00 - 10:30  SESSION V. Nutrition, Endocrine and metabolic diseases

Va 09:00 – 09:15  Identification of candidate serum biomarkers of pediatric Growth Hormone deficiency using SWATH-MS next-generation proteomics and feature selection algorithms. Ignacio Ortea García

Vb 09:15 – 09:30  Gender interacts with metabolic abnormalities to influence carotid atherosclerosis in elderly patients. Mª Magdalena Pérez Cardelo
IIa 12:15 - 12:30 A prospective study to evaluate the impact of early everolimus on the recurrence of hepatocellular carcinoma after liver transplantation.
Beatriz Gros Alcalde

IIb 12:30 - 12:45 Quality of Life of Informal Caregivers of People with Alzheimer’s Disease. Conductual Intervention.
Patricia Luque Carrillo

IIc 12:45 - 13:00 External validation of a risk score for carbapenem-resistant Klebsiella pneumoniae bloodstream infection in a prospective cohort of rectal carriers.
Ángela Cano Yuste

IId 13:00 - 13:15 Vitamin E from food sources can prevent cellular aging. CORDIOPREV study.
Andrea Corina Baba

Ile 13:15 - 13:30 Effect of hypoxic preconditioning on rat Adipose-Derived Mesenchymal Stem Cells (ASCs) functionality. Study in a diabetic rat model.
Ana María López Díaz

IIl 13:30 - 13:45 Diagnosis of acute hepatitis E genotype 3 infection by viral isolation from saliva.
Pedro López López

13:45 - 14:15 In Memory of Enrique Aguilar Benítez de Lugo

14:15 - 15:45 Lunch

15:45 - 17:15 SESSION III. Chronic and Inflammatory diseases

IIa 15:45 - 16:00 Assessment of short-term effectiveness of five local treatment modalities in patients with symptomatic knee osteoarthritis.
Mª Lourdes Ladehesa Pineda

IIb 16:00 - 16:15 Regulation of Renal Klotho and FGFR1 Expression.
Ma Victoria Pendón Ruiz de Mier

IIc 16:15 - 16:30 Diagnostic potential of NETosis-derived products for disease activity, atherosclerosis and therapeutic effectiveness in Rheumatoid Arthritis patients.
Patricia Ruiz Limón

IIId 16:30 - 16:45 Lithium recovers altered mechanosensory and locomotory behaviors in neurexin- and neulin-deficient mutants of Caenorhabditis elegans.
Ángel Rodríguez Ramos

IIle 16:45 - 17:00 Defective glucose and lipid metabolism in rheumatoid arthritis is determined by chronic inflammation in metabolic tissues.
Iván Arias de la Rosa

IIlf 17:00 - 17:15 Consumption of alcoholic beverages in nursing students at the University of Cordoba.
Pedro Manuel Rodríguez Muñoz

Vc 09:30 - 09:45 Mechanisms and consequences of obesity-induced hypogonadism. Role of a novel hypothalamic miR-137/Kisspeptin pathway.
María Soledad Avendaño Herrador

Vd 09:45 - 10:00 Evaluation of the metabolic and inflammatory status in prepuberal children with a history of Extrauterine Growth Restriction or Prematurity.
Mª Dolores Ordoñez Díaz

Ve 10:00 - 10:15 Significance of circulating miRNAs as predictive biomarkers in pre-diabetes and new diagnosed type 2 diabetes mellitus.
Rosa Jiménez Lucena

Cristina Pérez García

10:30 - 11:00 Coffee Break

11:00 - 11:45 Poster Showcase. SESSION II Chronic and Inflammatory diseases & SESSION II Cancer (Oncology and Oncohematology)

11:45 - 13:00 SESSION VI. Cancer (Oncology and Oncohematology)

Vla 11:45 - 12:00 The Splicing Machinery is Profoundly Deregulated in Prostate Cancer: Pathological and Clinical Implications.
Juan Manuel Jiménez Vacas

Vlb 12:00 - 12:15 Targeted DNA demethylation in human cells by fusion of a plant 5-methylcytosine DNA glycosylase to a sequence-specific DNA binding domain.
Jara Teresa Parrilla Doblas

Vlc 12:15 - 12:30 Regulation of Notch1 expression and activity by DYRK2. New Insights of Carcinogenesis Signaling Pathways.
Rosario Morrugares Carmona

Vld 12:30 - 12:45 Neutrophil-to-Lymphocyte Ratio as prognostic factor in SBRT for Lung Cancer.
Fabiola Romero Ruperto

Vle 12:45 - 13:00 Plasmatic Levels of miRNAs as Reliable Diagnostic Tool for Prostate Cancer Patients.
Vicente Herrero Aguayo

13:00 - 14:00 Plenary Lecture. Dr. Roger Gomis, IRB Barcelona

14:00 - 14:30 Awards and Closing ceremony
6.4.2 6th Maimonides Commemorative Lecture and IMIBIC awards 2017

The aim of this initiative is to recognize the biomedical research carried out by IMIBIC staff and to emphasize the importance of the results obtained at the Institute. In 2017 the “Enrique Aguilar Benítez de Lugo” Prize was awarded to the most relevant scientific publication in collaboration with international groups, together with an Award for the best master's degree thesis, and two Awards for the most relevant translational research results. A special price was also awarded to the most valuable news that had been published in press regarding IMIBIC activities.

In each edition, an outstanding biomedical scientist is invited to give the “Maimónides Lecture”, a conference focusing on the latest knowledge on basic, applied, and/or translational biomedical science of excellence. In 2017, the guest was Dr. José López Barneo. Dr. López Barneo is the scientific director of the Institute of Biomedicine of Seville (IBiS), University of Seville/Spanish Research Council/University Hospital Virgen del Rocío, Seville, Spain, and principal investigator of the group “Cellular Neurobiology and Biophysics” at the IBiS. He is doctor of Medicine and Surgery, Full Professor of Physiology of the University of Seville, and Coordinator of Research at University Hospital Virgen del Rocío. He has been awarded several prizes, among others the National Research Award “King Jaime I” in Science and Technology, National Research Award “King Juan Carlos I” in Science and Technology, or the Research award Medal of the Andalusian Government. The research work of Dr. Lopez-Barneo has been published in more than a hundred publications in highly ranked international journals. Dr. Lopez-Bar neo is one of the most cited physiologists in Spain. He was awarded a 2014 ERC Advanced Grant.

In addition to the aforementioned prizes, a special prize was awarded to the Reina Sofía University Hospital in Córdoba, for its contribution to the advancement of biomedical and health research, commemorating the 40th anniversary of its creation.
VII LECCIÓN CONMEMORATIVA MAIMÓNIDES Y PREMIOS IMIBIC 2017

22 de noviembre
Salón de Actos IMIBIC

PROGRAMA

16:15h Acto de apertura

16:30h Entrega de premios anuales y presentación de premiados

- Premio al mejor trabajo de Máster defendido en 2015/2016. Juan Manuel Jiménez Vacas - GC08. “La variante de splicing sst5TMD4 incrementa la malignidad del cáncer de próstata alterando rutas de señal clave, oncogenes y supresores tumorales”

- Premios a la traslacionalidad de los resultados de investigación.

  • Categoría 1. Mejor iniciativa que suponga una nueva aportación a la cartera de servicios del entorno sanitario resultado de la labor investigadora o bien la participación en una guía de práctica clínica con criterios de calidad internacional (AGREE). Pablo Pérez Martínez- GC09. “Lifestyle recommendations for the prevention and management of metabolic syndrome: an international panel recommendation”
• Categoría 2. Premio al registro, patente o “spin off” que se considere con más potencialidad para mejorar problemas de salud.
  Manuel David Gañete Ortiz - GC08.
  “Método diagnóstico no invasivo del cáncer”

- Premio al trabajo periodístico de mayor valor para el IMIBIC.
  Ángela Alba Mora - El Día de Córdoba.
  “Enfermedades raras. El valor de la investigación”

- Premio a la Publicación Científica más relevante en colaboración con grupos internacionales.
  Rubén Ciria Bru - GC18.
  “Comparative Short-term Benefits of Laparoscopic Liver Resection: 9000 Cases and Climbing”

- Premio “Enrique Aguilar Benítez de Lugo” a la publicación más relevante.
  Ignacio Ortea García –Unidad de Proteómica.
  “Discovery of potential protein biomarkers of lung adenocarcinoma in bronchoalveolar lavage fluid by SWATH MS data-independent acquisition and targeted data extraction”

  Raúl Luque Huertas – GC08.
  “Ghrelin O-acyltransferase (GOAT) enzyme is overexpressed in prostate cancer, and its levels are associated with patient’s metabolic status: Potential value as a non-invasive biomarker”

17:50h  Lección Conmemorativa Maimónides
  Prof. Dr. José López Barneo (IBiS)

18:50h  Acto de clausura

19:00h  Copa de vino andaluz
6.5. Results of the Training Activities

6.5.1 Doctoral Theses

The Institute holds the PhD Program on Biomedicine, which helps prepare young scientists in biomedical and clinical research. Experienced mentors in the IMIBIC supervise the research training in health and health-related areas of a considerable number of pre-doctoral students. A list is provided below of the 30 Doctoral Theses supervised by researchers from the Institute that were presented in 2017.

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<tr>
<th>Author</th>
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<tr>
<td>Trávez García, Andrés Ricardo</td>
<td>Caracterización de nuevos marcadores reguladores del funcionamiento</td>
<td>Mª del Mar Malagón Rafael Vázquez Martínez</td>
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<td>Alcalá Díaz, Juan Francisco</td>
<td>Metabolismo energético postprandial y su relación con el sindrome</td>
<td>Jose López Miranda Javier Delgado Lista</td>
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<td>metabólico en pacientes con enfermedad coronaria</td>
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<td>Hormaechea Agulla, Daniel</td>
<td>Functional role and therapeutic potential of the somatostatin and</td>
<td>Raúl M. Luque Huertas Justo P. Castaño Fuentes</td>
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<td>ghrelin systems and their splicing variants in prostate cancer</td>
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<td>Pérez Sánchez, Carlos</td>
<td>Mecanismos de aterosclerosis y enfermedad cardiovascular en</td>
<td>Rosario López Pedrera Nuria Barbarroja Puerto</td>
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<td>enfermedades autoinmunes sistémicas: integración de análisis</td>
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<td>inmunológicos, moleculares y epigenéticos</td>
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<td>Guirao Arrabal, Emilio</td>
<td>Incidencia y factores de riesgo de tuberculosis en el transplante</td>
<td>Julián de la Torre Cisneros</td>
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<td>de pulmón: importancia de la profilaxis</td>
<td>Verónica Muñoz Romero</td>
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<td>Morales Estévez, Cristina</td>
<td>Genes KIR y sus ligandos como predictores de respuesta a anticuerpos</td>
<td>Juan de la Haba Rodríguez</td>
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<td>monoclonales anti-EGFR en tumores sólidos”</td>
<td>Enrique Aranda Aguilar</td>
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<td>Fernández Peralbo, María</td>
<td>Aportaciones de la metabolómica al análisis clínico orientado y</td>
<td>Feliciano Priego Capote Mª Dolores Luque de Castro</td>
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<td>global mediante cromatografía y espectrometría de masas</td>
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<td>Del Río Mercado, Carmen</td>
<td>Desarrollo y caracterización de nuevos derivados de cannabinoides</td>
<td>Eduardo Muñoz Blanco Irene Cantarero Carmona</td>
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<td>no psicótropicos para el tratamiento de enfermedades inflamatorias</td>
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<td>Medina Fernández, Francisco</td>
<td>efecto neuroprotector de la aplicación transcraneal de campos</td>
<td>Isaac Túnez Fiñana René Drucker Colín</td>
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<td>García Martínez, Lucrecia</td>
<td>Impacto de un programa de validación de antimicrobianos de uso</td>
<td>Julián de la Torre Cisneros</td>
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<td>restringido en la resistencia microbiana: estudio de intervención</td>
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<td><strong>Author</strong></td>
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<td>Calvo Gutiérrez, Jerusalem</td>
<td>Análisis de la expresión clínico-radiográfica del daño estructural de origen inflamatorio en pacientes con espondiloartritis</td>
<td>Rosario López Pedrera</td>
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<td>Ortega Castro, María Rafaela</td>
<td>Efecto del tocilizumab sobre el perfil aterotrombótico en pacientes con artritis reumatoide: análisis de la función endotelial y la inflamación</td>
<td>Nuria Barbarroja Puerto</td>
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<tr>
<td>Lucía Fernández del Río*</td>
<td>Regulación de la biosíntesis del coenzima Q a través de intervenciones nutricionales y farmacológicas</td>
<td>Jose Manuel Villalba Montoro</td>
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<tr>
<td>Morais Sarmento Borges Cabral, André *</td>
<td>Factores moleculares, celulares y endocrino-metabólicos implicados en la interacción patológica entre la obesidad y el cáncer de próstata: Papel terapéutico de la metformina</td>
<td>Raúl M. Luque Huertas</td>
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<tr>
<td>León del Pino, María Carmen</td>
<td>Prevalencia del “mismatch” prótesis-paciente tras implante percutáneo de prótesis aórtica, e impacto pronóstico a medio plazo</td>
<td>Manuel Pan Álvarez Osorio</td>
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<td>Puentes Torres, Rafael Carlos</td>
<td>Aceptabilidad y factibilidad del cribado oportunista de VIH en Atención Primaria</td>
<td>Cristina Aguado Taberné</td>
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<td>Agüera Morales, Eduardo</td>
<td>Respuesta in vivo de las células satélites a extractos musculares. Diferencias entre músculos lentos y rápidos</td>
<td>José Peña Amaro</td>
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<td>Vega Oomen, Olivia</td>
<td>Descripción y comparación del perfil de expresión del sistema lin28/let-7 y microrna asociados en tejido placentario sano y tejido placentario procedente de embarazo ectópico</td>
<td>Antonio Pellicer Martínez</td>
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<td>Molina Calle, María</td>
<td>Análisis orientado y global en metabolómica vegetal mediante espectrometría de masas acoplada a técnicas cromatográficas</td>
<td>Mª Dolores Luque de Castro</td>
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<td>Lara Chica, María Isabel *</td>
<td>Identification of new kinase substrates involved in the DNA damage response pathway and its implication in carcinogenesis</td>
<td>Marco Antonio Calzado Canale</td>
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<tr>
<td>González Rubio, Sandra</td>
<td>Regulación de nos3 durante la muerte hepatocelular inducida por ácidos biliares</td>
<td>Manuel de la Mata García</td>
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<tr>
<td>García González, Víctor</td>
<td>Mecanismos de acción antitumoral del metabolito fúngico galiellalactona y sus derivados semisintéticos</td>
<td>Eduardo Muñoz Blanco</td>
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<td>Ayllón Terán, María Dolores</td>
<td>Validación de las redes neuronales artificiales como metodología para la asignación donante-receptor en el trasplante hepático</td>
<td>Francisco Javier Briceño Delgado</td>
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<tr>
<td>Linares Luna, Clara Isabel</td>
<td>Regulación de la supervivencia celular por sobreexpresión de NOS3 en la línea de hepatoma HepG2</td>
<td>Manuel de la Mata García</td>
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<tr>
<td>Author</td>
<td>Title</td>
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<td>Casado Adam, Ángela</td>
<td>Importancia de la temperatura de la quimioterapia intra-peritoneal intraoperatoria con paclitaxel en el tratamiento quirúrgico radical de la carcinomatosis peritoneal de origen ovárico. hipertermia versus normotermin</td>
<td>Sebastián Rufián Peña Álvaro Arjona Sánchez</td>
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<tr>
<td>Canales de Andrade, Nancy Beatriz</td>
<td>RCP ROCK. Ana herramienta para recordar cómo salvar vidas. ensayo comunitario sobre la creación de una canción que permite recordar las maniobras de rcp en el tiempo</td>
<td>Roger Ruiz Moral Luis Ángel Pérula de Torres</td>
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<td>Raya Hidalgo, Patricia</td>
<td>aportación del servicio de protección radiológica a la seguridad y salud del personal expuesto a radiaciones ionizantes en la universidad de córdoba</td>
<td>Manuel Vaquero Abellán</td>
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<tr>
<td>Santiesteban Sánches de Puerta, Marta</td>
<td>Intervencionismo cardiaco en pacientes con cirugía de derivación cavopulmonar</td>
<td>Manuel Pan Álvarez Osorio Miguel Ángel Romero Moreno</td>
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<td>Campos Hernández, Juan Pablo</td>
<td>Fragmentación de ADN en espermatozoides de varones infértiles con varicocele. Nivel al que se produce la fragmentación del adn. implicaciones clínicas y terapéuticas</td>
<td>Antonio López Beltrán María Josefa Requena Tapia</td>
</tr>
<tr>
<td>Cano Castiñeira, Roque Jesús</td>
<td>Prevalencia de litiasis renal en la población andaluza. factores asociados</td>
<td>Luis Ángel Pérula de Torres</td>
</tr>
<tr>
<td>Cárdenas Aranzana, Manuel Jesús</td>
<td>Efectividad y eficiencia de la terapia biológica en artritis reumatoide en la práctica clínica real</td>
<td>Eduardo Collantes Estevez Miguel Ángel Casado Gómez</td>
</tr>
<tr>
<td>Yáñez Rodríguez, Virginia</td>
<td>Habilidades de afrontamiento en los padres y madres de niños y niñas con trastornos del espectro autista: hacia una visión integradora</td>
<td>Bárbara Luque Salas Vicente Sánchez Vázquez</td>
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</tbody>
</table>

* Theses with International Mention

### 6.5.2 Research Stays

IMIBIC is committed to foster training of our PhD students in national and international centers of reference in biomedical research in order to allow the opportunity to experience research in a foreign environment, facilitate the integration of graduates into the scientific community and create networks.

14 researchers from the IMIBIC completed a research stay in a national or international center in 2017. 3 of them were financed by public competitive grants, 2 by private competitive grants, and 9 by the institutions own research visit grants. The total duration of all the stays sums up to 52 months.

Likewise, external visitors are invited to carry out their research in our Institute. Altogether 17 visiting scientists stayed at IMIBIC during 2017, with the total duration of their visits summing up to 50 months.
7 Biomedical Research Support Units
7. Biomedical Research Support Units

The UCAIB (Central Biomedical Research Support Units) are a fundamental part of IMIBIC, as they provide support and innovative scientific solutions to the development of the research projects of the IMIBIC research groups. Part of the activity carried out by these units is included among the objectives of the Infrastructure Plan.

Central Biomedical Research Support Units are (incl. personnel):
- Methodology and Biostatistics Unit (1 senior technician)
- Microscopy, Cytomics, and Scientific Imaging Unit (2 senior technicians)
- Proteomics Unit (2 senior technicians and 2 technical support staff members)
- Animal Experimentation Unit (1 veterinarian and 2 technical support staff members)
- Bioinformatics and Technological Innovation Unit (3 senior technicians)
- Isotope Unit (1 technician)
- Genomics Unit (1 technician and 1 technical support staff member)
- Biobank Unit (2 technical support staff member)
- Clinical Research Unit (1 Pharmacologist, 3 senior technicians, 2 nurses and 1 nurse assistant)

7.1. Isotope Unit

7.1.1. Personnel
The Isotope Unit is composed of:

Supervisor:
Dr. Eduardo Muñoz Blanco
filmuble@uco.es

Operator:
Antonia Sánchez Arroyo
antonia.sanchez@imibic.org

7.1.2. Equipment and Facilities
The unit has two laboratories dedicated to working with radioactive isotopes both and . One is located on the -2 floor and the other on the third floor.
The unit has been authorized by the Nuclear Safety Council since December of 2014 to work with the following isotopes:
<table>
<thead>
<tr>
<th>Isotopes</th>
<th>Maximum Activity (Mbq)</th>
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<tbody>
<tr>
<td>Carbon (C-14)</td>
<td>370</td>
</tr>
<tr>
<td>Tritium (H-3)</td>
<td>370</td>
</tr>
<tr>
<td>Phosphorous (P-32)</td>
<td>370</td>
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<tr>
<td>Phosphorous (P-33)</td>
<td>370</td>
</tr>
<tr>
<td>Sulfur (S-35)</td>
<td>370</td>
</tr>
<tr>
<td>Chrome (Cr-51)</td>
<td>370</td>
</tr>
<tr>
<td>Iodine (I-125)</td>
<td>370</td>
</tr>
</tbody>
</table>

The Radiological Protection Service of the University of Córdoba is responsible for the supervision of this Unit and its operative procedures. The Service is also responsible for checking that the laboratories are free from contamination and is in charge of waste management and removal.

### 7.1.3. Equipment
- Gamma Counters 3 units:
  - Brand: Wizard
  - Model: 2470-0100 Beta counter
- UN Beta Counter (1 unit)
  - Brand: Tricard
  - Model: 2810 TR
- Microbeta Counter (1 unit)
  - Brand: Microbeta2
  - Model: 2450-0020
- Harvester Cell
- A sample preparer
  - Brand: Janus
- Two refrigerated ultracentrifuges with capacity for 200 samples.
- Three exclusive gas cabinets for working with radioactive isotopes, two of which are used with a lead guillotine and the third with a methacrylate guillotine.
- Two radiation detectors
  - Brand: Lamse
  - Model: RM 10013-RDM

### 7.1.4. Services
- Training in the handling of $\beta$ and $\gamma$ counters.
- Labeling of proteins with I-125.
- Identification of protein levels in serum, plasma and other biofluids using the RIA technique.
- In situ hybridization (ISH) with P-33 labelled probes.
- Radioactive techniques for analysis of cell death and proliferation.
- Consultation regarding the different isotopic techniques that are employed in the laboratory.
- Optimization of protocols.

The necessary infrastructure to house within the Animal Experimentation Unit a PET-RM and MicroTAC Preclinical Imaging Systems has been designed in collaboration with the Radiological Protection Service of the University of Córdoba and the Radio diagnostic and Nuclear Medicine Unit of the hospital. This work has been carried out in order to define the optimal equipment and workflows prior to the bidding process of said equipment.

7.2. Animal Experimentation Unit

The animal experimentation unit is associated to the Animal Experimentation Service (SAEX) of the University of Córdoba. The unit provides integral support to its users, at consultation and experimental levels, with the objective of carrying out research for the Institute and other associated organizations through the use of animal subjects, mainly rodents (mice and rats) and pigs.

7.2.1. Personnel

The Animal Experimentation Unit is composed of:
- Director of SAEX
  Ana Mª Molina López

- Anabel Pozo Salas
  sae@imibic.org
- Estefanía Escudero Jabonero
  estefania.escudero@imibic.org
- Rafael Pineda Reyes (till September 2017)
  rafael.pineda@imibic.org

7.2.2. Equipment and Facilities

The unit comprises:
- 7 rooms for housing rodents.
- 1 healing / metabolism room: This room has a respirometry system and two racks for metabolic cages.
- 5 multi-purpose rooms: These rooms have optogenetics and quantitative analysis equipment as well as a bodily composition MRI, among other equipment.
- Operating Room: Suitable for surgery in both rodents and larger animals, consisting of: 3 3D laparoscopy towers, 7 TV video monitors, 3 anesthesia machines for large animals, 6 surgery tables, 2 rodent anesthesia system with 4 seats, 1 rodent
anesthesia system with 2 seats, 6 gas towers, 1 surgical microscope for large animals, 1 high-end ultrasound, 3 magnifiers, 1 microscope and 1 C-arm.
- Quarantine Zone: 4 ventilated racks for rats / mice, 1 replacement cabinet and 1 triple gate SAS.

In 2017, coordinated by the Animal Experimentation Service of the University of Córdoba, the animal experimentation unit of IMIBIC obtained the favourable resolution to open its facilities.

### 7.3. Microscopy, Cytomics, and Scientific Imaging Unit

The Microscopy, Cytomics and Scientific Imaging Unit comprises two technological areas which are of great importance in the field of biomedical research, because they are a powerful tool for studies at cellular level.

- Flow cytometry aimed at multicolor flow cytometry analysis (up to 18 colors), and cell sorting.
- Advanced Optical Microscopy aimed at fluorescence and confocal microscopy of fixed and living cellular samples, and image analysis.

The unit offers access to specialized equipment of flow cytometry, cell sorting and confocal microscopy, and a wide range of techniques, actively providing IMIBIC researchers and external users with technical expertise, as well as methodological and scientific advice to develop efficient and reliable assays and to obtain high-quality results.

#### 7.3.1. Personnel

The unit is composed of:

- Esther Peralbo Santaella, PhD  
  microscopia.citometria@imibic.org
- Gema García Jurado, PhD  
  gema.garcia@imibic.org

#### 7.3.2. Equipment and Facilities

**Flow Cytometry and Sorting Laboratory**

Equipped with:
- BD LSR Fortessa SORP analyzer: 4 lasers and 20 detectors (18 fluorescence parameters + FSC/SSC).
- BD FACSCalibur analyser: 1 laser and 5 detectors (3 fluorescence parameters + FSC/SSC).
- BC Cytomics FC500 MCL analyzer: 2 lasers and 7 detectors (5 fluorescence parameters + FSC/SSC).
- BD FACSAria III Cell Sorter: 3 lasers and 13 detectors (11 fluorescence parameters + FSC/SSC).
**Advanced Optical Microscopy Laboratory**

Equipped with:
- Zeiss LSM 710 spectral confocal laser scanning microscope, with inverted motorized stand. 7 laser lines: 405, 458, 488, 514, 543, 594 and 633 nm. Scanning module with 3 spectral R/FL detection channels (PMTs) and 1 transmitted-light channel (PMT). Integrated large incubation chamber.

**7.3.3. Services**
- Self-use (Operator-unassisted) of flow cytometry analyzers and microscopy equipment (only for internal users properly trained in using the equipment).
- Operator-assisted use of the instruments.
- Technical support for instrument setup and troubleshooting.
- Cell sorting: only provided as a staff-assisted service.
- Advice on experimental design, sample preparation methods, analysis and interpretation of flow cytometry data and microscopy images.

**7.3.4. Highlights**

In 2017, a new Confocal Microscopy Technician was hired for the Microscopy, Cytomics and Scientific Imaging Unit. Moreover, the unit provided services to 13 IMIBIC research groups.

Publications co-authored by the unit in 2017:

**7.4. Proteomics Unit**

The Proteomics Unit provides researchers with state-of-the-art technologies in the field. Currently, the Proteomics Unit is a specialized platform in quantitative proteomics and MALDI Imaging (or Molecular Imaging).

The Proteomics Unit offers its analytical services for IMIBIC staff and University of Córdoba and to other universities, hospitals and private companies.

The Unit has two main state-of-the-art components: (i) a high performance liquid chromatography–mass spectrometry platform that provides researchers with access to high-throughput proteomics analyses, ranging from protein identification and characterization to label–free quantitative proteomics; and (ii) a mass spectrometry–based molecular imaging platform (MALDI–Imaging) that provides spatial information of metabolites, lipids and proteins directly from tissues and biopsies.
The Proteomics Unit provides individualized, fit-for-purpose support including project planning, sample preparation, mass spectrometry analysis and data analysis.

7.4.1. Personnel
The Unit is composed of two specialized technicians:

Ignacio Ortea, PhD
  ignacio.ortea@imibic.org
Eduardo Chicano, PhD
  eduardo.chicano@imibic.org

and two assistant technicians:

Rocío Pérez
Natalia Fernández (till December 2017)

7.4.2. Equipment and Facilities
- Q-TOF mass spectrometer, Triple TOF 5600+ (Sciex)
- Triple quadrupole mass spectrometer, XevoTQS (Waters)
- MALDI-TOF/TOF Mass spectrometer, 5800 (Sciex)
- nanoHPLC: Eksigent LC400 (Sciex)
- nanoUPLC: nanoAcquity M-Class (Waters)
- Sprayer: Sunchrom Suncollect (Sunchrom, Friedrichdorf, Germany)
- Laser Scanner: Typhoon Trio (GEHealthcare, Uppsala, Sweden)
- Main programs (and programming languages) used for data analysis: Protein Pilot, Comet and X!Tandem for protein identification; Peak View, Marker View and Skyline for protein quantification; Tissue View, MSiReader, Cardinal for Maldi Imaging MS. R, Python and Matlab for general analysis purposes.
- Basic laboratory equipment for sample preparation

7.4.3. Services
• Identification and characterization of proteins by MALDI-TOF/TOF
• Identification and characterization of proteins by LC-MS/MS
• Quantitative Proteomics:
  – SWATH
  – SRM (Selected Reaction Monitoring)
  – pseudoSRM
• MALDI Imaging mass spectrometry
• Project supervision and collaboration
• Training in software used for data analysis
7.4.4. Highlights
During 2017, the Proteomics Unit increased its volume of work related to fee-based services to the scientific community. The Proteomics Unit registered a patent, published two scientific articles, presented three studies at congresses, and joined an international inter-laboratory proficiency study.

Articles published:

Patent registered:

Awards received by Proteomics Unit staff:
- Grant from the Spanish Proteomics Society for covering expenses related to an international short research stay.
- “Enrique Benitez de Lugo” 2017 Prize to the most outstanding publication.

7.5. Bioinformatics and Technological Innovation Unit

The mission of the Bioinformatics and technological innovation Unit is to provide engineering and computing resources to satisfy both the bioinformatics analysis requirements and the different technological needs that result from research and clinical practice, with an emphasis on the promotion and implementation of state-of-the-art technologies.

In the field of bioinformatics, the main objective is to develop and design and execute pipelines for the analysis of genomic and proteomic data. A top priority is the implementation of reporting guidelines pertinent to each particular case (MIAME, MIAPE, etc.) and the use of standardized formats (MAGE-ML, MAGE-TAB, mzML, mzIdentM, etc.) is a top priority whose aim is to burnish robust reporting and facilitate the publication of findings.

7.5.1. Personnel
The Bioinformatics and technological innovation Unit is composed of:

Head of Unit
Sebastián Ventura Soto, PhD
sventura@uco.es

Technicians
Jesús Fernández Chaichio
jesus.fernandez@imibic.org
7.5.2. Equipment and Facilities

- Computing resources: BullX R428-E3 node. 4x Intel Xeon E5-4610v2 8c, 32 cores. 256 GB RAM
- 3D Printer: BCN3D+ Fused Deposition Material Printer.
- Development resources: Apple Mac Mini for iOS app development.

7.5.3. Services

The unit’s services can be divided in two main categories:

- Bioinformatic services
  - Biocomputing tools to support groups conducting relevant research projects
  - Direct analysis of relevant research projects and technical data needed for support
  - Bioinformatics covers varying fields and diverse applications such as:
    - Analysis of nucleic acids (DNA / RNA )
    - Analysis of peptide sequences, structures, functions, metabolic pathways and interactions with genes
    - Generation of knowledge relative to the study of new drugs
- Engineering services
  - Software development
  - Design and implementation of algorithms
  - Construction of databases and Electronic Data Capture instruments
  - 3D modeling and printing
  - Engineering & consulting

7.5.4. Highlights

The Bioinformatics and Technological Innovation Units has continued its activity of promoting the use of computer technologies among the different research groups. As part of these activities, the Unit has started a cycle of seminars, which began with one centered on the use of Electronic Data Capture instruments and databases in clinical research. This cycle will be continued on the following years with more advanced topics. As a result, the Unit has increased its activity and the number of both collaborations and funded projects in which it participates.

7.6. Genomics Unit

The mission of the IMIBIC Genomics Unit is to make very high level equipment available and provide scientific and technical advice for the development of various analytical techniques to researchers both at the institute and at other public and private institutions. Said equipment and technical knowledge is dedicated to the comprehensive study of DNA and RNA (genotyping / expression /
regulation), which in turn will produce high-quality results for the development of excellent biomedical research. To this end, the unit has cutting-edge, high throughput performance platforms in the field of genomics. It is also important to note the high level of interaction with the other UCAIBs, which are located in the same building, such as Bioinformatics, Proteomics and Cytometry.

7.6.1. Personnel
The unit is composed of a senior specialized technician, who coordinates the unit, and a laboratory technician.
Álvaro Jiménez Arranz  
(senior specialized technician)  
genomica@imibic.org / alvaro.jimenez@imibic.org
Pilar Rubín González de Canales  
(laboratory technician)

7.6.2. Equipment and Facilities
Currently, the resources that the Genomics Unit has at its disposal are:

a) Illumina MiSeq
MiSeq is an Illumina platform sequencing technology based on SBS (sequencing by synthesis), which is currently the most widely adopted NGS (next-generation sequencing) technology in the world on account of its speed, accuracy and quality. This sequencer can generate up to 15 Gb/run and can perform 2x300bp paired-end reads, leading to greater accuracy, especially in problem areas such as with homopolymers. The MiSeq system allows for DNA-Seq, RNA-Seq, Methyl-Seq and ChIP-Seq, with a wide range of applications.

b) nCounter DX / NanoString technology
The NanoString nCounter system uses a novel technique of molecular barcodes linked to specific probes that can detect and count hundreds of targets in a single reaction without amplification, thus letting users study a large number of mRNAs, miRNAs and DNAs simultaneously with sensitivity and “gold standard” reproducibility. Its applications include gene expression analysis, gene fusion, copy-number variation (CNV) and simultaneous analysis of mRNAs and RNA regulators such as miRNAs and lncRNAs.
The nCounter DX is CE and IVD certified for conducting analyses that ensure care quality and, along with these applications, make the nCounter a tool with high potential for clinical use. Currently there is a CE-marked test for in vitro diagnostics (CE-IVD) on the market, which was approved by the FDA for breast cancer (Prosigna–PAM50), based on the molecular analysis of the gene expression of 50 genes. This lets it classify the tumor into one of four intrinsic subtypes, related to disease prognosis and choice of treatment. In addition, the launch of another validated kit for in–vitro diagnostics (CE-IVD / FDA) is currently underway, based on 20 differential gene expression patterns, aimed at determining DLBCL subtypes (diffuse large B–cell lymphoma), and related disease treatment.

c) Digital PCR (dPCR): QX200 Droplet Digital PCR System
The digital PCR offers a more precise and sensitive alternative to conventional qPCR for absolute quantification and detection of rare alleles without need of standards or endogenous controls due to droplet partitioning.
**d) Quantitative PCR (qPCR):**
The unit currently has 3 platforms aimed at genotyping PCR and gene expression studies:
- Light Cycler 480 (96-well platform)
- Light Cycler 96 (96-well platform)
- 7900 HT Fast (384-well platform)
With regard to IMIBIC research staff, the unit offers the possibility of using the qPCR platforms under a “self-service” scheme (without technical operator).

**e) Others**
The unit has additional appliances designed for quantification, quality analysis and determining the size of nucleic acid fragments:
- Nanodrop ND1000 (Spectrophotometer)
- DeNovix DS-11 (Spectrophotometer)
- Quantus (Fluorometer)
- 2200 TapeStation (Microelectrophoresis)
Additionally, IMIBIC has a computation cluster (bullx computing node R418-E3), for mandatory use in next-generation sequencing (NGS) protocols.

**7.6.3. Services**
- Technical support and scientific and methodological advice on the choice and optimization of genomic techniques
- Design support for NGS or NCounter targeted panels
- Technical and scientific support in the use of qPCR platforms and probe design
- Nucleic acid quality controls (spectrophotometry, fluorometry and microelectrophoresis)
- Analysis of targeted gene expression panels (up to 800 genes) using NCounter System
- PAM50-signature Analysis (ProsignaTM) for breast cancer prognosis
- Screening of up to 800 miRNA in tissue, peripheral blood cells and serum/plasma by NanoString Technologies (NCounter System)
- Gene expression and genotyping studies using real-time PCR
- Absolute quantification by Droplet Digital PCR System (viral load analysis...)
- Liquid biopsy: Rare mutation detection in cfDNA by ddPCR
- NGS library preparation
- Sequencing NGS (next generation sequencing) by Illumina Miseq
- Training and support in the use of data analysis software related to the unit’s technology
- Project supervision and partnerships

**7.6.4. Highlights**
In 2017, the Genomics Unit significantly increased the number of projects and users, improved the protocols and services by following GLP principles (good laboratory practices) to ensure the quality, reproducibility and reliability of results, initiated a set of new services and was integrated into a multidisciplinary team with several clinical departments at the Reina Sofía University Hospital.
This has led to the implementation of the PAM50-signature (ProsignaTM) for breast cancer prognosis and has laid the foundations for the development of future analyses that facilitate the translation of research results into clinical practice. The certification for developing the PAM50 analysis that was obtained in 2016 and the implementation of the signature have positioned the unit as a PAM50 analysis reference center. Furthermore, the unit has been part of the Nanostring’s Translational Research Collaboration program for testing the molecular signature LST (Lymphoma Subtyping Test), aimed at determining DLBCL subtypes (diffuse large B-cell lymphoma).

7.7. Clinical Research Unit

The IMIBIC Clinical Research Unit promotes clinical research at IMIBIC and at the Reina Sofia University Hospital and also aims to establish collaborations with other research centers. Currently, IMIBIC is part of the Spanish Clinical Research Network (SCReN). The Unit focuses on the development of clinical trials including design, feasibility, regulatory affairs, launch, management, monitoring, pharmacovigilance, data management, statistics and delivery of clinical assistance. All operations are GCP compliant. The IMIBIC Clinical Research Unit consists of two facilities: the Provincial Hospital Clinical Research Unit and the General Hospital Clinical Research Unit. Both are adapted to perform clinical trials of phases I–IV in patients.

7.7.1. Personnel

Head of Unit
José López Miranda, MD
jlopezmir@uco.es

Clinical Pharmacologist
María Esther Pacheco Rodríguez, MD
esther.pacheco@imibic.org

Project Managers/CRAs
Antonio Miguel Luque Pineda
antonio.luque@imibic.org
Carmen María Clavijo Ramírez (till September 2017)
Juan Manuel Escandell Morales
juanmanuel.escandell@imibic.org

Nurse Coordinator
Inés Carmen Rodríguez García
inesc.rodriguez.sspa@juntadeandalucia.es
Nurses
Manuel Rejano Castañeda
manuel.rejano.sspa@juntadeandalucia.es
Pilar Mesa Blanco
pilar.mesa@imibic.org
Araceli Chicano Gálvez
araceli.chicano@imibic.org

Nursing Assistants
Rubén Sánchez Nieves

7.7.2. Equipment and Facilities
- 10 doctor’s consultation rooms and a storehouse
- 2 hospital wards each containing: crash trolley with semi-automatic defibrillator and emergency medication, intravenous fluids, an insulin pump, healing trolleys, oxygen outlets in all positions and audiovisual system
- 14 armchairs and rooms with 3 single beds, all with ongoing monitoring
- Pediatric area
- 12-lead ECGs
- Measuring boards and scales
- Blood pressure meter in each office
- Customized Bathrooms
- Individual lockers for patients
- 2 Living rooms for patients
- 2 Waiting rooms for patients and family
- 1 multi-purpose room
- 2 Laboratories for sample processing and centrifuges
- Freezers (-80°C and -20°C)
- 2 storehouse for materials
- High Definition Ultrasound Scanner
- 2 Study coordinators’ offices
- 2 CRAs’ offices
- 2 Archives

7.7.3. Services
- Methodological support
- Launch and Regulatory affairs
- Study development
- Monitoring
- Pharmacovigilance
- Delivery of clinical assistance

### 7.7.4. Highlights

During 2017, the Unit provided assistance and support in the start-up, coordination, data management or monitoring of 24 independent clinical research projects in the following Units, among others: Cardiology, Hematology, Internal Medicine, Pediatrics, General Surgery, Nephrology, Rheumatology, and Infectious Diseases. Concerning research activity, 768 patients were treated at the facilities of the Clinical Research Unit. 132 clinical research projects have been carried out. The main areas that have developed their activity in the unit are Oncology, Internal Medicine, Nephrology, Infectious Diseases, Dermatology, Urology, Rheumatology, Cardiology, Pediatrics, Psychiatry, Endocrinology, Ophthalmology, Digestive System, Allergy and Immunology.

As a member of the Spanish Clinical Research Network (SCReN), the Unit has coordinated as sponsor one international multicenter clinical trial and has actively participated in 4 other clinical trials interacting with different groups within Spain. The Unit also collaborates with several working groups within the network.

To promote clinical research, the Unit has organized working meetings with health professionals in different areas: Urology, Pediatrics, Immunology, General Surgery, Palliative Care, Cardiac Surgery, Diagnostic Radiology, etc. The research lines of the main pharmaceutical companies and the capacity of participation of these units have been evaluated. Meetings have been organized with the medical departments of the pharmaceutical companies.

In 2017 the Unit helped the Pediatrics service to join the Spanish Pediatric Clinical Trials Network (RECLIP).

### 7.8. Biobank Unit

The Biobank Unit is one of the research support platforms whose mission is to act as a liaison between doctors, researchers and patients who donate biological samples for the purpose of biomedical research to uphold the current legal constraints and appropriate ethical safeguards.

The IMIBIC Biobank is part of the Biobanks of the Andalusian Public Health System (SSPA), an initiative of the Department of Equality, Health and Social Policy of the Regional Government. It is part of the Thematic Network of Hospital Biobanks pertaining to the National Institute of Health Carlos III (ISCI), and the subprogram of the Thematic Networks of Cooperative Research in Health (RETICS).

#### 7.8.1. Personnel

**Scientific Manager**

- Dr. Manuel Medina Pérez  
  manuel.medina.sspa@juntadeandalucia.es

**Coordinator**

- Carmen Pérez Calle(till December 2017)
Technician
Javier Herruzo
javier.herruzo@imibic.org

7.8.2. Equipment and Facilities
The Unit has its own laboratory resources for sample transformations (Safety booths, PCR Booths, Microtomes, Chryostate, Flotation Bath, Centrifuge, Histobath, Automated Processor for Paraffin Inclusion, Paraffin Dispenser, etc.) as well as other machinery such as:
• Tissue Safe: fully automated preparation of tissue samples in a vacuum.
• Tissue Arrayer: assembles different tissue samples in a single multiple matrix for subsequent histological analysis.
• Quiacube: Automatic, compact system for analysis of DNA, RNA, plasmids and proteins from varying samples.
For sample storage, there are currently two freezers: one for temperatures of -20 degrees Celsius, seven for -80 degrees Celsius, as well as paraffin storage rooms for room temperature.

7.8.3. Services
The service portfolio is divided into four main areas:
1. Custody for storing samples at different temperatures.
2. Processes for transforming multiple types of biological samples in accordance with the procedures and technical criteria commonly used by researchers in their projects.
3. Provision of human samples and data on human health and disease research, selected according to clinical and diagnostic criteria specified by researchers.
4. Technical, scientific and ethical consulting regarding the collection, storage, and management of human samples in biomedical research.

7.8.4. Highlights
In 2017, the Biobank Unit has given essential support to 22 research projects. This activity generated a total of 16,232 samples / bioresources.

7.9. Methodology and Biostatistics Unit
The Unit offers methodological consulting and statistical support for IMIBIC’s researchers and for healthcare professionals in the Public Health System in the Province of Córdoba.
The Unit’s main objectives are to:
1. Offer methodological consulting in the beginning or development of the studies of research in the phases prior to the presentation of proposals/reports to the relevant financial entities and in general throughout the projects’ life cycles.
2. Provide necessary statistical support to researchers for the creation of databases, and use of statistical techniques and tools of epidemiological clinical research, through advisory or execution of statistical analysis.
3. Provide the highest possible quality in design, execution, interpretation and communication of results.
7.9.1. Personnel
Maria del Carmen Muñoz Villanueva, MD, PhD. (till June 2017)
During the rest of the year, from July to December, the biostatistics and methodological support was offered by the Bioinformatics and Technological Innovation Unit. In 2018, one senior technician will join the Unit.

7.9.2. Equipment and Facilities
The main statistical programs used for data analysis are:
- PASW Statistics 18 (Copyright 2009 by SPSS Inc.)
- IBM SPSS 19 (Copyright 2010 by SPSS Inc.)
- Epidat 4.1
- GranMo versión 7 (abril 2012)
- G–stat 2.0 (Copyright 2008 by GSK, SA.)
- Sinergy 3.0 (Copyright 2008 by GSK, SA.)

7.9.3. Services
Through personalized consultations (face to face meetings, telematic or virtual) we cover the different moments of the research process. Specifically, the aid that they request may be:
- Research design
- Data collection instruments
- Database organization
- Technical statistics options
- Data analysis
- Results interpretation
- Written report of results
- Attention to methodological demands of copy editors

Specifically, the consulting at the methodological level may include:
- Review of the different sections of the scientific methodology proposed in the research protocol: presentation of hypotheses, formulation of objectives, choice of epidemiological design, operational definition of variables, etc.
- Guidance for literature search techniques
- Advice on the presentation of results for scientific dissemination
- Validation of publication requirements depending on the type of study and quality criteria of scientific publications
- Analysis of the grounds for refusal: review of articles and rejected projects

Consultation and execution of statistical analysis may include:
- Drafting of statistical analysis methodology or strategy.
- Sampling and sample size calculation.
- Design of research databases.
- Exploratory and descriptive analysis of the data.
- Inferential analysis (univariate and multivariate).
- Evaluation of diagnostic tests: sensitivity, specificity, predictive values and ratios of likelihoods. ROC curves.
- Validation of questionnaires and other measuring instruments.
- Other statistical techniques (Bayesian analysis, meta-analysis, etc.).
GC1 Immunology and Allergy

HIGHLIGHTS

Publications

13

Impact Factor

49,371

Average Impact Factor

3,797

Team Leader

Principal Investigator (PI)
Rafael Solana Lara
rsolana@uco.es
Spanish Network for Research into Infectious Pathologies (REIPI) (Collaborator)
Spanish Network for asthma, adverse and allergic reactions (ARADyAL) (PI: Carmen Moreno Aguilar) PAIDI CTS 208 Molecular immunology

Researchers
Alonso Diaz, Corona
Barasona Villarejo, Mª José
González Fernández, Rafael
Jurado Roger, Aurora
Moreno Aguilar, Carmen
Saiz Sánchez, Vanessa
Serrano Delgado, María del Pilar

Post-Doctoral Researchers
Campos Fernández, Carmen
Castro Orgaz, Laura
Manzanares Martin, Bábarra
Pera Rojas, Alejandra
Ruiz León, Berta
Hassouneh, Fakhri

Pre-Doctoral Researchers (PhD and MSc Students)
Cañones Barceló, Estrella
García Gallego, Azahara
López Sejas, Nelson
Navas Romo, Ana María
Molina Alcaide, Juan Eduardo
Yarce Bustamante, Oscar Alberio

Other members of the Group (Nursing, Technical and Administrative Staff)
Fisichella, Marco
Guerra González, Mercedes
Velarde Martínez, Mª Luisa
Scientific Activity
Our group studies the process of senescence of the immune system in different models: chronological aging, cancer, inflammatory diseases, viral infection and other situations of chronic activation of the immune system. In particular, we analyse the receptors involved in the regulation of cytotoxicity in T (CTL) and NK cells and their ligands in these models, and the role of CMV.

Keywords
Immunosenescence, aging, melanoma, NK cells, NKT cells, NK receptors, CMV, cytotoxic T lymphocytes (CTL).

Scientific Production
Publications
Main Publications
Pera A, Broadley I, Davies KA, Kern F. Cytomegalovirus as a Driver of Excess Cardiovascular Mortality in Rheumatoid Arthritis A Red Herring or a Smoking Gun? CIRCULATION RESEARCH. 2017.120(2):274-277. IF: 13,965
Q: 1 D: 1

Martinez-Losada C, Martin C, Gonzalez R, Manzanares B, Garcia-Torres E, Herrera C. Patients lacking a KIR-ligand of HLA group C1 or C2 have a Better Outcome after Umbilical cord Blood Transplantation. FRONTIERS IN IMMUNOLOGY. 2017.8.art.810. IF: 6,429
Q: 1

Q: 1

Other publications
Q: 1 D: 1

Broadley I, Pera A, Morrow G, Davies KA, Kern F. Expansions of Cytotoxic CD4(+)CD28(-) T Cells Drive Excess Cardiovascular Mortality in Rheumatoid Arthritis and Other Chronic Inflammatory Conditions and Are Triggered by CMV Infection FRONTIERS IN IMMUNODEFICIENCY SCIENCE 2017.8.art.1310. IF: 4,711
Q: 1

Q: 2

Q: 1

Q: 1

Q: 1

Q: 2

Puente LG, Flores EI, Benitez JM, Medina RM, Rodriguez IS, Melero PA, Aranzana MJC, Fernandez RG, Martin BM, Garcia-Sanchez V. Evolution after switching to biosimilar infliximab in inflammatory bowel disease patients in clinical remission. GASTROENTEROLOGIA Y HEPATOLOGIA. 2017.40(9):595-604. IF: 0,917
Q: 4

Q: 1
IMMUNOLOGY. 2017.8.art.1-10195. IF: 6,429 Q: 1


Cebrino J, de la Cruz SP, Barasona MJ, Alcazar P, Moreno C, Dominguez-Vilches E, Galan C. Airborne pollen in Cordoba City (Spain) and its implications for pollen allergy. AEROBIOLOGIA. 2017.33(2):281-291. IF: 2,212 Q: 2


Research Funding

National


Moreno C. Anaphylaxis by insect bites. Search for biomarkers of early response to immunotherapy with Hymenoptera venom. Funding agency: Andalusian Society of Allergology and Clinical Immunology. Reference: Alergosur16

Moreno C. Anaphylaxis by insect bites. Search for biomarkers of early response to immunotherapy with Hymenoptera venom. Funding agency: Andalusian Society of Allergology and Clinical Immunology. Reference: SEAIC_15

Regional


International


Moreno C. Agreement with Novartis. Funding Agency: Novartis Farmaceutica S.A. Reference: PSS.0117

Moreno C. Agreement with Alk-Abello. Funding Agency: Alk-Abello S.A. Reference: PSS.0138


Clinical Trials

0086/15. A multinational phase IIb study to investigate the efficacy and safety of subcutaneous immunotherapy with a modified fish-parvalbumin given in single rising and maintenance doses to subjects allergic to fish.

PI: Dr Moreno Aguilar, Carmen

0258/15. A multicentre international, randomized, double-blind, and placebo-controlled to demonstrate the clinical efficacy and safety of subcutaneous immunotherapy using gpASIT + TM in patients with allergic rhinoconjunctivitis induced grass pollen.

PI: Dr Moreno Aguilar, Carmen

3343. Valuation Of The Effectiveness And Toxicity Of The Use Of Intravenous Gammaglobulin In The Treatment Of Infections In Patients With Hipogammaglobulinemia Igg Post-Transplant Of Solid Organ.

PI: Dr Alonso Diaz, Corona

3031. Insect sting anaphylaxis. Search for biomarkers of early response to hymenoptera venom immunotherapy.

PI: Dr Moreno Aguilar, Carmen

2739. Effect of antihypertensive medication in the severity of anaphylaxis and side effects during venom immunotherapy Hymenoptera insects. EADOAS.

PI: Dr Moreno Aguilar, Carmen

3070. Analysis Of The Sensitization Profile By Skin Test, Determination Of Ige To Complete Extract And Molecular Diagnosis In Patients With Allergic Disease Respiratory For Sensitization To Pollen.

PI: Dr Moreno Aguilar, Carmen

Contracts with Companies


Moreno C. Agreement with Novartis. Funding Agency: Novartis Farmaceutica S.A. Reference: PSS.0117

Moreno C. Agreement with Alk-Abello. Funding Agency: Alk-Abello S.A. Reference: PSS.0138

Oxidative and nitrosative stress in acute and chronic liver disease

Principal Investigator (PI)
Manuel de la Mata García
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CIBER on Liver and Digestive Diseases (CIBERehd)
PAIDI CTS-273 in Study of acute affections of the digestive system.

Co-Principal Investigator (Co-PI)
Jose Antonio Bárcena Ruiz
PAIDI BIO-216 on Molecular mechanisms of antioxidant and proteomic defense.

Researchers
Aguilar Melero, Patricia
Barrera Baena, Pilar
Costán Rodero, Guadalupe

Ferrín Sánchez, Gustavo
Fraga Rivas, Enrique
García Sánchez, Mª Valle
Iglesias Flores, Eva
Martínez Galisteo, Emilia
Montero Álvarez, José Luis
Padilla Peña, Alicia
Peinado Peinado, José
Poyato González, Antonio
Rodríguez Perálvarez, Manuel Luis

HIGHLIGHTS

Publications
31
Impact Factor
129,331
Average Impact Factor
4,171

Pre-Doctoral Researchers (PhD and MSc Students)
Benítez Cantero, José Manuel
Fernández González, Rocío
Guerrero Misas, Marta
López Grueso, María José
Medina Medina, Rosario

Other members of the Group (Nursing, Technical and Administrative Staff)
Díaz Sillero, Encarnación
Gómez Núñez, Mª Isabel
Salgueiro Rodríguez, Isabel
Scientific Activity
Our research group is a consolidated multidisciplinary team composed of 6 basic researchers and 8 clinicians. The group is involved in the scientific education of its members, which is reflected in the 4 post-doctoral and 4 pre-doctoral researchers, who are developing their scientific career in the group. Besides, we have the valuable support of 3 dedicated nurses trained in research tasks.

Our main research area is the molecular basis of liver and digestive diseases, with special dedication to patients with end-stage liver disease who develop hepatocellular carcinoma or undergo liver transplantation, and patients with inflammatory bowel diseases.

In the long term, we expect to apply the results of our research projects to develop a more personalized medicine, increasing the efficacy of the treatments and their safety. In particular, we are continuously working in improving immunosuppression regimens for liver transplant patients and in implementing liquid biopsy as a prognostic tool to select patients with hepatocellular carcinoma to undergo liver transplantation. In inflammatory bowel diseases, we expect to apply the identified biomarkers of response to anti-TNF to select the best treatment for each patient. The group aims to promote and to protect the health through the basic, clinical and translational research in liver and digestive diseases. In addition, our group is deeply engaged in providing access to the novel therapies to our patients, as part of our participation in 45 trials in hepatology and inflammatory bowel diseases in the last 10 years.

In 2017, our group led 4 publications and collaborated in 19 scientific articles. Regarding immunosuppression strategies, in the past few years we have shown that early minimization of tacrolimus in liver transplant patients with hepatocellular carcinoma is able to decrease tumor recurrence rates, while prolonging graft survival (Journal of Hepatology, 2013). We have also demonstrated that everolimus, an mTOR inhibitor, may be safely introduced early after liver transplantation (Clinical Transplantation, 2015). However, the addition of everolimus to tacrolimus minimization does not provide an extra benefit regarding prevention of recurrence of hepatocellular carcinoma, nor concerning graft survival (article in press). Early in 2018 we have worked with the Cochrane Collaboration to perform a network meta-analysis to make a ranking of the most effective and safest immunosuppression protocols (Cochrane Syst Rev Database, 2017). The results have reinforced the assumption that tacrolimus based immunosuppression is the gold standard after liver transplantation, even though its optimal combination with other immunosuppressants remains unknown. Further research initiatives are needed in order to accomplish a true personalized immunosuppression (Transplant International, 2016).

Research Lines
- Hepatocellular carcinoma and liver transplantation: personalized immunosuppression and liquid biopsy
- Functional validation of SNP rs6105269 in Crohn’s disease
- Biomarkers of response to anti-TNF drug in inflammatory bowel disease
- Systemic therapy for advanced hepatocellular carcinoma
- Evaluation of alternative therapeutic compounds for the treatment of cholestasis

Keywords
Liver transplant, hepatocellular carcinoma, Crohn’s disease, ulcerative colitis, cholestasis, liquid biopsy, proteomic, anti-TNF.

Scientific Production
Publications
Main Publications
IF: 8,402
Q: 1 D: 1
IF: 6,124
Q: 1 D: 1


Other Publications


Bárcena Ruiz, JA/Padilla Peña, C.A. Role of peroxiredoxins in the homeostasis cellular as Antioxidants and Signalling. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: BFU2016-80006-P

Contracts with Companies

De la Mata García, M. Collaboration Agreement between Ciberehd and institution. Funding agency: Centro de Investigación Biomédica en Red en el Área Temática de Enfermedades Hepáticas y Digestivas (CIBER on Liver and Digestive Diseases (CIBERehd)). Reference: MCI.CIBEREHD

García Sánchez, MV. Sample collection service for the Innpacto project. Funding agency: Fundació Institut de Recerca Hospital Universitari Vall D’hebron. Reference: PSS.0021

De La Mata García, M. Agreement with Omniprex SL. Reference: PSS.0055

García Sánchez, MV. Sponsored research agreement. Funding agency: Merck Sharp & Dohme SA. Reference: PSS.0063

García Sánchez, MV. Prognosis of patients with ulcerative colitis in sustained remission after thiopurines withdrawal. Merck Sharp & Dohme SA. Reference: PSS.0091

Rodríguez Perálvarez, ML. Support agreement for collaborators at the Digestive Tract Unit. Funding agency: Tumor Andalusian society of transplants of organs and tissues. Reference: PSS.0095

De La Mata García, M. aHCtion Project. Funding agency: OMNIPREX SL. Reference PSS.0106

De la Mata García, M. Support agreement for collaborators at the Digestive Tract Unit. Funding agency: Astellas Pharma, S.A. Reference: CCB.0124

Clinical Trials

0249/14. An open, multicenter study to assess long-term effects of ABT-450/ritonavir/ABT-267 (ABT-450/r/ABT-267) and ABT-333 with or without ribavirin (RBV) in adults with chronic infection with genotype 1 (TOPAZ-I) of Hepatitis C virus (HCV). PI: Dr Fraga Rivas, Enrique

0349/14. A Phase Ib Study to Assess the Safety and Anti-tumour Activity of Dexanabinol Monotherapy and Dextanabinol in Combination with Chemotherapy in Patients with Advanced Tumours. PI: Dr Montero Alvarez, Jose Luis

0257/15. A Study of Safety, Tolerability, and Clinical Activity of MEDI4736 and Tremelimumab Administered as Monotherapy and in Combination to Subjects with Unresectable Hepatocellular Carcinoma. PI: Dr Fraga Rivas, Enrique

0219/15. A Phase II/III, randomized, double-blind and placebo-controlled study, to evaluate the efficacy and safety the treatment of induction and maintenance GS-5745 in which patients with active mild to moderate ulcerative colitis. PI: Dr García Sánchez, Valle

0259/15. Open, multicenter, randomized study to evaluate the efficacy and safety of ABT-493 / ABT-530 in adults with chronic infection with hepatitis C genotype 1 (ENDURANCE-I) study. PI: Dr Montero Alvarez, José Luis

0311/15. A phase 3b, randomized, controlled, multicenter study with oral ferric maltol (Feraccru) or intravenous iron (FCM), for the treatment of iron
deficiency anemia in subjects with inflammatory bowel disease.
PI: Dr García Sánchez, Valle

2952. Phase 2, randomized, double-blind, placebo-controlled study to evaluate the efficacy and safety of ENZALUTAMIDE in patients with advanced hepatocellular carcinoma.
PI: Dr Benítez Cantero, José Manuel

3002. A Phase 3, randomized, double-blind, placebo-controlled, multicenter study to investigate the efficacy and safety of mongersen (GED-0301) for the treatment of subjects with active Crohn’s disease.
PI: Dr García Sánchez, Valle

3127. Open and a single group study to evaluate the safety and efficacy ABT-493/ABT-530 in adults who have been recipients of a liver or kidney transplant, with chronic infection Hepatitis C (HVC) genotipo 1-6 (MAGELLAN-2).
PI: Dr Benítez Cantero, José Manuel

3182. Suspension of treatment ANTI-TNF in patients inflammatory bowel disease: Multicenter trial, prospective and randomized.
PI: Dr Benítez Cantero, José Manuel

3184. A phase II, multicentre and open study to evaluate the efficacy and safety of combination with fixed-dosis of sofosbuvir/velpatasvir in patients with chronic HCV infection who received a liver transplant.
PI: Dr Benítez Cantero, José Manuel

3414. Study of Treat to Target Versus Routine Care Maintenance Strategies in Crohn’s Disease Patients Treated With Ustekinumab.
PI: Dr Barrera Baena, Pilar

3482. A Phase 3, Randomized, Double-blind, Controlled Study of Cabozatinib (XL184) vs Placebo in Subjects With Hepatocellular Carcinoma Who Have Received Prior Sorafenib.
PI: Dr Benítez Cantero, José Manuel

3506. Cancer and seriously infections across Europe: I-CARE.
PI: Dr Benítez Cantero, José Manuel

3527. An Open-label, Randomized, Parallel-Group, Phase I Study to Evaluate Pharmacokinetics, Efficacy and Safety between Subcutaneous CT-P13 and Intravenous CT-P13 in Patients with Active Crohn’s Disease Active Ulcerative Colitis.
PI: Dr Benítez Cantero, José Manuel

3561. A Single Arm, Open-label Study to Evaluate the Efficacy and Safety of Glecaprevir (GLE)/Pibrentasvir (PIB) in Treatment Naive Adults With Chronic Hepatitis C Virus (HCV) Genotype 1, 2, 4, 5 or 6 Infection and Compensated Cirrhosis.
PI: Dr Montero Álvarez, José Luis

3589. A Phase 3 Multicenter, Open-Label Extension (OLE) Study to Evaluate the Long-Term Safety and Efficacy of ABT-494 in Subjects With Ulcerative Colitis (UC).
PI: Dr Benítez Cantero, José Manuel

2315. A long-term non-interventionist registration study to assess the safety and efficacy of HUMIRA (adalimumab) in patients with moderately active or very active ulcerative colitis (LEGACY).
PI: Dr Benítez Cantero, José Manuel

2567. Assessing adherence to triple therapy for Hepatitis C.
PI: Dr Fraga Rivas, Enrique

2616. Observational, multicenter, prospective study to assess renal function in patients with liver transplants treated with tacrolimus.
PI: Dr Rodríguez Perálvarez, Manuel Luis

3006. Cancer and seriously infections across Europe: I-CARE.
PI: Dr Benítez Cantero, José Manuel

3044. Effectiveness and safety/tolerability of Viekirax y Exviera in diagnosed patients HCV, co-infected or not with VIH-1, GTI o 4, and chronic kidney disease in stage IIIb to V, including those in dialysis, usual clinical practice in Spain. Vie-kinD Study.
PI: Dr Montero Álvarez, José Luis

3132. Epidemiologic study in incidence in inflammatory bowel disease in adult Spanish population.
PI: Dr García Sánchez, Valle

3194. Exploratory observational study, describing the profiles of patients with Hepatitis C with 18 age old or treated without interferon in accordance with the ribavirin addiction in Spain. ConRiba-15 Study.
PI: Dr Montero Álvarez, José Luis

3278. Evidence on the effectiveness of Paritaprevir/r/Ombitasvir ± Dasabuvir (RÉGIMEN ABBVIE) ± Ribavirina in pacientes with chronic hepatitis C. Retrospective observational study.
PI: Dr Poyato González, Antonio

3279. Evolution of patients with inflammatory bowel disease in remission after the exchange to infliximab biosimilar.
PI: Dr García Sánchez, Valle

3354. Prospective and multicentric study on the epidemiology and omic characteristics of inflammatory bowel disease of recent diagnosis in Spain.
PI: Dr Benítez Cantero, José Manuel

3391. Effectiveness of Envarsus in the prevention of rejection of liver transplantation: Prospective observational post-authorization study in conditions of usual clinical practice
PI: Dr Montero Álvarez, José Luis

3531. A post-authorization safety of golimumab in UC using spanish ENEIDA registry.
PI: Dr García Sánchez, Valle

3646. Analysis of the effectiveness and safety of the switch from original infliximab to biosimilar in patients with inflammatory bowel disease.
PI: Dr Benítez Cantero, José Manuel

3657. Effect of self-management with flexible doses in patients with ulcerative colitis treated with 5-aminosalicylic acid (5-ASA): Controlled observational study (ASAFLEx-Study).
PI: Dr Iglesias Flores, Eva

3659. Management of patients with unresectable hepatocellular carcinoma (HCCi) after radiological confirmation of the disease to the first line of systemic treatment.
PI: Dr Montero Álvarez, José Luis
Principal Investigator (PI)
Julián de la Torre Cisneros
julian.torre.sspa@juntadeandalucia.es
Spanish Network for Research in Infectious Diseases (REIPI)
PAIDI CTS-647 Scientific Group

Co-Principal Investigator (Co-PI)
Antonio Rivero Roman
AIDS Research Network (RIS)

Researchers
Camacho Espejo, Ángela
Castón Osorio, Juan José
Kindelán Jaquotot, Jose Mª
Natera Kindelán, Clara
Rumbao Aguirre, Jose
Vidal Verdu, Elisa

Post-Doctoral Researchers
Aguado Álvarez, Rocio
Brieva Herrero, Teresa
Cantisán Bohórquez, Sara
Friás Casas, Mario
Pérez Nadales, Elena
Risalde Moya, Mª de los Ángeles
Rivero Juárez, Antonio
Doblas Delgado, Antonio

Pre-Doctoral Researchers (PhD and MSc Students)
Cano Yuste, Angela
Kindelán Segador, Lara
López López, Pedro
Machuca Sánchez, Isabel
Marmesat Rodas, Bárbara
Páez Vega, Aurora
Rodríguez Cano, Diego
Valle Arroyo, Jorge

HIGHLIGHTS
PUBLICATIONS
41
IMPACT FACTOR
170,245
AVERAGE IMPACT FACTOR
4,152

Other members of the Group (Nursing, Technical and Administrative Staff)
Añón Gámez. Mª Teresa
Cabada Añón, Mª Teresa
Cantueso Méndez. Inmaculada
De la Torre Giménez, Julián
Recio Rufián, Manuel
Ruiz Torres, Laura
Villalba Torres, Antonio José
Zafra Soto, Ismael
**Scientific Activity**

The Infectious Diseases Group (GC-03) is a consolidated and interdisciplinary group that includes biologists, immunologists, research nurses and infectious diseases specialists. The group is focused on the study of several infectious pathologies, from two different approaches:

1. Clinical–epidemiological studies (which include clinical trials). In these studies, our objective is to study risk factors, clinical features and the efficacy/safety of new treatments, thus aiming to improve the prognosis of infectious diseases.

2. Pathogenesis studies aimed to set the basis for the development of specific clinical strategies. The most relevant are our studies on immunopathology (in collaboration with the Immunology and Microbiology groups).

All our studies start with the identification of a clinical problem that we try to solve using an experimental approach. Our aim is that our experimental results have an impact on healthcare solutions and improve disease prognosis (translational research).

**Research Lines**

- Infection in transplant patients: cytomegalovirus and other microorganisms.
- Optimizing the management multidrug-resistant bacterial infections.
- Immunopathology, pathogenesis and treatment of HIV infection.
- Pathogenesis and treatment of HIV / HCV co-infection.

**Keywords**

Cytomegalovirus, multidrug-resistant microorganisms, immunopathology, transplantation, specific immune response, HIV, HCV, antiretroviral therapy.

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**Scientific Production**

**Publications**

**Main publications**


IF: 8,216
Q: 1  D: 1

Caston JJ, De la Torre A, Ruiz-Camps I, Sorli ML, Torres V, Torre-Cisneros J. Salvage Therapy with Ceftolozane-Tazobactam for Multidrug-Resistant Pseudomonas aeruginosa Infections. ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. 2017.61(3):-UNSP e02136-16.

IF: 4,302
Q: 1


IF: 4,302
Q: 1

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IF: 3,815
Q: 1


IF: 3,815
Q: 1


IF: 3,342
Q: 1


IF: 3,027
Q: 2


Rivaroja- Arrabal E, Santos F, Redel J, Vaquero JM, Torre-Cisneros J. Efficacy and safety of short-term treatment with isoniazid and rifampicin for latent tuberculosis infection in lung transplant candidates. CLINICAL TRANSPLANTATION. 2017. 31(3):e12901. IF: 1,865 Q: 2


Other publications


Plus lamivudine) versus standard triple therapy
Simplification to dual therapy (atazanavir/ritonavir plus two nucleos(t)ides) in virologically stable patients on antiretroviral therapy: 96 week results from an open-label, non-inferiority randomized clinical trial (SALT study). JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY. 2017. 72(3):246-253.
IF: 5,071
Q: 1

IF: 5,003
Q: 1

IF: 5,003
Q: 1

IF: 4,697
Q: 1 D: 1

IF: 4,302
Q: 1

Q: 1

IF: 3,257
Q: 2

IF: 3,051
Q: 2

IF: 2,806
Q: 1

Neukam K, Morano-Amado LE, Rivero-Juarez A, Macias J, Granados R, Romero-Palacios A, Marquez M, Merino D, Ortega E, Alados-Arboledas JC, Cu-

IF: 2,727
Q: 2


IF: 2,628
Q: 1 D: 1


IF: 2,401
Q: 3


IF: 2,369
Q: 1


IF: 2,164
Q: 3


IF: 2,095
Q: 3


IF: 1,778
Q: 3


IF: 1,714
Q: 3

De la Torre Cisneros, J. Clinical trial to stop valganciclovir prophylaxis in CMV-seropositive renal transplant patients who maintain CD8+ CMV-specific cellular immunity after receiving thymoglobulin. Funding agency: Institute Carlos III Health (ISCIII). Reference: PI14/01225


Regional


Rivero Juarez, A. Study Group for Viral Hepatitis. Funding agency: Regional Ministry of Equality,


International


Contract with Companies

Rivero Juárez, A. Agreement with FPS. Funding agency: FPS Reference: PSS.0181

Rivero Juárez, A. Janssen Agreement. Funding agency: JANSSEN-CILAG, S.A. Reference: PSS.0184

Rivero Juárez, A. Agreement. Funding agency: FPS. Reference: PSS.0217


Rivero Román, A. Agreement with Roche Pharma (Publications). Funding Agency: Roche Pharma, S.A. Reference: CCB.0076


Clinical Trials

Rivero Román, A. Agreement with JANSSEN. Funding agency: JANSSEN-CILAG, S.A. Reference: CCB.0113_01


PI: Dr De la Torre Cisneros, Julián Carlos

0072/12. Estudio abierto para evaluar la seguridad, la actividad antiviral y la farmacocinética del tratamiento con antivirales de acción directa (AAD) en combinación con peginterferón 8–2a y ribavirina (pegIFN/RBV) en sujetos con infección crónica por el virus de la hepatitis C (VHC) que han presentado fracaso virológico en un estudio previo de Abbvie o Abbott sobre el tratamiento combinado con AAD. PI: Dr Rivero Román, Antonio

0062/15. Immune Response, and Safety Study of Clostridium difficile Toxoid Vaccine in Subjects at Risk for C. difficile Infection. PI: De la Torre Cisneros, Julián Carlos

0062/15. Immune Response, and Safety Study of Clostridium difficile Toxoid Vaccine in Subjects at Risk for C. difficile Infection. PI: Dr de la Torre Cisneros, Julián Carlos

0369/15. A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of Switching From a Regimen of Dolutegravir and ABC/3TC, or a Fixed Dose Combination (FDC) of ABC/DT-...
3192. A Phase III, randomised, double-blind, multicentre, parallel-group, non-inferiority study evaluating the efficacy, safety, and tolerability of dolutegravir plus lamivudine compared to dolutegravir plus tenofovir/emtricitabine in HIV-1-infected treatment-naive adults. 
PI: Dr Rivero Román, Antonio

3186. A Phase 2, multicenter, randomized, open-label Study to evaluate the Efficacy and Safety of Sofosbuvir/Velpatasvir Fixed Dose Combination (FDC) and Sofosbuvir/Velpatasvir FDC and Ribavirin in Subjects With Chronic Genotype 3 HCV Infection and Cirrhosis. 
PI: Dr Rivero Román, Antonio

3124. A Phase 3, randomized, double-blind study to evaluate the efficacy and safety of GS-9883/Emtricitabine/Tenofovir Alafenamide versus Abacavir/Dolutegravir/Lamivudine in HIV-1 Infected, Antiretroviral Treatment-Naive Adults. 
PI: Dr Rivero Román, Antonio

3125. A Phase 3, randomized, double-blind study to evaluate the Safety and Efficacy of GS-9883/Emtricitabine/Tenofovir Alafenamide Versus Dolutegravir + Emtricitabine/Tenofovir Alafenamide in HIV-1 Infected, Antiretroviral Treatment-Naive Adults. 
PI: Dr Rivero Román, Antonio

3248. A Phase III, Randomized, Multicenter, Parallel-group, Non-inferiority, Open-label Study Evaluating the Efficacy, Safety, and Tolerability of Switching to Long-acting Cabotegravir Plus Long-acting Rilpivirine From Current INSTI-NNRTI-, or PI-based Antiretroviral Regimen in HIV-1-infected Adults Who Are Virologically Suppressed. 
PI: Dr/a Rivero Román, Antonio

3406. A Multicenter, Randomized, Open-Label Clinical Study Of S-649266 Or Best Available Therapy For The Treatment Of Severe Infections Caused By Carbapenem-Resistant Gram-Negative Pathogens. 
PI: Dr De la Torre Cisneros, Julián Carlos

3581. Imipenem/Relebactam/Cilastatin Versus Piperacillin/Tazobactam for Treatment of Participants With Bacterial Pneumonia (MK-7655A-014). 
PI: Dr Caston Osorio, Juan José

3585. A Multicenter, double-blind, randomized, comparative study of the safety, tolerability, efficacy, and pharmacokinetics of CF-301 vs. Placebo in addition to standard-of-care antibacterial therapy for the treatment of adult patients with staphylococcus aureus bloodstream infections (Bacteremia) including right sided endocarditis. 
PI: Dr Natera Kindelan, Clara

3632. A Phase IIib, randomized, multicenter, parallel-group, non-inferiority, open-label study evaluating the efficacy, safety, and tolerability of long-acting cabotegravir plus long-acting rilpivirine administered every 8 weeks or every 4 weeks in hiv-1-infected adults who are virologically suppressed. 
PI: Dr/a Rivero Román, Antonio

0032/08/EPA. An international, multicenter, observational, prospective study on the safety of Maraviroc in combination with an optimized background therapy in previously treated HIV-1 patients. 
PI: Dr Rivero Román, Antonio

2907. Impact of specific antimicrobials and MIC values on the outcome of bloodstream infections due to ESBL-or carbapenemase-producing Entero-bacteriaceae in Solid Organ Transplantation: an observational multinational study. 
PI: Dr De la Torre Cisneros, Julián Carlos

2649. Effectiveness and safety of treatment against hepatitis C virus based on direct acting antivirals in actual use conditions: Cohort GEHEP. 
PI: Dr Rivero Román, Antonio

2848. Evaluation of mortality associated with different clinical management strategies of Klebsiella pneumoniae bacteremia resistant to carbapenem and colistin. KAPECOR study. 
PI: Dr Machuca Sánchez, Isabel María

2933. Study of the kinetics of T CD8 positive immunity against CMV in renal transplant patients treated with thymoglobulin. 
PI: Dr De la Torre Cisneros, Julián Carlos

3044/2. Efficacy and safety/tolerability of Viekirax and Exviera in patients with diagnosed HCV, whether or not displaying coinfection with HIV-1, GT1 or GT4, and Stage IIIB-V chronic kidney disease, including patients undergoing dialysis, in routine clinical practice in Spain. Vie-kinD Study. 
PI: Dr Rivero Román, Antonio

3131. Rescue therapy using ceftolozane-tazobactam in infection caused by multidrug-resistant Pseudomonas aeruginosa. 
PI: Dr De la Torre Cisneros, Julián Carlos

PI: Dr Natera Kindelan, Clara

2853. Epidemiología y eficacia de tratamiento con fosfomicina en la infección del tracto urinario causada por Klebsiella pneumoniae resistente a carbapenemas y colistina. Estudio KAPECOR-ITU. 
PI: Dr Rodríguez Gómez, Jorge

3009. Prospective observational study to assess the risk factors, clinical management outcomes of hospitalized patients with serious infections caused by carbapenem-resistant Enterobacteriaceae and acinetobacter baumannii. 
PI: Dr De la Torre Cisneros, Julián Carlos

3350. Assessment of the Incidence of Clostridioides difficile Infections in hospitalised Patients on Antibiotic Treatment. 
PI: Dr De la Torre Cisneros, Julián Carlos

3412. Current european practice patterns of skin infection management: evaluate the incidence of skin infection, the percentage of acute bacterial skin and skin structure infections (ABSSSI) among them, and their clinical and therapeutic management. 
PI: Dr De la Torre Cisneros, Julián Carlos
Inflammation and cancer

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Navarrete Rueda, Carmen

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Del Río Mercado, Carmen
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Millán Ortega, Estrella
Morrugares, Rosario
Palomares Cañero, Belén

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Collado Rojas, Juan Antonio
Mellado, Ana
Molina Moran, Rosario

**HIGHLIGHTS**

**PUBLICATIONS**
8

**IMPACT FACTOR**
31,368

**AVERAGE IMPACT FACTOR**
3,921
**Scientific Activity**

Our group Inflammation and Cancer is a consolidated group (GC-04) of the IMIBIC and participates in the research program Chronic Inflammatory Diseases that is described in the Institute strategic plan. Overall the research undertaken by the group is very collaborative with other national and international research groups and with SMEs. The main research lines are:

1. Study of the mechanism of action of cannabinoids (endocannabinoids, phytocannabinoids and synthetic cannabinoids) (IP. Eduardo Muñoz). In this line of research we are very focused on studying the mechanism of action of some phytocannabinoids and endocannabinoids in order to explore its therapeutic potential in inflammatory and neurogenerative diseases. We aim to identify the hyoximinimetic mechanism of action of endocannabinoids type N-acyl dopamines and explorer pharmacological strategies to increase the levels of these endocannabinoids in the CNS. Also we are investigating the pharmacological potential of new semi-synthetic compounds derived from phytocannabinoids Cannabidiol and Cannabigerol by studying novel mechanisms of actions and its efficacy in different in vivo models of neuroinflammation and fibrosis.

2. Molecular identification of signaling pathways that regulate certain processes involved in inflammation and cancer (IP. Marco A. Calzado). This line of research is aimed to identify the role of the ubiquitin ligase SIAH2 in response to hypoxia and other endogenous mediators. One of the main objectives is to identify new molecular targets for the development of novel potential therapies. Moreover, we are studying the metabolomic profile in human lung cancer and in murine models of prostate cancer. We also have a particular interest in the study of new chemical entities able to inhibit molecular targets of pharmacological interest in cancer.

**Research Lines**

- Study of the mechanism of action of cannabinoids
- Molecular identification of signaling pathways that regulate certain processes involved in inflammation and cancer

**Keywords**

Inflammation, cancer, tissue regeneration, cannabinoids, SIAH2, pharmacology and nutraceuticals.

**Scientific Production**

**Publications**

**Main Publications**


**Other Publications**


Gupta MP. Neoflavonoids as Inhibitors of HIV-1 Replication by Targeting the Tat and NF-B Pathways. MOLECULES. 2017.22(2):E321. IF: 2.861 Q: 2


Research Funding

Regional


National


Malagón MM (Calzado Canale, M, Co-PI). Integration of platforms for the identification of therapeutic targets and the development of new products for the prevention and/or treatment of radiodermatitis. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2016-4589-1


Contracts with Companies

Muñoz Blanco, E. Biomolecules design through multivariate analysis process for obtaining active compounds (INTERCONNECTA). Funding agency: Vivacell Biotechnology Spain SL

Muñoz Blanco, E. Natural Ingredients. Funding agency: SimCosmetic Biotech S.L. Reference: 12015022
GC5

Systemic and chronic inflammatory autoimmune diseases of the locomotor system and connective tissue

Principal Investigator (PI)
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Nicolás Monardes Contract

Co-Principal Investigator (Co-PI)
Eduardo Collantes Estévez
Professor at University of Cordoba. Head of the Clinical Management Unit of Rheumatology Research network in inflammation and rheumatic diseases (RIER)
PAIDI CTS-1004: Chronic inflammatory diseases of musculoskeletal system and connective tissue

Emerging Researcher
Barbarroja Puerto, Nuria

Researchers
Aguirre Zamorano, Mª Ángeles
Caracuel Ruiz, Miguel Ángel
Escudero Contreras, Alejandro
Font Ugalde, Pilar
Gómez Gracia, Inmaculada
López Montilla, María Dolores
Pérez Guijo, Verónica

HIGHLIGHTS
Publications
16
Impact Factor
57,248
Average Impact Factor
3,578

Pre-Doctoral Researchers (PhD and MSc Students)
Aranda Valera, Inmaculada Concepción
Gómez García, Ignacio
Munizaga Larroudé, Micaela Rocío
Mallenco Anguita, Marisa
Ruiz Ponce, Miriam
Ramos Salado, Francisco José
Pérez Sánchez, Laura

Post-Doctoral Researchers
Arias de la Rosa, Ivan
Calvo Gutierrez, Jerusalem
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Jiménez Gómez, Yolanda
Ortega Castro, Rafaela
PerezSanchez, Carlos
Ruiz Limon, Patricia
Lopez Medina, Clementina
Arias de la Rosa, Iván

Other members of the Group (Nursing, Technical, Student, and Administrative Staff)
Abalos Aguilera, Mª Carmen
Carmona Moriel, Cristina Elena
Jurado Ruiz, Luis
Romero Gutiérrez, María Dolores
Ruiz Vilchez, Desiree
Segura Ruiz, Rocío
Scientific Activity

Our team is integrated in the Scientific Program on Chronic and Inflammatory Diseases, oriented to the study of the most relevant chronic processes of the modern society, with special emphasis on those of an inflammatory and auto-immune nature.

This area mainly covers the study of chronic inflammatory and systemic autoimmune diseases, cardiovascular diseases, neurological diseases, renal and urological diseases, liver and digestive diseases.

Our research team -GC-5 ‘Systemic Autoimmune Diseases and Chronic Arthropaties’, employs synergistically clinical-therapeutic approaches and cellular and molecular approaches, and has as main objectives:

1. Analyze molecular and cellular mechanisms of atherothrombosis development in systemic autoimmune diseases (EAS), and to identify new biomarkers and regulatory mechanisms promoted by new therapeutic approaches.
2. Analyze the role of the chronic systemic inflammation in the glucose and lipid metabolism in rheumatoid and psoriatic arthritis.
3. Study of the effects of conventional therapies (DMARDs), new agents (Apremilast) and other biologic drugs (anti-TNFα) on the metabolic syndrome associated with chronic inflammatory diseases.
5. Design, develop and validate a new system of measurement of mobility (most important expression of structural damage) of AS patients.

Research Lines

- Atherothrombosis in Systemic autoimmune diseases
- Biomarkers for Systemic Autoimmune Diseases
- Mechanisms involved in the development of insulin resistance and metabolic syndrome in rheumatoid and psoriatic arthritis
- Inflammation and Chronic Arthropathies
- Biomechanical analysis of joint motility

Keywords

Autoimmune diseases, spondyloarthropathies, inflammation, atherothrombosis, biomarkers, metabolic syndrome, treatment, atherosclerosis.

Scientific Production

Publications

Main Publications


IF: 1,824
Q: 3

IF: 1,125
Q: 3

Other Publications

IF: 8,961
Q: 1 D: 1

IF: 3,319
Q: 3

IF: 2,309
Q: 2

IF: 3,319
Q: 3

IF: 1,824
Q: 3

Research Funding

Regional


National


Collantes-Estevez, E. Spanish Network for Research in inflammation and rheumatic disease (RIER).

Lopez Pedrera, R. Agreement Canaan. Funding agency: Canaan Reserch & Investment, S.L. Reference: CCB.0142

Collantes Estevez, E. Agreement Sanofi. Funding agency: Sanofi-Aventis, S.A. Reference: PSS.0212

Barbarroja Puerto, N. Sponsored Research Agreement ROCHE. Funding agency: Roche Farma, S.A. Reference: CCB.0122

Lopez Pedrera, R. Agreement Canaan. Funding agency: Canaan Reserch & Investment, S.L. Reference: CCB.0142

Collantes Estevez, E. Agreement Sanofi. Funding agency: Sanofi-Aventis, S.A. Reference: PSS.0212

Clinical Trials


PI: Dr Collantes Estevez, Eduardo

0320/12.A randomized, double-blind, placebo-controlled, 52-week duration study to assess adverse events of special interest in adults with systemic antibody positive lupus erythematosus receiving belimumab.

PI: Dr Aguirre Zamorano, Mª Ángeles


PI: Dr Collantes Estevez, Eduardo

0106/13.A multicenter, randomized, double-blind study to compare the effectiveness and safety of continuous treatment with adalimumab vs. discontinuation of treatment with adalimumab as maintenance therapy in patients with axial spondyloarthritis.

PI: Dr Collantes Estevez, Eduardo

0248/13.A multicenter, randomized, double-blind, placebo-controlled phase III study to demonstrate the efficacy of Secukinumab after 16 weeks of treatment and assess its long-term safety, tolerability and efficacy in a period of three years in patients with active ankylosing spondylitis.

PI: Dr Collantes Estevez, Eduardo

0205/14.A phase 3 randomized, double-blind study assessing the efficacy and safety of PF-06410293 and adalimumab in combination with methotrexate in subjects with moderately to severely active rheumatoid arthritis who have had an inadequate response to methotrexate.

PI: Dr Escudero Contreras, Alejandro

0318/14. GO-VIBRANT A Multicenter, Randomized, Double-blind, Placebo-controlled Trial of Golimumab, an Anti-TNF alpha Monoclonal Antibody, Administered Intravenously, in Subjects with Active Psoriatic Arthritis.

PI: Dr López Montilla, Mª Dolores

0040/15. Phase III, multicenter, randomized, double-blind, placebo-controlled secukinumab (150mg) po subcutaneously with or without a loading dose subcutaneously with or without a loading dose subcutaneously to evaluate the efficacy, safety and tolerability for up to 2 years in patients with active ankylosing spondylitis.

PI: Dr Collantes Estevez, Eduardo

0064/15. A Phase II Multicenter, Open-Label Extension Study Assessing the Long Term Efficacy and Safety of Subcutaneous ALX-0061 in Subjects with Moderate to Severe Rheumatoid Arthritis who Have Completed One of the Preceding Phase iiib Studies with ALX-0061.

PI: Dr Escudero Contreras, Alejandro

0107/15.A Phase III, randomized, double-blind, placebo controlled multi-center study of subcutaneous secukinumab (150 mg and 300 mg) in prefilled syringe to demonstrate efficacy (including inhibition of structural damage), safety, and tolerability up to 2 years in subjects with active psoriatic arthritis (FUTURE 5).

PI: Dr Lopez Montilla, Mª Dolores


PI: Dr Collantes Estevez, Eduardo

0253/15. Phase III study randomized, double-blind, parallel group to demonstrate equivalent efficacy and compare the safety and immunogenicity of GP2015 and Enbrel (authorized in the EU) in patients with active rheumatoid arthritis.

PI: Dr Escudero Contreras, Alejandro

Contracts with Companies

Collantes Estevez, E. Agreement between MSD and the UGC of Reumatology. Funding agency: Merck Sharp &Dohme de España SA. Reference: CCB.0042

Escudero Contreras, A. A study of the development and control mechanisms of atherothrombosis in systemic autoimmune diseases. New therapeutic approaches. Funding agency: Fundacion Española de Reumatologia (Spanish Rheumatology Foundation). Reference: CCB.0045

Collantes Estevez, E. Sponsored Research Agreement. Funding agency: Pfizer S.L.U. Reference: CCB.0050

Collantes Estevez, E. Sponsored Research Agreement UCOTRACK. Funding agency: Merck Sharp &Dohme De España Sa. Reference: CCB.0107

International

Collantes Estevez, E. PRECISESADS - Molecular reclassification to find clinically useful biomarker for systemic autoimmune diseases. Funding agency: European Commission Reference: IMI/00002


Funding agency: Institute Carlos III Health (ISCIII). Reference: RD16/0012/0015

Expected starting date: 2018
0293/15. A Multicenter Double-Blind, Randomized Controlled Study of Eta
ercept and Methotrexate in Combination or as Monotherapy in Subjects Wit
Psoriatic Arthritis
PI: Dr Lopez Montilla, Mª Dolores

0271/15. A Comparative Study to Assess the Efficacy, Safety and Immunogenic
ity of YLB113 and Enbrel for the Treatment of Rheumatoid Arthritis.
PI: Dr Escudero Contreras, Alejandro

0306/15. A Randomized, Double-blind, Placebo-controlled, Proof-of-concept
Study to Evaluate the Efficacy of UCB5857 Over 12 Weeks in Subjects Wi
Primary Sjögren’s Syndrome.
PI: Dr Escudero Contreras, Alejandro

2950. A Phase 3 Randomized, Double-blind, Placebo-controlled, multicenter st
of the analgesic efficacy and safety of the subcutaneous administration of tanezumab in subjects with osteoarthritis of the hip or knee.
PI: Dr Caracuel Ruiz, Miguel Ángel

2959. A Phase 3, Multicenter, Long-term Observational Study Of Subjects From Tanezumab Studies Who Undergo A Total Knee, Hip Or Shoulder Rep
placement.
PI: Dr Caracuel Ruiz, Miguel Ángel

2894. A Multicenter, Open-label (Part A) Followed by a Randomized, Double-blind, Parallel-group, Placebo Controlled Study (Part B) to Evaluate Maintenance of Remission in Subjects With Active Axial Spondyloarthritis (axSpA) Receiving Either CertolizumabPegol 200 mg Q2W or 200 mg Q4W as Compared to Placebo.
PI: Dr Collantes Estevez, Eduardo

3235. MAXIMIZE (Managing AXIal Manifestations in Psoriatic Arthritis With SEcukinumab), a Randomized, Double-blind, Placebo-controlled, Multicenter, 52 Week Study to Assess the Efficacy and Safety of Secukinumab 150 mg or 300 mg s.c. in participants with active psoriatic arthritis and axial skeleton involvement who have inadequate response to non steroidal Anti-inflammatory Drugs (NSAIIDs).
PI: Dr López Montilla, Mª Dolores

3026. A Multicenter, Randomized, Double-Blind, Placebo-Controlled 16-week study followed by long-term evaluation of efficacy and safety of ixekizumab (LY2439821) in TNFi-experienced patients with radiographic axial spondyloarthritis.
PI: Dr Collantes Estevez, Eduardo

3239. A Phase 4 Open-label Randomized Controlled Study Comparing the Effectiveness of AdalimumabINTROduction and Methotrexate Dose escalation in Subjects With Psoriatic Arthritis (CONTROL).
PI: Dr López Montilla, Mª Dolores

3244. A Study to Assess the Effects of CertolizumabPegol on the Reduction of Anterior Uveitis (AU) Flares in Axial Spondyloarthritis Subjects With a Documented History of AU.
PI: Dr Collantes Estevez, Eduardo

3331. A Phase 3, Randomized, Active-Controlled, Double Blind Study Comparing Upadacitinib to Abatacept in Subjects With Moderately to Severely Active Rheumatoid Arthritis With Inadequate Response or Intolerance to Biologic DMARDs (bDMARDs) on Stable Conventional Synthetic Disease Modifying Anti-Rheumatic Drugs (csDMARDs).
PI: Dr Escudero Contreras, Alejandro

3337. A Phase 3, Randomized, Double-Blind Study Comparing ABT-494 to placebo and to adalimumab in subjects with moderately to severely active rheumatoid arthritis who are on a stable background of methotrexate (MTX) and who have an inadequate response to MTX (MTX-IR).
PI: Dr Escudero Contreras, Alejandro

3342. A Multicenter study to evaluate the efficacy and safety of different doses of bimekizumab in subjects with active ankylosing spondylitis.
PI: Dr Collantes Estevez, Eduardo

3345. A Randomized, Double-blind, active control, multicenter study to evaluate the efficacy at week 52 of secukinumab monotherapy compared with adalimumab monotherapy in patients with active psoriatic arthritis.
PI: Dr López Montilla, Mª Dolores

3480. A randomized, double-blind, placebo-controlled, 24-week study followed by long-term treatment to evaluate the efficacy and safety of baricitinib in patients with active psoriatic arthritis.
PI: Dr López Montilla, Mª Dolores

3522. A Phase I/III Study to Evaluate Efficacy, PK and Safety Between CT-P13 SC and CT-P13 IV in Patients With Active RA.
PI: Dr Escudero Contreras, Alejandro

3525. Phase IV, randomized, double-blind, placebo-controlled, and parallel-group trial to evaluate the efficacy and safety of golimumab (MK-8259 [SCH 900259]) after withdrawal of treatment, compared to its continuation.
PI: Dr Collantes Estevez, Eduardo

3550.A Randomized, Double-blind, Placebo-controlled Multicenter study of secukinumab to evaluate the safety, tolerability and efficacy up to 2 years in patients with active non-radiographic axial spondyloarthritis.
PI: Dr Castro Villegas, María del Carmen

3552. A Phase 3, Multicenter, Randomized, Double-blind, Placebo-controlled study evaluating the efficacy and safety of guselkumab administered subcutaneously in subjects with active psoriatic arthritis.
PI: Dr López Montilla, Mª Dolores

3556. A Randomized, Double-Blind, Placebo-Controlled, Multi-Center Phase II Study to Evaluate The Safety and Efficacy of RO7123520 as adjunct treatment in patients with moderately to severely active rheumatoid arthritis and an inadequate response to TNF-alpha Inhibitors.
PI: Dr Escudero Contreras, Alejandro

3631.A Phase 3, Randomized, Double-Blind, Study Comparing Upadacitinib (ABT-494) to placebo in subjects with active psoriatic arthritis who have a history of inadequate response to at least one biologic disease-modifying anti-rheumatic drug (bDMARD).
PI: Dr López Montilla, Mª Dolores

PI: Dr Collantes Estevez, Eduardo

2273. Spanish registry of patients with axial ankylosing spondylitis treated with anti-TNF.
PI: Dr Collantes Estevez, Eduardo

2457. Multi-Country Registry of clinical characteristics, including radiographic progression, and
burden of disease over 5 years in real-life setting)

PI: Dr CollantesEstevez, Eduardo

2686. ASCORE study about long-term experience with abatacepts.c. in habitual clinical practice.
PI: Dr Escudero Contreras, Alejandro

2703. Spanish Registry of psoriatic arthritis.
PI: Dr López Montilla, Mª Dolores

2736. A non-interventional study to assess the effectiveness of CertolizumabPegol In patients with axial Spondyloa.
PI: Dr Collantes Estevez, Eduardo

2817. Clinical applicability of a standardised dose-reduction protocol in patients with diagnosed rheumatoid arthritis (RA) displaying persistent clinical remission with anti-TNF therapy.
PI: Dr Font Ugalde, Pilar

2880. Spanish Registry of adverse events in biological and biosimilar therapies in rheumatic illnesses. Phase III.
PI: Dr Collantes Estevez, Eduardo

3160. Observational study of the reproducibility of UCOTRACK, an automated system for measuring mobility in patients with axial spondyloarthritis.
PI: Dr CollantesEstevez, Eduardo

3161. An Observational, Prospective Cohort Study to Evaluate Safety and Efficacy of RemsimaTM in Patients with Rheumatoid Arthritis.
PI: Dr Escudero Contreras, Alejandro

3582. Cross-sectional observational study to evaluate adherence to treatment in patients with rheumatoid arthritis in Spain.
PI: Dr Escudero Contreras, Alejandro

3662. Early treatment with biological therapy in axial spondyloarthritis: 5-year effectiveness.
PI: Dr Castro Villegas, María Del Carmen
GC6

New therapies in cancer

HIGHLIGHTS

Publications

28

Impact Factor

148,172

Average Impact Factor

5,291

Principal Investigator (PI)
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CIBER on Cancer (CIBER-ONC)

Co-Principal Investigator (Co-PI)
Antonio Rodríguez Ariza
Nicolás Monardes Contract

Emerging Researcher (ER)
Juan Rafael de la Haba Rodríguez

Researchers
Barneto Aranda, Isidoro C Cano Osuna, María Teresa Fuentes Vaamonde, Elena Gomez España, María Auxiliadora Méndez Vidal, María José Rubio Pérez, María Jesús Moreno Vega, Alberto Luis Porras Quintela, Ignacio Sánchez Mauriño, Pedro Serrano Blanch, Raquel Villar Pastor, Carlos Martinez Peinado, Antonio

Pre-Doctoral Researchers (PhD and MSc Students)
Mena Osuna, Rafael Ortiz Morales, María José Peñarando Saez, Jon Toledano Fonseca, Marta

Post-Doctoral Researchers
López Sánchez, Laura María Guil Luna, Silvia Conde Pérez, Francisco Manuel

Other members of the Group (Nursing, Technical and Administrative Staff)
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Scientific Activity
The research group New Therapies in Cancer is multidisciplinary, with a team structure that reflects transversal capacities and skills (oncologists, biologists, pathologists, biotechnologists, etc.), and allows integrated approaches to the achievement of the proposed goals. Our aim is to conduct multifaceted research of the tumorigenic process at basic, translational, and clinical level. We participate in a National Research Network program, through the Biomedical Research Networking Center in Cancer (CIBER cancer in Spanish), and also in other cooperative groups of clinical cancer research, thus providing an excellent framework for collaboration and interaction with other cancer research groups. We developed several lines of study mainly aimed to address new clinical challenges in the implementation of novel targeted therapies in oncology. We conduct research in several areas of both clinical and experimental research. The first area is related to the identification of clinical or molecular factors useful in predicting clinical evolution, response or toxicity in cancer treatment. In this area we have reported the development of predictive biomarkers of response to antiangiogenic therapy. We actively participate in the development of new therapeutic strategies using drugs aimed at specific targets. To achieve this, we are currently studying the association between antitumoral immune response and response to antiangiogenic therapy in cancer, to define predictive markers of response to antiangiogenic drugs. The development of these markers will optimize the use of new therapies in cancer patients. Another research area aims to unravel the mechanisms by which nitric oxide (NO) is involved in the onset and progression of cancer, and identify new therapeutic strategies for the treatment of this disease. Using the latest proteomic approaches to identify posttranslational nitrosative modifications, notably the S-nitrosylation of proteins, we analyze the importance of maintaining the homeostasis of nitrosothiols and the formation of S-nitrosoproteins. Results in our laboratory data support the hypothesis that the metabolism of NO plays an important role in the onset and progression of cancer, confirming a close relationship between NO and stem/mesenchymal characteristics in tumors. Finally, our group is actively performing clinical validation studies to assess whether the determination of RAS mutational status using liquid biopsy tools may optimize the rational use of anti-EGFR therapies in colorectal cancer. Likewise, our group is applying liquid biopsy tools in other gastrointestinal tumors such as pancreatic cancers. Also, more translational studies are being undertaken in our laboratory to explore other plasma components, such as miRNAs and exosomes.

Research Lines
• Identification of clinical or molecular factors useful in predicting clinical evolution, response or toxicity in cancer treatment
• Role of nitric oxide in the pathogenesis and progression of cancer: new therapeutic opportunities
• Development and clinical validation of liquid biopsy tools for the optimization and rational use of therapies in cancer

Keywords
Colorectal cancer, breast cancer, nitric oxide, proteomics, biomarkers, prognosis, prediction of response, liquid biopsy, targeted therapy, precision oncology.

Scientific Production
Publications
Main Publications
IF: 6,029
Q: 1

IF: 5,168
Q: 1


Perez MJR. Effect of the Combination of Trabectedin and Pegylated Liposomal Doxorubicin in a BRCA2 Mutation Carrier with Recurrent Platinum-Sensitive Ovarian Cancer. CASE REPORTS IN ONCOLOGY. 2017.10(2):433-437. IF: n/a

Other Publications


Q: 1 D: 1

Q: 1 D: 1

Q: 1 IF: 4,101

Q: 1 IF: 4,101

Q: 3 IF: 2,992

Q: 2 IF: 2,612

Q: 3 IF: 2,353

Q: 2 IF: 2,353

Q: n/a

Q: n/a

Research Funding

Regional


Aranda Aguilar, E. Genetic variations associated with hypertension and thrombosis as predictors of response to antiangiogenic therapy in patients with colon cancer. Funding agency: Asociación española contra el cancer. Reference: AECC14/002
Aranda Aguilar, E. Microangiotecan. Funding Agency: CIBER-BBN. Reference: Ciberbbn-Imibic14-1

Guil Luna, S. Antitumor effect of immunotherapy by blocking pd-1 combined with antiangiogenic therapy in humanized murine models of colorectal cancer. Funding agency: Regional Ministry of Health and Social Policy (CISPS). Reference: PI-0150-2017

National


De la Haba JR. Epigenetic profile in cancer patients with increased blood pressure secondary to anti-VEGF treatment. Funding agency: National Institute of Health Carlos III (ISCIII). Reference: PI15/00516


Contracts with Companies

Aranda Aguilar, E. Contract for determination of gene activity NRAS. Funding agency: MERCK, S.L. Reference: PSS.0050

Aranda Aguilar, E. Contract for determination of biomarker rAS. Funding agency: TTD Group. Reference: PSS.0054

Aranda Aguilar, E. Oncobeam Contract Centre of excellence. Funding agency: Sysmex España S.L. Reference: PSS.0108

Aranda Aguilar, E. Tactics Agreement. Funding agency: Tactics Medicina Y Desarrollo, S.L. Reference: PSS.0147

Aranda Aguilar, E. TTD Agreement. Funding agency: TTD Group. Reference: PSS.0147

Aranda Aguilar, E. Boehringer Agreement. Funding agency: Boehringer Ingelheim International Gmbh. Reference: PSS.0153

Gómez España, M.A. Agreement TTD. Funding agency: TTD Group. Reference: PSS.0180

Aranda Aguilar, E. Agreement Tactics Funding agency: Tactics Medicina Y Desarrollo, S.L. Reference: PSS.0211

De la Haba Rodríguez, JR. Analytical assays for the evaluation of AGTR1 expression in tumors as a possible predictor of response to angiogenic therapy in connection with the clinical development of bevacizumab. Funding agency: Roche Farma, S.A. Reference: CCB.0028

Aranda Aguilar, E. Rovi Agreement. Funding agency: Laboratorios Farmaceuticos Rovi, SA. Reference: CCB.0094

Clinical Trials

0090/07. An open, multicenter, randomized, phase III study of lapatinib, trastuzumab sequentially administered or administered in combination as adjuvant treatment in a patient with HER2/ERbB2-positive breast cancer.

Pl: Dr De la Haba Rodríguez, Juan Rafael

0253/08. An Open Label Randomized, Multi-Centre Exploratory Phase II Study to Evaluate the Efficacy and Safety of the Combination of Panitumumab With FOLFOX 4 Chemotherapy or Panitumumab With FOLFIRI Chemotherapy in Subjects With Wild-Type KRAS Colorectal Cancer and Liver-only Metastases.

Pl: Dr Aranda Aguilar, Enrique

0082/10. An open, randomized, phase II study to assess the effectiveness and safety of paclitaxel administered weekly as a single agent and two different administration regimes of SAR240550 (BSI-201), a PARP-1 inhibitor, in combination with paclitaxel administered weekly as neoadjuvant therapy in patients with stage II-IIIA triple-negative breast cancer.

Pl: Dr De la Haba Rodríguez, Juan Rafael

0198/11. A multicenter, randomized, double-blind, placebo-controlled study to compare chemotherapy plus trastuzumab and placebo versus chemotherapy plus trastuzumab and pertuzumab as adjuvant treatment in HER-2 positive primary breast cancer patients.

Pl: Dr De la Haba Rodríguez, Juan Rafael


Pl: Dr De la Haba Rodríguez, Juan Rafael
0240/11. An Open-Label, Multicenter, Phase Ib/2 Study of E7080 Alone, and in Combination With Everolimus in Subjects With Unresectable Advanced or Metastatic Renal Cell Carcinoma Following One Prior VEGF-Targeted Treatment. PI: Dr De la Haba Rodríguez, Juan Rafael

0071/12. A randomized, phase II clinical trial to explore the impact of BRAF and PI3K state on the effectiveness of FOLFIRI + Bevacizumab or Cetuximab as first-line treatment of patients with metastatic colorectal cancer with native KRAS and less than three circulating tumor cells. PI: Dr Aranda Aguilar, Enrique

0229/12. A multicenter, single-arm study of trastuzumab emtansine (TDM1) in patients with metastatic or locally advanced, HER2-positive breast cancer patients previously treated with an anti-HER2 agent-based treatment plus chemotherapy. PI: Dr De la Haba Rodríguez, Juan Rafael

0312/12. A multicenter, randomized, double-blind, placebo-controlled, phase III trial to assess the efficacy and safety of pertuzumab in combination with trastuzumab and chemotherapy in patients with HER2-positive gastric and gastroesophageal junction cancer. PI: Dr De la Haba Rodríguez, Juan Rafael

0347/12. An open, randomized, multicenter, phase II trial to assess the toxicity and efficacy of pertuzumab in combination with or without Bevacizumab in patients with advanced ovarian cancer. PI: Dr Rubio Pérez, María Jesús

0020/13. ARCHER 1050. A randomized, open, phase III study of the efficacy and safety of Dacomitinib (PF-00299804) vs. Gefitinib in first-line treatment of locally advanced or metastatic non-small cell lung cancer in patients with activating mutation(s) of the epidermal growth factor (EGF) receptor. PI: Dr Barneto Aranda, Isidoro

65/13. Neoadjuvant Chemotherapy With Nab-paclitaxel in Women With HER2-negative High-risk Breast Cancer ETNA (Evaluating Treatment With Neoadjuvant Abraxane) PI: Dr De la Haba Rodríguez, Juan Rafael

0132/13. A multicenter, randomized, double-blind, placebo-controlled, phase III study of maintenance therapy with Olaparib alone in patients with BRCA-positive ovarian cancer or with platinum-sensitive relapsed ovarian cancer with complete response, or patients with EGFR activating mutations. PI: Dr Rubio Pérez, María Jesús

0136/13. A multicenter, randomized, double-blind, placebo-controlled, phase III study of maintenance therapy with Olaparib alone in patients with FIGO stage IIIb-IV ovarian cancer with complete or partial response after platinum-based first-line chemotherapy. PI: Dr Rubio Pérez, María Jesús

0215/13. Phase III Palbociclib (PD-0332991) study in combination with Exemestane versus chemotherapy (capecitabine) in patients with Advanced Breast Cancer (ABC) with positive hormone receptors (HR) and negative HER2 inhibitor resistance to Aromatase inhibitors. PI: Dr De la Haba Rodríguez, Juan Rafael

0246/13. Abiraterona acetate maintenance in combination with docetaxel after disease progression to abiraterona acetate in metastatic castration-resistant prostate cancer. Randomized phase II study. PI: Dr Méndez Vidal, María José

0281/13. Safety study retreatment radium-223 dichloride in castration-resistant prostate cancer patients with bone metastases who received an initial regimen of six doses of radium-223 dichloride 50 kBq / kg every four weeks. PI: Dr Méndez Vidal, María José

0312/13. A Phase II Randomized Clinical Trial Evaluating Neoadjuvant Therapy Regimens With Weekly Paclitaxel Plus Neratinib or Trastuzumab or Neratinib and Trastuzumab Followed by Doxorubicin and Cyclophosphamide With Postoperative Trastuzumab in Women With Locally Advanced HER2-Positive Breast Cancer. PI: Dr De la Haba Rodríguez, Juan Rafael

0323/13. A Study of MEKI62 vs. Physician’s Choice Chemotherapy in Patients With Low-grade Serous Ovarian, Fallopian Tube or Peritoneal Cancer. PI: Dr Rubio Pérez, María Jesús

0333/13. A Randomized Phase III, Factorial Design, of Cabazitaxel and Pelvic Radiotherapy in Patients With Localized Prostate Cancer and High-risk Features of Relapse. PI: Dr Méndez Vidal, María José

0037/14. Phase III, international, randomized trial of more pegylated doxorubicin liposomal trabectedine (DLP) compared to carboplatin plus DLP in patients with ovarian cancer who have experienced progression in the last 6-12 months following treatment. PI: Dr Rubio Pérez, María Jesús

0050/14. An open-label, phase II trial of Orteronel (TAK-700) for metastatic or advanced non-resectable granulosa cell ovarian tumors. GreKo study II. PI: Dr Rubio Pérez, María Jesús

0059/14. A phase III study to assess the efficacy of palbociclib (PD-0332991), a cyclin-dependent kinase 4/6 inhibitor in patients with primary HR positive breast cancer and normal HER2 at high risk of relapse following chemotherapy. PI: Dr De la Haba Rodríguez, Juan Rafael

0094/14. A randomised, double-blind, placebo-controlled, multicentre phase ii study to compare the efficacy, safety and tolerability of olaparib versus placebo when given in addition to abiraterone treatment in patients with metastatic castrate-resistant prostate cancer who have received prior chemotherapy containing docetaxel. PI: Dr Méndez Vidal, María José

0105/14. A multinational, multicenter, phase II study to assess the efficacy of pertuzumab plus trastuzumab and neoadjuvant chemotherapy based on anthracyclines in patients with locally advanced, inflammatory or early positive her2 breast cancer. PI: Dr De la Haba Rodríguez, Juan Rafael

0107/14. A multicenter, randomized, double-blind phase II study to assess the efficacy and safety of RO5520985 plus FOLFOX vs. bevacizumab plus FOLFOX in patients with naive metastatic colorectal cancer. PI: Dr Aranda Aguilar, Enrique

0124/14. A multicenter, randomized, placebo-controlled, parallel-group phase III study to assess the efficacy and safety of olaparib as neoadjuvant treatment in patients with high-risk HER2 negative breast cancer. PI: Dr De la Haba Rodríguez, Juan Rafael

0151/14. Assessing an immunomodulatory maintenance therapy in patients with metastatic colorec-
tal cancer with tumor shrinkage during induction therapy. A phase III trial.
PI: Dr Aranda Aguilar, Enrique

0177/14. A multicenter, open-label, single-arm, extension study in patients with solid tumors receiving treatment with bevacizumab in any of the studies sponsored by F. Hoffmann-La Roche and/or Genentech.
PI: Dr Rubio Pérez, María Jesús

PI: Dr Barneto Aranda, Isidoro

PI: Dr Méndez Vidal, María José

0267/14. Phase II multicenter study that analyzes the predictive value of response to ENZALUTAMIDE fusion gene TMPRSS2-ETS in patients with metastatic CRPC previously treated with chemotherapy.
PI: Dr Méndez Vidal, María José

0267/14. Phase II multicenter study that analyzes the predictive value of response to ENZALUTAMIDE fusion gene TMPRSS2-ETS in patients with metastatic CRPC previously treated with chemotherapy.
PI: Dr Méndez Vidal, María José

0270/14. Phase II randomized double-blind study comparing treatment every 3 weeks with carboplatin (AUC 5) + 175 mg/m2 of paclitaxel, with or without concomitant nintedanib and maintenance in advanced or recurrent cervical carcinoma.
PI: Dr Rubio Pérez, María Jesús

0309/14. A Randomized, multicenter, open-label study os MM-302 plus Trastuzumab vs. chemotherapy pf physician’s choice plus trastuzumab in anthracycline naïve patients with locally advanced/metastatic HER2-Positive breast cancer.
PI: Dr De La Haba Rodríguez, Juan Rafael

0311/14. Phase III study, open, multicenter, randomized trial to investigate the efficacy and safety of mpdl3280a (anti-PD-L1) compared to chemotherapy in patients with locally advanced or metastatic urothelial bladder cancer after fault based regime platinum chemotherapy.
PI: Dr Méndez Vidal, María José

0341/14. Phase III trial to compare the safety and efficacy of lapatinib plus trastuzumab plus an aromatase inhibitor (AI) versus trastuzumab plus an AI and against lapatinib plus an AI as first or second line therapy in postmenopausal patients with cancer metastatic breast cancer (MBC) HER2 positive and hormone receptor-positive who have received prior treatment with trastuzumab and endocrine therapy.
PI: Dr De La Haba Rodríguez, Juan Rafael

0358/14. A multicenter phase II clinical trial of lurbinectin (pm01183) in selected advanced solid tumors.
PI: Dr Rubio Pérez, María Jesús

0005/15. Multicenter, open single-arm safety study of herceptin s.c. in combination with docetaxel PERJETA and in the treatment of patients with advanced HER2 positive (metastatic or locally recurrent) breast cancer.
PI: Dr De La Haba Rodríguez, Juan Rafael

0019/15. Phase III, randomized, open MPDL3280A (anti PD-L1) in combination with BEVAZUMAB compared to sunitinib in patients with advanced untreated renal cell carcinoma.
PI: Dr Méndez Vidal, María José

0026/15. Phase II study randomized, multicenter, open to evaluate the efficacy and safety of palbociclib in combination with fulvestrant or letrozole in patients with HER2 negative metastatic breast cancer, ER + (PARSIFAL I).
PI: Dr De La Haba Rodríguez, Juan Rafael

0045/15. A Randomized, Double-blind, Placebo-Controlled, Phase 2 Study to Assess the Efficacy and Safety of Farletuzumab (MORAb 003) in Combination with Carboplatin plus Paclitaxel or Carboplatin plus Pegylated Liposomal Doxorubicin (PLD) in Subjects with Low CA125 Platinum-Sensitive Ovarian Cancer.
PI: Dr Rubio Pérez, María Jesús

PI: Dr Barneto Aranda, Isidoro

PI: Dr Barneto Aranda, Isidoro

0066/15. Multicenter open-label study, randomized controlled phase III to assess the efficacy and safety of olaparib monotherapy versus chemotherapy with single agent lesson by her doctor in the treatment of ovarian cancer relapsed platinum-sensitive in patients carrying germline mutations BRCA1/2.
PI: Dr Rubio Pérez, María Jesús

0144/15. A Randomized, Active-Controlled, Partially Blinded, Biomarker Select, Phase III Clinical Trial of Pembrolizumab as Monotherapy and in Combination with Cisplatin+5-Fluorouracil versus Placebo+Cisplatin+5-Fluorouracil as First-Line Treatment in Subjects with Advanced Gastric or Gastroesophageal Junction (GEJ) Adenocarcinoma.
PI: Dr Aranda Aguilar, Enrique

0176/15. Phase II, multicenter, randomized, double-blind, parallel group study to compare the efficacy and tolerability of fulvestrant (FaslodexTM) 500 mg with placebo and Fulvestrant (FaslodexTM) 500 mg in combination with PD-0332991 (Palbociclib) as first-line treatment for postmenopausal patients with metastatic breast cancer and hormone receptor positive. FLIPPER study.
PI: Dr De La Haba Rodríguez, Juan Rafael

0192/15. Phase III study, open, randomized trial to investigate the efficacy and safety of Atezolizumab (anti-PD-L1 antibody) compared to trametinidone optimal support after adjuvant cisplatin-based chemotherapy in selected PD-L1 with completely resected lung cancer patients in small cell stage IB-III A.
PI: Dr Barneto Aranda, Isidoro
0195/15. Phase III randomized trial with the monoclonal anti-PD-1 pembrolizumab (MK-3475) antibody compared to placebo in patients with NSCLC in early stages after resection and completion of adjuvant treatment reference (PEARLS).
Pl: Dr Barneto Aranda, Isidoro

0233/15. Randomised phase II study comparing, as first-line chemotherapy, single-agent oral vinorelbine administered with two different schedules in patients with advanced breast cancer. Tempo-Breast 1.
Pl: Dr De La Haba Rodríguez, Juan Rafael

0256/15. Randomized, double-blind, phase III trial olaparib vs. Placebo patients with advanced figo stage iiib-iv high grade serious or endometrioid ovarian, fallopian tube, or peritoneal cancer treated standard first-line treatment.
Pl: Dr Aranda Aguilar, Enrique

Pl: Dr De La Haba Rodríguez, Juan Rafael

2893. EUTROC-PISARRO. p53 Suppressor Activation in Recurrent High Grade Serous Ovarian Cancer, a Phase Ib/II Study of Systemic Carboplatin/ Pegylated Liposomal Doxorubicin Combination Chemotherapy With or Without APR-246.
Pl: Dr Rubio Pérez, María Jesús

2898. A Phase III Double-Blinded, Placebo Controlled Study of Xiloxin for Improving Survival in Metastatic Colorectal Cancel (Trial).
Pl: Dr Aranda Aguilar, Enrique

3001. A Phase 3, Randomized, Controlled, Multi-Center, Open-Label Study to Compare Tivozanib Hydrochloride to Sorafenib in Subjects With Refractory Advanced Renal Cell Carcinoma.
Pl: Dr Méndez Vidal, María José

3122. A Randomized Phase 2 Study Comparing Different Dose Approaches of Induction Treatment (First Cycle) of Regorafenib in Metastatic Colorectal Cancer (mCRC) Patients.
Pl: Dr Aranda Aguilar, Enrique

3123. A Randomized, Multicenter, Double Blind, Phase III Study of Adjuvant Nivolumab or Placebo in Subjects With Resected Esophageal, or Gastro-esophageal Junction Cancer.
Pl: Dr Aranda Aguilar, Enrique

3183. A Phase 3, Multicenter, Randomized, Open-label Study Of Avelumab (msb0010718c) Alone Or In Combination With Pegylated Liposomal Doxorubicin Versus Pegylated Liposomal Doxorubicin Alone In Patients With Platinum-resistant/Refractory Ovarian Cancer.
Pl: Dr Rubio Pérez, María Jesús

3189. A Study to Evaluate the Efficacy and Safety of Trastuzumab Emtansine in Combination With Atezolizumab or Atezolizumab–Placebo in Participants With Human Epidermal Growth Factor-2 (HER2) Positive Locally Advanced or Metastatic Breast Cancer Who Have Received Prior Trastuzumab and Taxane Based Therapy (KATE2).
Pl: Dr De La Haba Rodríguez, Juan Rafael

3191. A Phase 3, Randomized, double-blind, placebo-controlled, multicenter study of niraparib maintenance treatment in patients with advanced ovarian cancer following Response on Front-Line Platinum-Based Chemotherapy.
Pl: Dr Rubio Pérez, María Jesús

3217. Phase III Randomized Clinical Trial of Lurbinectin-din (PM0183)/Doxorubicin (DOX) Versus Cyclophosphamide (CTX), Doxorubicin (DOX) and Vincristine (VCR) (CAV) or Topotecan as Treatment in Patients With Small-Cell Lung Cancer (SCLC) Who Failed One Prior Platinum-containing Line (ATLANTIS Trial).
Pl: Dr Barneto Aranda, Isidoro

3220. A Phase II Trial to Assess FOLFIRI+Aflibercept Efficacy in Patients With Oxaliplatin-pretreated Metastatic Colorectal Cancer With or Without ACE Polymorphisms.
Pl: Dr Gómez España, Maria Auxiliadora

3238. Multicenter, Double-Blind, Randomized, Parallel-Group Study to Assess the Efficacy and Safety of MYL-14020 Compared with Avastin, in the First-line Treatment of Patients with Stage IV Non-Squamous Non-Small Cell Lung Cancer.
Pl: Dr Barneto Aranda, Isidoro

3240. A randomised, Parallel, Double Blinded Study to Compare the Efficacy and Safety of FKB238 to Avastin in 1st line treatment for patients with Advanced/Recurrent Non-Squamous non-small cell lung cancer in combination of paclitaxel and carboplatin.
Pl: Dr Barneto Aranda, Isidoro

3246. A Phase 2 Efficacy and Safety Study of Niraparib in Men With Metastatic Castration-Resistant Prostate Cancer and DNA-Repair Anomalies.
Pl: Dr Méndez Vidal, María José

3267. A Study to Investigate Efficacy and Safety of Cobimetinib Plus Atezolizumab and Atezolizumab Monotherapy Versus Regorafenib in Participants With Metastatic Colorectal Adenocarcinoma.
Pl: Dr Aranda Aguilar, Enrique
3271. Phase II clinical trial of radio activity 223 in patients with castration-resistant metastatic prostate cancer (mCRPC) with asymptomatic progression during treatment with abiraterone acetate or enzalutamide.
Pl: Dr Méndez Vidal, María José

3325. A Study of Atezolizumab in Locally Advanced or Metastatic Urothelial or Non-Urothelial Carcinoma of the Urinary Tract.
Pl: Dr Méndez Vidal, María José

3333. A Phase III, Multicenter, Randomized, Placebo-Controlled, Double-Blind Study of Atezolizumab (Anti–PD-L1 Antibody) as Adjuvant Therapy in Patients With Renal Cell Carcinoma at High Risk of Developing Metastasis Following Nephrectomy.
Pl: Dr Méndez Vidal, María José

3338. Phase II, single-arm, open-label multicenter study that assesses feasibility, safety and efficacy of combined neoadjuvant chemotherapy and immunotherapy with Nivolumab 360 mg IV Q3W + Paclitaxel 200mg/m2 + Carboplatin AUC 6 IV Q3W in resectable stage IIIA N2-NSCLC adult patients followed by adjuvant treatment for 1 year with Nivolumab 240 mg IV Q2W for 4 months and Nivolumab 480mg Q4W for 8 months.
Pl: Dr Barneto Aranda, Isidoro

3339. A Randomized, Double-blind, Placebo Controlled Phase III Study of ODM-201 Versus Placebo in Addition to Standard Androgen Deprivation Therapy and Docetaxel in Patients With Metastatic Hormone Sensitive Prostate Cancer.
Pl: Dr Méndez Vidal, María José

3347. A Phase III, Multicenter, Randomized, Placebo-Controlled Study of Atezolizumab (Anti–PD-L1 Antibody) as Monotherapy and in Combination With Platinum-Based Chemotherapy in Patients With Untreated Locally Advanced or Metastatic Urothelial Carcinoma.
Pl: Dr Méndez Vidal, María José

3331. A Multicenter, Open-label, Randomized, Phase 3 Trial to Compare the Efficacy and Safety of Lenvatinib in Combination With Everolimus or Pembrolizumab Versus Sunitinib Alone in First-Line Treatment of Subjects With Advanced Renal Cell Carcinoma.
Pl: Dr Méndez Vidal, María José

3348. Randomized, Double-Blind, Phase 3 Study Evaluating Tas-102 Plus Best Supportive Care (Bsc) Versus Placebo Plus Bsc In Patients With Metastatic Gastric Cancer Refractory To Standard Treatments.
Pl: Dr Cano Osuna, María Teresa

3383. A Multicenter Phase II Trial to Evaluate the Efficacy and Safety of Pembrolizumab and Gemcitabine in Patients With HER2-negative Advanced Breast Cancer (ABC) PANGEA-Breast.
Pl: Dr de La Haba Rodríguez, Juan Rafael

Pl: Dr Cano Osuna, María Teresa

3416. A Phase II Clinical Trial to Analyse Olaparib Response in Patients With BRCA1 and/or 2 Promoter Methylation Diagnosed of Advanced Breast Cancer (COMETA-Breast Study).
Pl: Dr De La Haba Rodríguez, Juan Rafael

3417. A Phase III, Multicenter, Randomized, Placebo-Controlled Study of Atezolizumab (Anti–PD-L1 Antibody) As Adjuvant Therapy and Docetaxel in Patients With Metastatic Gastric Cancer Refractory To Standard Treatments.
Pl: Dr Cano Osuna, María Teresa

3418. Study of Encorafenib + Cetuximab Plus or Minus Binimetinib vs. Irinotecan/Cetuximab or Infusional 5–Fluorouracil (5-FU)/Folinic Acid (FA)/Irinotecan (FOLFIRI)/Cetuximab With a Safety Lead-in of Encorafenib + Binimetinib + Cetuximab in Patients With BRAF V600E-mutant Metastatic Colorectal Cancer.
Pl: Dr Ortiz Morales, Maria Jose

3419. Phase II Study to Evaluate Efficacy and Safety of Sunitinib Therapy in Patients With Metastatic Renal Clear Cell Carcinoma Who Have Progressed to First-line Immunotherapy Treatment (INMUNOSUN Study).
Pl: Dr Méndez Vidal, María José

3439. Estudio de fase III, aleatorizado y doble ciego para evaluar pembrolizumab más quimioterapia frente a un placebo más quimioterapia como tratamiento neoadyuvante y pembrolizumab frente a un placebo como tratamiento adyuvante para el cáncer de mama triple.
Pl: Dr De La Haba Rodríguez, Juan Rafael

3441. COMPLEEMENT-1: An Open-label, Multicenter, Phase IIIb Study to Assess the Safety and Efficacy of Ribociclib (LEE011) in Combination With Letrozole for the Treatment of Men and Pre/Postmenopausal Women With Hormone Receptor-positive (HR+) HER2-negative (HER2-) Advanced Breast Cancer (aBC) With no Prior Hormonal Therapy for Advanced Disease.
Pl: Dr De La Haba Rodríguez, Juan Rafael

3443. A Multicentre, International, Non-controlled Phase II Trial to Identify the Molecular Mechanisms of Resistance and Sensitivity to Palbociclib Re-challenge Upon Progression to a Palbociclib Combination in ER-positive Metastatic Breast Cancer Patients (BioPER).
Pl: Dr De La Haba Rodríguez, Juan Rafael

3448. Phase Ib/II Study to Evaluate the Efficacy and Tolerability of PM01183 in Combination With Olaparib in Patients With Advanced Solid Tumors.
Pl: Dr Rubio Pérez, María Jesús

3474. A Phase III, Randomized, Double-Blind, Placebo-Controlled, Multicenter Trial Testing Ipatasertib Plus Abiraterone Plus Prednisone/Prednisolone, Relative to Placebo Plus Abiraterone Plus Prednisone/Prednisolone in Adult Male Patients With Asymptomatic or Mildly Symptomatic, Previously Untreated, Metastatic Castrate-Resistant Prostate Cancer.
Pl: Dr Méndez Vidal, María José

3476. Phase 3 Study of ADXS11-001 Administered Following Chemoradiation as Adjuvant Treatment for High Risk Locally Advanced Cervical Cancer: AIM2CERV.
Pl: Dr Rubio Pérez, María Jesús

3479. Trastuzumab y pertuzumab sin quimioterapia en cancer de mama HER+: estrategia adaptada en funcion de la respuesta evaluada por FDG-PET. Estudio PHERGain.
Pl: Dr De La Haba Rodríguez, Juan Rafael

Pl: Dr De La Haba Rodríguez, Juan Rafael

3524. Phase I/II Study of Nab–paclitaxel and Gemcitabine Followed by AG–mFOLFOX in Patients With Metastatic Pancreatic Adenocarcinoma.
Pl: Dr Cano Osuna, María Teresa
3526. A Randomized, Double-blind, Placebo-controlled, Phase II Trial of Palbociclib in Combination With Letrozole Versus Placebo in Combination With Letrozole for Patients With Estrogen Receptor Positive Advanced or Recurrent Endometrial Cancer. 
PI: Dr Barneto Aranda, Isidoro

3528. Randomised, Multicentre, Phase II Pilot Study to Assess the Efficacy and Safety of Treatment With FOLFIRI-afiblercept Compared to Initial Treatment With FOLFIRI-afiblercept (for 6 Cycles) Followed by Maintenance With 5FU-afiblercept, in an Elderly Population With Metastatic Colorectal Cancer (mCRC) After Failure of an Oxaliplatin-based Regimen. 
PI: Dr Gómez España, Maria Auxiliadora

PI: Dr De La Haba Rodríguez, Juan Rafael

3554. A Phase III, Open Label, Randomized Study of Atezolizumab (Anti-PD-L1 Antibody) Compared With a Platinum Agent (Cisplatin or Carboplatin) in Combination With Either Pemetrexed or Gemcitabine for PD-L1-Selected, Chemotherapy-Naive Patients With Stage IV Non-Squamous Or Squamous Non-Small Cell Lung Cancer. 
PI: Dr Barneto Aranda, Isidoro

3559. A Phase IIIb, Randomised, Double-blind, Placebo-controlled, Multicentre Study of Olaparib Maintenance Retreatment in Patients With Epithelial Ovarian Cancer Previously Treated With a PARPi and Responding to Repeat Platinum Chemotherapy. 
PI: Dr Rubio Pérez, María Jesús

3620. A phase II clinical trial of enzalutamide in advanced unreatsectable or metastatic ovarian granulosa cancer. GreKo III STUDY. 
PI: Dr Rubio Perez,Maria Jesus

3654. A phase II, Multicentric, Open, Controlled and Randomized, to assess the efficacy of the intra arterial infusion of mononuclear cells of autologous bone marrow in patients with ischemic stroke. 
PI: Dr Méndez Vidal, María José

3720. Phase II clinical trial of enzalutamide in advanced unreatsectable or metastatic ovarian granulosa cancer. GreKo III STUDY. 
PI: Dr Rubio Perez,Maria Jesus

3068. Phase II study to evaluate the efficacy of sunitinib retreatment in patients with advanced or metastatic well-differentiated (GI/2) pancreatic neuroendocrine tumors (pNET) who have already failed prior sunitinib therapy. 
PI: Dr Serrano Blanch, Raquel

2059. A study to assess arterial hypertension as a predictor of effectiveness of bevacizumab (BV) associated with chemotherapy in metastatic colorectal cancer and metastatic breast cancer. 
PI: Dr Aranda Aguilar, Enrique

2178. A post-authorization, observational, prospective study to assess progression patterns of advanced EGFR-positive non-small cell lung cancer treated with erlotinib. 
PI: Dr Barneto Aranda, Isidoro

PI: Dr Méndez Vidal, María José

PI: Dr Serrano Blanch, Raquel

2235. An observational, prospective study to identify the management of patients with castration-resistant metastatic prostate cancer on second-line treatment after docetaxel in regular clinical practice. 
PI: Dr Méndez Vidal, María José

2524. Translational, observational and prospective study to determine factors predicting the anti-angiogenic efficacy of bemiparin in patients with advanced cancer. 
PI: Dr Sánchez Mauriño, Pedro

2683. Multicenter prospective study of prognostic factors in prostate cancer resistant to castration treated with abiraterone. 
PI: Dr Méndez Vidal, María José

2684. Multicenter prospective study of prognostic factors in castration resistant prostate cancer treated with docetaxel or cabazitaxel prostate cancer. 
PI: Dr Méndez Vidal, María José

2902. Prospective Development of predictive and prognostic tools for optimization Frontline therapy with Bevacizumab in Patients with Metastatic Breast Cancer HER-2 negative and aggressive illness criteria observational study. 
PI: Dr De La Haba Rodríguez, Juan Rafael
2906. Clinical profile and therapeutic management of patients with pancreas cancer, Registry of Hospital Medical Oncology services in Spain.
PI: Dr Aranda Aguilar, Enrique

2928. European non-interventional, multicenter, prospective study to describe the efficacy of trabectedin + pegylated liposomal doxorubicin (PLD) in the treatment of patients with recurrent ovarian cancer (ROC) according to data sheet despite prior use of an anti-angiogenic drug.
PI: Dr Rubio Pérez, María Jesús

2930. The T790M mutation detection technology by BEAMing in patients with NSCLC and EGFR mutated in stage IV. LUNGBEAM study.
PI: Dr Barneto Aranda, Isidoro

2984. Monitoring by liquid biopsy of patients with metastatic colorectal cancer. comparison of next generation platforms for genotyping of circulating tumor DNA.
PI: Dr Aranda Aguilar, Enrique

3074. Clinical evaluation of OncoBEAM using an extended panel of 34 RAS mutations. comparison of RAS mutation detection in circulating tumor DNA and sample tissue in patients with metastatic colorectal cancer.
PI: Dr Aranda Aguilar, Enrique

PI: Dr Méndez Vidal, María José

3223. Prospective registry study in patients with unresectable locally advanced or metastatic breast cancer (MBC). RegistEM Study
PI: Dr De la Haba Rodríguez, Juan Rafael

3295. Validation of the International Metastatic Renal-Cell Carcinoma Database Consortium (IMDC) prognostic model for second-line directed therapy (ITC/mTOR inhibitors) following first-line treatment with pazopanib (SPAZO-2)
PI: Dr Méndez Vidal, María José
Nephrology. Cell damage in chronic inflammation

Principal Investigator (PI)
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Spanish Renal Research Network (REDinREN)
PAIDI CTS-260: Abnormal Cell Activation: Apoptosis

Researchers
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Espinosa Hernández, Mario
Martin Malo, Alejandro
Navarro Cabello, María Dolores
Rodríguez Benot, Alberto
Santamaría Olmo, Rafael
Soriano Cabrera, Sagrario

Post-Doctoral Researchers
Agüera Morales, María Luisa
Ariza Fuentes, Francisco Javier
Buendia Bello, Paula

Pre-Doctoral Researchers (PhD and MSc Students)
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Calle Mafla, Oscar Andrés
Carmona Muñoz, Andrés
Crespo Montero, Rodolfo
Esquivias de Motta, Elvira
García Montemayor, Victoria Eugenia
González Burdiel, Luis
Hurtarte Sandoval, Aldo René
López Andreu, María
Rabasco Ruiz, Cristina
Rodelo Haad, Cristian Roberto

HIGHLIGHTS
Publications
12
Impact Factor
52.02
Average Impact Factor
4.335

Other members of the Group (Nursing, Technical and Administrative Staff)
Guerrero Pavón, Fátima
Jiménez Moral, María José
López López, Isabel
Robles López, Ana Isabel
Sánchez-Agesta Martínez, Marina
Tejero Circuéndez, Iván
Scientific Activity

Our Nephrology Cell Damage in Chronic Inflammation research group is a consolidated group of IMIBIC, bringing together both basic and clinical researchers in various scientific disciplines, including medicine, biology and nursing staff.

Our research group is focused on different aspects of uremia, hemodialysis, chronic inflammation and endothelial dysfunction. Our primary area of research is chronic kidney disease (CKD). We study CD14+CD16+ and endothelial cell interaction mediated induction of vascular calcification in patients with chronic kidney disease. We investigate the effect of the endothelial cell and production of microparticles as mediators of this process. We have also performed experimental models of cell culture to study microparticles, CD14 +CD16+ and endothelial cells by flow cytometry and proteomics (mass spectrometry) to analyze the role of these biological biomarkers on microinflammation and the mechanisms involved in vascular calcification on chronic kidney disease.

The main aim of our research is to study the mechanisms of cell damage and repair conditioning in the response to stress caused by chronic inflammation. The working model focuses on immunocompetent cells and vascular wall cells. In addition, we analyze the mechanisms regulating the stress response in circulating progenitor cells in peripheral blood.

Results derived from our research may lead to determine the benefits of different dialysis or pharmacological treatments (chelators, calcimimetic, and vitamin D) on morbidity and mortality of CKD4 CKD5 and CKD5D patients. Support tools at diagnosis and possible therapeutic targets will be identified.

In the last three year, our group has published manuscripts that are contributing to the understanding of Cell Damage in Chronic Inflammation and endothelial dysfunction on chronic kidney disease. We are also evaluated new biological biomarkers and the effect of different uremic toxins on the pathogenesis and development of vascular calcification and cardiovascular risk.

Our group is collaborating with the Spanish Renal Research Network (REDinREN). Other collaborations include research projects with companies of pharmaceutical/dialysis industry (Fresenius Medical Care and Medtronic).

Research lines

• Nephrology. Cell Damage in Chronic Inflammation
• Relevance of protein content within the renal scaffold for kidney bioengineering and regeneration

Keywords

Cell activation, chronic renal failure, microinflammation, cell therapy, hemodialysis, renal transplantation, inflammation, cellular stress, genomic damage, endothelium.

Scientific Production

Publications

Main Publications

IF: 4,134 Q: 1

IF: 3,611 Q: 1

IF: 2,403 Q: 2

Other Publications

IF: 8,395 Q: 1 D: 1


Research Funding

Regional

Martin Malo, A. Artificial Intelligence: a new alternative to analyze the associations among the concentrations of calcium, phosphorous and PTH in hemodialysis patients as well as predicting cardiovascular risk. Funding agency: Andalusian Progress and Clinics Studies. Reference: CCB.0125


National


Expected starting date: 2018

Contracts with Companies

Aljama García, P. Agreement FRESENIUS. Funding agency: FRESENIUS MEDICAL CARE ESPAÑA, S.A. Reference: CCB.0125

Aljama García, P. Agreement SANOFI. Funding agency: SANOFI-AVENTIS, S.A. Reference: CCB.0134

Aljama García, P. Agreement FMC. Funding agency: F.M.C. SERVICES ANDALUCIA, S.A. Reference: CCB.0147

Aljama García, P. Agreement ALEXION. Funding agency: ALEXION PHARMA SPAIN SL. Reference: PSS.0202

Clinical Trials

0096/13. A randomized, cross-over, double-blind, placebo-controlled study. Modulation of endothelial damage and repair mediators through the inhibition of xanthine oxidase in patients with chronic kidney disease. PI: Dr Santamaria Olmo, Rafael

0190/13. An international, multicenter, randomized, double-blind, parallel-group, placebo-con-
controlled study of the effect of atrasentan on kidney outcomes in subjects with diabetes type 2 and nephropathy. SONAR trial of diabetic nephropathy. PI: Dr Santamaría Olmo, Rafael

0239/13. Randomized open and controlled phase III study with active treatment to assess the efficacy and safety of FG-4592 in the treatment of anemia in patients with chronic renal insufficiency untreated by dialysis.
PI: Dr Sagrario Soriano, Sagrario

0263/13. An observer-blind study to assess the immunogenicity and safety of GSK Biologicals' sub-unit GSK1437173A vaccine against Herpes Zoster (HZ/su) in kidney transplantation recipients aged >18.
PI: Dr Agüera Morales, Mª Luisa

0048/14. A randomized, multicenter, controlled, open-label study to assess the efficacy of sequential treatment with Tacrolimus-Rituximab vs. steroids plus Cyclophosphamide in patients with primary membranous nephropathy.
PI: Dr Espinosa Hernández, Mario

PI: Dr Navarro Cabello, María Dolores

0024/15. Multicentered open randomized study of two parallel groups to assess the efficacy and safety of Envarsus compared to tacrolimus used in accordance with current clinical practice as initial maintenance in-patient treatment.
PI: Dr Rodríguez Benot, Alberto Manuel

3274. A multicenter, single-arm study of the effects of atrasentan on apermatogenesis and testicular function.
PI: Dr Santamaría Olmo, Rafael

3334. Phase III, randomized, double-blind, placebo-controlled, parallel group, multicenter, event-driven study to evaluate the efficacy and safety of finerenone, associated with standard treatment, in the reduction of morbidity and mortality.
PI: Dr Santamaría Olmo, Rafael
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Researchers
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Post-Doctoral Researchers
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Hormaechea Agulla, Daniel
Ibáñez Costa, Alejandro
León González, Antonio José
Moreno Fernández, Jesús
Rincón Fernández-Pacheco, David
Villa Osaba, Alicia

Pre-Doctoral Researchers (PhD and MSc Students)
Alors Pérez, Emilia Mª
Mansfield, Bethan
Blanco Acevedo, Cristobal José
Borges de Souza, Patricia

Del Río Moreno, Mercedes
Fuentes Fayos, Antonio Carlos
Gómez Gómez, Enrique
Herrero Aguayo, Vicente
Herrera Martínez, Aura Dulcinea
Jiménez Vacas, Juan Manuel
Mariotti Zani, Elena
Montero Hidalgo, Antonio Jesús
Pedraza Arévalo, Sergio
Rivero Cortés, Esther
Sánchez Medianero, Mª Teresa
Spina, Andrea
Toledano Delgado, Álvaro
Vázquez Borrego, Mª Carmen

Other members of the Group (Nursing, Technical and Administrative Staff)
López López, Fernando
Scientific Activity
The “Hormones and Cancer” research group is a consolidated group of the IMIBIC comprised by basic, translational, and clinical researchers. We investigate the cellular and molecular principles underlying the natural processes of neuroendocrine-metabolic regulation and their dysfunctions in tumor diseases and cancer. The group pays special attention to the role played by some neuropeptide/receptor systems, and their molecular regulation by signaling pathways, miRNAs, alternative splicing, etc. at the onco-endo-metabolic interface. Starting from the study of pituitary cells producing growth hormone (GH), our group has developed a Research Area focused on the analysis of extracellular signals (somatostatin, cortistatin, GHRH, ghrelin, Kisspeptins, etc.), receptors (sst1-5, GHRH-R, GHS-R, Kiss1r), splicing variants (sst5TMD4, In1-ghrelin, GHSR-1b) and signalling pathways involved in the regulation of this cell type, as well as other endocrine cell types (e.g. corticotropes, gonadotropes, pancreatic beta cells) and the global role of these molecules in metabolic homeostasis and the development of tumour pathologies.

To achieve this, we use a wide range of techniques, including primary cultures of normal and tumor cells, cell lines, genetically modified animals, hormone secretion measurements, second messengers and gene expression, dynamics association/dissociation studies and membrane protein trafficking using FRET, confocal microscopy in living cells, etc. Our studies have led to the discovery and characterization of new receptors, splicing variants, functions and mechanisms of action for different neuroendocrine-metabolic signals and drugs involved in the control of hormone secretion, tumorigenesis, or cell survival and death in various normal and pathological conditions such as metabolic dysregulations (diabetes, obesity) and cancer (pituitary and neuroendocrine tumors, or breast, prostate, pancreatic and hepatic cancers, among others), with the ultimate aim of contributing to the future design of innovative therapeutic strategies.

Research Lines
• Involvement of alternative splicing regulation in neuroendocrine tumors and pancreatic cancer: identification of novel biomarkers
• Identification of key players in the pathological interaction between metabolic dysfunctions (obesity, diabetes) and prostate cancer
• Role of novel endocrine-related factors in brain and pituitary tumors
• Implication of novel molecular and endocrine-metabolic factors in the pathological association between obesity and liver diseases

Keywords
Cellular and Molecular Endocrinology and Endocrine Oncology; Hypothalamus; Pituitary; Somatostatin, cortistatin, ghrelin, GHRH, kisspeptins and their receptors; Expression and secretion of hormones (GH, PRL, IGF-I, insulin) and intracellular signalling pathways; Regulation of the somatotropic axes; Obesity and Diabetes; Pituitary tumours; Neuroendocrine tumors; Prostate cancer; Breast cancer.

Scientific Production
Publications
Main Publication
IF: 7,519
Q: 1 D: 1

IF: 6,204
Q: 1

IF: 5,498
Q: 1 D: 1


Luque Huertas, RM. New molecular mechanisms in the pathological interaction between obesity and prostate cancer: alternative splicing and miRNAs as potential biomarkers and therapeutic targets. Funding agency: National Institute of Health Carlos III (ISCIII). Reference: PI16/00264

Luque Huertas, RM. GOAT (Ghrelin-O-acil transferase): new biomarker for prostate cancer screening CAIXAIMPULSE 2017. Funding agency: FUNDACIÓN LA CAIXA. Reference: Caixaimpulse_003

Gahe te Ortiz, MD. Implication of novel molecular and endocrine-metabolic factors in the pathological interaction between obesity and hepatocellular carcinoma. Funding agency: National Institute of Health Carlos III (ISCIII). Reference: P17/02287

Expected start date: 2018

Regional


Gahe te Ortiz, MD. Determining the molecular footprint of predictive splicing in the development of prostate cancer and application in the diagnosis and treatment of the disease. Funding agency: Regional Ministry of Health and Social Policy (CISPS). Reference: PI-0541-2013
Luque Huertas, RM. Grant Mobility II: Protection of research results of Galileo innovation and technology transfer II Plan from Universidad de Córdoba. Funding agency: Universidad de Córdoba. Reference: II Plan Propio GALILEO


Constructs with Companies

Luque Huertas, RM. Agreement Universidad. Funding agency: Universidad de Córdoba. Reference: PSS.0178
**HIGHLIGHTS**

**PUBLICATIONS**

43

**IMPACT FACTOR**

228,301

**AVERAGE IMPACT FACTOR**

5,309

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**Principal Investigator (PI)**
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PAIDI CTS-525: Interaction Genes and Environment

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PAIDI CTS-212: Nutrition and Disease
Yolanda Almadén Peña (Nicolás Monardes Contract)
Javier Delgado Lista
Pablo Pérez Martínez

**Emerging Researchers (ER):**
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Antonio García Ríos

**Researchers**
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Fuentes Jiménez, Francisco
Herruzo Gómez, Ezequiel
López Jiménez, Luciano
Montero Pérez-Barquero, Manuel
Yubero-Serrano, Elena María
Rangel-Zuñiga, Oriol Alberto

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Delgado Casado, Nieves
Gómez Delgado, Francisco
Gómez Luna, Purificación

**Gutiérrez Mariscal, Francisco Miguel**
Jiménez Morales, Anabel
León Acuña, Ana
Peña Orihuela, Patricia Judith
Pérez Caballero, Anabel
Roncero Ramos, Irene

**Pre-Doctoral Researchers (PhD Students y MSc Students)**
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Blancas Sánchez, Isabel María
Corina Baba, Andreaa
Jiménez Lucena, Rosa
López Moreno, Javier
Perez-Cardelo, Maria Magdalena
Quintana Navarro, Gracia Mª
Sánchez Giraldo, Maite
Santos Marcos, José Antonio
Scientific Activity
The “Nutrigenomics. Metabolic Syndrome” research group is a consolidated group of IMIBIC, bringing together both basic and clinical researchers in various scientific disciplines, such as medicine, biology, biochemistry, as well as dieticians, nursing, technical and administrative staff. Our research is mainly based on the effect of dietary components on cardiovascular risk through a double approach: the biological actions of the diet on mechanisms and factors related to the development of atherosclerosis (oxidative stress, inflammation, homeostasis or cellular signaling) and Nutrigenetics, through which we investigate how common genetic variants modulate the influence of the diet on different markers such as postprandial metabolism, endothelial function, overweight or glucose metabolism. We are also interested in the use of these strategies in other pathologies such as hypercholesterolemia, thromboembolic disease, as well as in ageing process. These approaches will allow us to modulate the pathological pathways that underlie the development of various chronic diseases (type 2 diabetes mellitus, metabolic syndrome and cardiovascular diseases).

Over the last years, our group has been carrying out the Cordioprev study (CORonary Diet Intervention with Olive oil and cardiovascular PREVention study (clinical trials number NCT00924937NCT00924937). This is a secondary prevention, randomized and interventional study where 1002 patients who have suffered an episode of ischemia will follow a voluntary prevention program to avoid new cardiovascular events. The participants will follow two randomized heart-healthy diets: a fat low diet whose composition is recognized as a very useful model by the main agencies and societies of the field, and Mediterranean diet with a major calorie input of fat, which also stands as an alternative to reduce the risk of heart disease. The results will validate whether both diets are healthy models based on their ability to reduce and normalize the main risk factors as well as the mechanisms involved in atherosclerosis and the risk of heart disease. Our groups is firmly committed to the Cordioprev study and we aim to demonstrate the beneficial effect of these two diet models on the cardiovascular field, helping to prevent new events for patients who have already had an acute myocardial infarction or an angina pectoris. Up to now, this is the first study in the world which addresses this purpose as a main goal in patients that have suffered from heart disease.

Over the last few years, our group has been developing predictive models for assessing the risk of disease. Specifically, we are developing innovative models to evaluate biological senescence, coronary heart disease treatment choice and miRNAs plasma levels-based model for type 2 diabetes mellitus development. Moreover, due to the complex nature of gene-environment interactions, another important aim of our research is to establish an appropriate dietary therapy in according to the disease, for “personalized” nutrition.

Our research group is highly motivated toward internationalization. In fact, we are currently taking part in two international consortiums. POWER2DM, whose objective is to develop individual self-control of diabetes; and FAME, for the identification of new disease biomarkers.

The Principal Investigator (PI) of the group, José López Miranda, is also PI of both CIBER Physiopathology of Obesity and Nutrition (CIBERobn) and the PAIDI CTS-525 and CTS 212. Other collaborations include highly competitive research groups both on a national and international level, as well as pharmaceutical companies.

Research Lines
• Interaction genes-environment
• Active aging and frailty
• Nutrition, endocrine and metabolic diseases
• Micronutrients and cardiovascular dis-
Keywords
Atherosclerosis, endothelium, metabolic syndrome, type 2 diabetes mellitus, Mediterranean diet, olive oil, polyphenols, antioxidants, inflammation, oxidative stress, cholesterol, polyphenols, gene expression, proteomics, nutrigenetics, nutrigenomics

Scientific Production
Publications
Main Publications

IF: 6,189
Q: 1


IF: 6,189
Q: 1


IF: 6,189
Q: 1

Q: 1


IF: 5,291
Q: 1  D: 1

Q: 1


IF: 4,936
Q: 1


IF: 4,323
Q: 1  D: 1


IF: 4,323
Q: 1  D: 1


IF: 4,259
Q: 1


IF: 4,323
Q: 1  D: 1


IF: 4,323
Q: 1  D: 1


IF: 4,37
Q: 1

Garcia-Rios A, Leon-Acuna A, Lopez-Miranda J, Pe-

IF: 3.154
Q: 1  D:1


IF: 3.087
Q: 2


IF: 2.96
Q: 1


IF: 2.65
Q: 2


IF: 2.611
Q: 2


IF: 0

**Other Publications**


IF: 47,831
Q: 1  D:1


IF: 19,306
Q: 1  D:1


IF: 5,498
Q: 1  D:1


IF: 5,168
Q: 1

Oliva-Olivera W, Lhamyani S, Coin-Araguez L, Castellano-Castillo D, Alcaide-Torres J, Yubero-Serrano EM, El Bekay R, Tinahones FJ. Neovascular deterioration, impaired NADPH oxidase and inflammatory cytokine expression in adipose-derived multipotent cells from subjects with metabolic syndrome. METABOLISM-CLINICAL AND EXPERI-
Regional


National


Pérez Martínez, P. Developing a technological platform to evaluate the ageing level and establish an individualized treatment regime based on the clinical, biological and genetic profile of the patient. Funding agency: National Institute of Health Carlos III (ISCIII). Reference: PI13/00185


López Miranda, J. (Co-IP) Understanding obesity (Ob), metabolic syndrome (MetS), type 2 diabetes (T2DM) and fatty liver disease (FL): a multidisciplinary approach. Funding agency: National Institute of Health Carlos III (ISCIII). Reference: PIE 14/00031


López Miranda, J. Effect of a Mediterranean diet rich in virgin olive oil on the risk and incidence of Type 2 Diabetes Mellitus: Cordioprev-diab study. Reference: AGL2015-67896-P


International


Contracts with Companies
Montero Pérez-Barquero, M. Pfizer agreement. Funding agency: Pfizer, S.L.U. Reference: CCB.0070

Montero Pérez-Barquero, M. Laboratorios Servier Agreement. Funding agency: Laboratorios Servier, S.L. Reference: PSS.0051

López Miranda, J. Services Agreement TNO. Funding agency: TNO Netherlands Organisation. Reference: PSS.0014

Pérez Jiménez, F. Sponsored Agreement with Biosalud. Funding agency: Biosalud S.L. Reference: PSS.0070

Clinical Trials
0267/11. A global, multicenter, double-blind, randomized, parallel-group, placebo-controlled, one-year study to assess the effectiveness and tolerability of Anacetrapib added to an ongoing statin-based treatment, combined or not with other lipid modifying agents in patients with heterozygous familial hypercholesterolemia.

Pl: Dr López Miranda, José

0159/11 Open label extension (OLE), controlled, multicenter study to assess the safety and long-term efficacy of AMG 145.

Pl: Dr López Miranda, José

0166/12. A multicenter, randomized, double-blind, placebo-controlled study to assess the effect of a further reduction of LDL cholesterol in major cardiovascular events when AMG 145 is used in combination with statins in patients with clinically evident heart disease.

Pl: Dr López Miranda, José

0314/12. EA randomized, double-blind, placebo-controlled, parallel-group trial to assess the effect of SAR236553/REGN727 on the occurrence of cardiovascular events in patients who recently had acute coronary syndrome.

Pl: Dr Fuentes Jiménez, Francisco

0032/13. A multicenter, open study to assess the safety, tolerability and long-term efficacy of AMG 145 in C-LDL cholesterol in subjects with severe heterozygous familial hypercholesterolemia.

Pl: Dr Fuentes Jiménez, Francisco
An open label extension (OLE), controlled, multicenter study to assess the safety and long-term efficacy of AMG 145.

PI: Dr López Miranda, José


PI: Dr Fuentes Jiménez, Francisco

0216/13. A randomized, double-blind, parallel-group, active-control trial to assess the efficacy and safety of LCZ696 versus Valsartan on morbidity and mortality in patients with heart failure NYHA Class II–IV.

PI: Dr Montero Pérez-Barquero, Manuel


PI: Dr Fuentes Jiménez, Francisco

0295/13. A randomized, multicenter, double-blind, double-blind, placebo-controlled, parallel-group study to assess the efficacy, safety and tolerability of PF-04950615 in reducing the number of severe cardiovascular events in high-risk patients.

PI: Dr Pérez Martínez, Pablo

0296/13. A randomized, multicenter, double-blind, double-blind, placebo-controlled, parallel-group study to assess the efficacy, safety and tolerability of PF-04950615 in reducing the number of severe cardiovascular events in high-risk patients.

PI: Dr Pérez Martínez, Pablo


PI: Dr Fuentes Jiménez, Francisco

0090/15. Randomized, double-blind, multicenter, placebo-controlled, parallel group to describe the efficacy, safety and tolerability of evolocumab administered for 24 weeks, as adjunctive therapy of diet and lipid-lowering therapy in reducing the colesterolligado to LDL density (LDL-C) in pediatric subjects 10–17 years of age with heterozygous familial hypercholesterolemia (HeFH).

PI: Dr Fuentes Jiménez, Francisco

0049/15. Long-term study, randomized, double-blind, placebo-controlled trial to determine the effect of albiglutide, when added to standard glucose-lowering therapy on cardiovascular events in patients with Type 2 Diabetes Mellitus.

PI: Dr Delgado Lista, Francisco Javier

0197/15. Multinational, Multicenter, Single Group Open Study to document the safety, tolerability and effect on atherogenic lipoproteins Alirocumab in High-Risk Cardiovascular Patients with Severe Hypercholesterolemia not adequately controlled with Conventional Treatments Lipid.

PI: Dr López Miranda, José

3121. Open-label, Single-Arm, Multicenter Study to Evaluate the Safety, Tolerability and Efficacy of Evolocumab for LDL-C Reduction, as Add-on to Diet and Lipid-lowering Therapy, in Pediatric Subjects From 10 to 17 Years of Age With Heterozygous Familial Hypercholesterolemia (HeFH) or Homozygous Familial Hypercholesterolemia (HoFH).

PI: Dr Fuentes Jiménez, Francisco

3237. An 8-Week Open-Label, Sequential, Repeated Dose-Finding Study to Evaluate the Efficacy and Safety of Alirocumab in Children and Adolescents With Heterozygous Familial Hypercholesterolemia Followed by an Extension Phase.

PI: Dr Fuentes Jiménez, Francisco

3245. Safety and Efficacy of the Combination of Loop Diuretics With Thiazide-type Diuretics in Patients With Decompensated Heart Failure. a Double-blind, Randomized, Placebo-controlled Trial (CLOROTIC Trial).

PI: Dr Monerey Pérez-Barquero, Manuel

3346. A phase III, international, multicenter, randomized and openlabel study to evaluate the efficacy on LDLc and blood pressure reduction and safety of Trinomia® versus usual care in patients with high cardiovascular risk without previous cardiovascular event. The VULCANO trial.

PI: Dr Pérez Martínez, Pablo

3651. A placebo-controlled, double-blind, randomized trial to evaluate the effect of 300 mg of inclisiran sodium given as subcutaneous injections in subjects with heterozygous familial hypercholesterolemia.

PI: Dr Fuentes Jiménez, Francisco

2488. Protocol Gaucher Registry.

PI: Dr Fernández De La Puebla Giménez, Rafael Ángel

2847. Global anticoagulant registry in the field observing treatment and outcomes in patients with treated acute venous thromboembolic events in the real world.

PI: Dr López Jiménez, Luciano

2615/2. Long-term general registry on atrial fibrillation. EORP registration

PI: Dr Montero Pérez-Barquero, Manuel

3450. Estudio Observacional, transversal para describir la calidad de vida relacionada con la salud en pacientes con fibrilación auricular no valvular tratados con anticoagulantes, controlados y no controlados. Estudio Requol.

PI: Dr López Jiménez, Luciano

3563. Estudio observacional RETrospectivo sobre el uso de evolocumab en Unidades de Medicina Interna de España (RETOSS-IMU).

PI: Dr López Miranda, José

3565. Estudio observacional multinacional para evaluar la seguridad de Repatha en el embarazo.

PI: Dr Fuentes Jiménez, Francisco
Hormonal regulation of energy balance, puberty and reproduction

Principal Investigator (PI)
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IMIBIC Deputy Scientific Director
CIBER on Obesity and Nutrition (CIBERobn)
PAIDI BIO310: Energy Balance and Reproductive Function

Researchers
Gaytan Luna, Francisco Pinilla Jurado, Leonor

Post-Doctoral Researchers
Avendaño Herrador, Mª Soledad Castellano Rodríguez, Juan Manuel Franssen, Delphine Pineda Reyes, Rafael Roa Rivas, Juan Romero-Ruiz, Antonio Sánchez-Garrido Nogueras, Miguel Vázquez Villar, María Jesús

HIGHLIGHTS
Publications
15
Impact Factor
120,32
Average Impact Factor
8,021

Pre-Doctoral Researchers (PhD and MSc Students)
Barroso Romero, Alexia Heras Domínguez, Violeta Pineda Reyes, Beatriz Ruiz Cruz, Miguel Ruiz-Pino, Francisco Perdices Lopez, Cecilia Pino Aljama, Ana María Torres Jiménez, Encarnación Velasco Aguayo, Inmaculada

Other members of the Group (Nursing, Technical and Administrative Staff)
Morales Castilla, Cristina Onieva Jiménez, Rocío Rodríguez Sánchez, Ana Sánchez Tapia, Mª Jesús
Scientific Activity

Our team is a consolidated group at IMIBIC, currently composed of 23 members, including three professors, eight postdoctoral researchers, eight predoctoral fellows and PhD/ Master students and three technicians. We are a basic/translational group, aiming to explore the pathophysiological basis of the complex interactions between key bodily functions, such as those controlling body weight, metabolism, puberty and reproduction. While a substantial component of our research deals with the investigation of physiological and molecular mechanisms and their contribution to disease, in the areas of our interest, we have recently undertaken also a number of more clinically-oriented projects, with the overall goal of translating the basic knowledge stemming from our research activity, in order to define better tools and markers for the diagnosis, stratification and management of highly prevalent metabolic and reproductive disorders, ranging from obesity to altered puberty, polycystic ovary syndrome and infertility. We are funded by competitive projects from regional, national and European agencies, as well as by cooperative agreements with biotech and pharma companies. Our group collaborates with numerous teams within IMIBIC, Spain and internationally, which help us to deploy an ambitious research program covering a wide range of topics and activities within the area of hormonal regulation of energy balance, puberty and reproduction. As demonstration of active interaction and networking, our group is currently cooperating with other IMIBIC research groups in three different competitive projects, coordinating one of the nodes of the Spanish Network for Research in Obesity and Nutrition (CIBEROBN), and hold long-lasting and productive collaborations with reference groups in Finland and other countries in Europe and the USA.

Research Lines

• New mechanisms for the control of puberty and reproduction: From physiology to mechanisms of disease
• Metabolic regulation of puberty and fertility: Implications for Translational Medicine
• Pathophysiological mechanisms and consequences of obesity-induced hypogonadism
• Identification of novel biomarkers for improved diagnosis and stratification of reproductive diseases

Keywords

Puberty, fertility, obesity, metabolism, energy sensors, kisspeptins, neuropeptides, gonadotropins, gonads, polycystic ovary syndrome, endometriosis, hypogonadism, microRNAs, epigenetics.

Scientific Production

Publications

Main Publications

IF: 18.318
Q: 1  D: 1

IF: 11.748
Q: 1  D: 1

IF: 11.127
Q: 1  D: 1

IF: 4.259
Q: 1

Other Publications


Q: 1  D: 1


Regional


National


Lopez Miranda, J (This project was funded as a collaborative initiative among different research groups; CO-PI: M. Tena-Sempere). Early predictors and causes of loss of phenotypic flexibility as individual risk factor of metabolic disease: towards a personalized medicine (FLEXI-MET). Funding agency: National Institute of Health Carlos III (ISCIII). REF: PIE/1400005


International


Contracts with Companies

Tena–Sempere, M. Physical, chemical and biological characterization of active compounds (BIONATURIS); Funding agency: Bioorganic Research and Services, S.A. Reference: PSS.0044

Tena–Sempere, M. Agreement ORGANON-KISS. Funding agency: ORGANON N.V. Reference: 400030

HIGHLIGHTS

Publications

7

Impact Factor

52,173

Average Impact Factor

7,453

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CIBER Physiopathology of Obesity and Nutrition (CIBERobn)

Co-Principal Investigator (PI)
Francisco Gracia Navarro

Researchers
García Navarro, Socorro
Vázquez Martínez, Rafael

Post-Doctoral Researchers
Cayuela Marín, Angelina
Guzmán Ruiz, Rocío

Pre-Doctoral Researchers (PhD and MSc Students)
Baker, Matthew
Díaz Del Moral, Sandra
Fernández Vega, Alejandro
Navarro Ruiz, Mª Del Carmen
López Alcalá, Jaime
Podadera Herreros, Alicia
Tercero Alcázar, Carmen
Sá Gomes, Andreia Cristina
Sánchez Ceinos, Julia

Other members of the Group (Nursing, Technical and Administrative Staff)
Molero Murillo, Laura
Scientific Activity
The research team on “Adipobiology” is a consolidated research group working on the identification and characterization of novel markers of adipose tissue dysfunction in obesity. Our research is aimed at elucidating the cellular and molecular mechanisms underlying the development of obesity-related comorbidities, including insulin resistance and type 2 diabetes. This research has a two-pronged approach: (a) targeted analyses of the regulation of insulin signalling and lipid storage and mobilization in adipocytes at the cellular and molecular levels, using a wide variety of cellular and molecular methodologies on adipocyte cell lines and primary human adipocytes, and (b) untargeted omics studies. We employ in vitro models of insulin resistance to mimic different aspects of obesity and metabolic disease, as well as different approaches for the identification of protein networks relevant to adipose tissue function. Likewise, the relevance of impaired organelle function and inter-organelle contacts in obese adipocytes are also explored. Regarding the second approach, we employ several proteomic techniques to identify novel biomarkers and pathways activated and/or impaired in the two major fat depots, subcutaneous and visceral, and its separate components in lean and obese individuals with different degrees of insulin sensitivity. We have also established the protein fingerprint of the adipose tissue in lipodystrophy and after bariatric surgery-induced weight loss. Our omic studies also include the evaluation of the impact of obesity and insulin resistance on the activation and modification (phosphorylation, acetylation) of proteins of the adipose tissue. More recently, in collaboration with Dr. Priego (GC-21, IMIBIC) and Chicano (UCAIB, IMIBIC), we have extended our omic studies to the lipidome, including MALDI Imaging, for comparative analyses of the adipose tissue from obese subjects with different degrees of insulin resistance or lipid droplets isolated from adipocytes. Finally, our current research project is aimed at characterizing the impact of extracellular matrix composition and remodelling in obesity-associated adipocyte dysfunction in order to decipher novel molecular mechanisms that could pave the way to devise effective therapies in obesity and metabolic disease. Both 2D and 3D culture systems are employed as platforms for testing drugs, sera, or nanotechnology products with the aim of translating research findings to clinical applications.

Research lines
• Novel players in extracellular matrix remodelling in obesity and obesity-associated diseases
• Identification of biomarkers of obesity risk and reversal by weight loss
• The intracellular interactome in metabolic diseases
• Nanotechnology applications in obesity

Keywords

Scientific Production
Publications
Main Publications
IF: 6.08
Q: 1

Other Publications
IF: 18.164
Q: 1 D: 1

Porteiro B, Fondevila MF, Delgado TC, Iglesias C, Imbernon M, Iruzubieta P, Crespo J, Zabala-Le-


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**Research Funding**

**Regional**


**National**


López Miranda, J. (This project was funded as a collaborative initiative among different research groups). Early predictors and causes of loss of phenotypic flexibility as individual risk factor of metabolic disease: towards a personalized medicine (FLEXI-MET). Funding agency: National Institute of health Carlos III (ISCIII). REF: PIE/1400005


Malagón, MM (Co-PI: Calzado Canale, M.) Integration of platforms for the identification of therapeutic targets and the development of new products for the prevention and/or treatment of radiodermatitis. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2016-4589-1
GC12 Clinical and Epidemiological Research in Primary Care

Principal Investigator (PI)
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PC Health Research Network (Rediapp), ISCIII
PAIDI CTS-452: Family and Community Medicine

Researchers
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Aycaguer Silva, Luis Carlos
Blanco Hungría, Antonio
Carrera González, Mª Pilar
Fernández García, José Ángel
Fonseca del Pozo, Francisco Javier
González Carretero, Juan Ignacio
González Lama, Jesús
Hidalgo Requena, Antonio
Jiménez García, Celia
Olaya Caro, Inmaculada
Montero Monterroso, José Luis
Muñoz del Castillo, Francisco
Muñoz Gómez, Rafaela
Parras Rejano, Juan Manuel
Pérula De Torres, Carlos
Ranchal Sánchez, Antonio
Redondo Sánchez, Juana
Martin Rioboo, Enrique
Roldán Villalobos, Ana
Ruiz Moral, Roger
Ruiz Moruno, Fco. Javier
Rich Ruiz, Manuel
Silva Aicauer, Luis Carlos
Valero Martín, Antonio
Vaquero Abellán, Manuel
Varas Fabra, Francisco José
Villegas Becerril, Enrique

HIGHLIGHTS
Publications
9
Impact Factor
22,168
Average Impact Factor
2,463

Pre-Doctoral Researchers (PhD and MSc Students)
Arias Vega, Mª Raquel
Leiva Cepas, Fernando
Marín González, Beatriz
Romero Rodríguez, Esperanza María
Serrano Merino, Jesús

Other members of the Group (Nursing, Technical and Administrative Staff)
Criado Larumbe, Margarita
Scientific Activity

We are a consolidated group of medical practitioners and researchers, most of us working in the field of Primary Care (PC) and others at the University of Córdoba and hospitals in the province of Córdoba. Our group is multidisciplinary and heterogeneous, and composed mainly of specialists in Family and Community Medicine, but it also includes professionals working in the field of Preventive Medicine and Public Health/Epidemiology, Occupational Medicine, Cardiology, Physiotherapy and Rehabilitation, Ophthalmology, Dental health and Otorhinolaryngology, Nursing and Biology.

We approach clinical and epidemiological research from the point of view of primary care settings. Our long-term objectives are to encourage, promote and develop high quality research with practical applicability in the field of PC. Our studies include a wide range of topics, including health promotion in primary care, health communication and education, and occupational, public and environmental health. Our main interest in specific disease areas focuses on respiratory diseases (Antonio Hidalgo), odontostomatology (Antonio Blanco), ophthalmology (Enrique Villagcas), urology (Raquel Arias), renal diseases (Luis Carlos Silva), dermatology (Mª Carmen Arias), rheumatology (Francisco Varas), otorhinolaryngology (Francisco Muñoz) and infectious diseases (Beatriz Marín). We also carry out research in nursing care (Jesús Serrano) and occupational health (Antonio Ranchal).

Some recent contributions, showing the transversal nature of our research in the area of primary care, are highlighted:

- We have studied and demonstrated the efficacy of interventions based on motivational interviewing to increase therapeutic adherence and reduce medication errors in older patients with polypharmacy, as well as to achieve better lipid control in patients with dyslipidemia. In addition, we have validated two scales to measure communication skills in the clinical interview (ICCAT) and the motivational interview (EVEM).
- Another major contribution was presenting epidemiological results of renal lithiasis that were previously non-existent, representative of the Spanish population, where the overall prevalence of the disease in adults is 15%.
- We are also actively involved in clinical studies. A study, aimed at patients older than 65 years with suspected Atrial Fibrillation and carried out in 48 primary care centers in Spain, demonstrated that active search of this disease is 6 times more effective than opportunistic search in asymptomatic subjects, thus contributing to our knowledge in efficient screening practices in primary care.
- The group has also studied the acceptability of opportunistic search for HIV and HIV testing in primary care centers in Spain, demonstrating its high acceptance and cost-effectiveness, contributing to earlier diagnostics.
- In the field of health communication, we have carried out a study to evaluate the Spanish population’s knowledge of and beliefs regarding the European Code Against Cancer (ECAC) recommendations. The conclusions of this study reconfirm the need to conduct awareness raising activities and reinforce dissemination of preventive health recommendations.

We actively collaborate with various other research groups of IMIBIC: Urology and Sexual Medicine (GE-05), Cell therapy (GC-14), and Pneumology (GA-03), and Clinical Virology and Zoonoses (GC-26). Our external and international collaborators include Communication and Health Group (semFYC), PAPPS expert groups (semFYC), International Agency for Research on Cancer (IARC-WHO, Lyon, France), University of Rochester (USA), Francisco de Vitoria University / School of Medicine (Madrid), Irish Center St. John’s Community Hospital of Enniscorthy and Co. Wexford (Ireland).

Research Lines

- Health promotion and prevention in Primary Care
- Communication and Health
- Risk factors and cardiovascular diseases
- Health problems in the elderly

Keywords

Primary care, epidemiology, preventive medicine, applied research, family and community medicine, communication and health, community health, public health, environment.
Scientific Production

Publications

Main Publications


Ruiz-Moral R, Pérlula de Torres L, Monge D, Leonardo CG, Caballero F. Teaching medical students to express empathy by exploring patient emotions and experiences in standardized medical encounters. PATIENT EDUCATION AND COUNSELING. 2017.100(9):1694-1700. IF: 2,429 Q: 2


Other Publications


Bonilla PN, Gomez RG, Jimenez DR, Fabra MLV, Villanueva MDM, Catalan RG, Ugalde FF, Fernandez MSP, Alonso JLL, Galera JMG. Enhanced depth OCT imaging of the lamina cribrosa for 24 hours. INTERNATIONAL JOURNAL OF OPHTHALMOLOGY. 2017.10(2):306-309. IF: 1,177 Q: 4

Research Funding

Regional

Pérlula de Torres, LA. Effect on the quality of life from treatment with positive pressure devices (PPDs) in patients older than 65 with apnea–hypopnea (SAHS).Funding Agency: Andalusian Progress and Health Foundation (FPS). Reference: PI16/01520


National


Roldán Villalobos A. Efectividad de una intervención no farmacológica multicomponente para reducir el aislamiento social y la soledad de mayores residentes en su domicilio: estudio ASyS. Beca “Francesc Borrell”. Sociedad Española de Medicina Familiar y Comunitaria.

Contracts with Companies

Rich Ruiz, M. Efficacy of the Otago Exercise Program (OEP) delivered as group training versus individually tailored training in community–dwelling adults between 65 and 80 years old. Funding Agency: Universidad De Cordoba. Reference: PSS.0164

Rich Ruiz, M. Agreement UCO. Funding Agency: Universidad De Cordoba. Reference: PSS.0209

Clinical Trials

2883/2. Multicentric observational study to establish the prevalence, clinical profile and therapeutic management of patients with hidradenitis suppurativa in hospital services of Dermatology and health centers in Spain. PI: Dr Ruiz Moruno, Francisco Javier
2883/3. Profile of patients with COPD treated with a dual bronchodilator * according to the usual clinical practice in the field of Primary Care. Dual EPOC study. 
Pl: Dr Redondo Sánchez, Juana

3243/4. Profile of patients with COPD treated with a dual bronchodilator * according to the usual clinical practice in the field of Primary Care. Dual EPOC study. 
Pl: Dr Ruiz Moruno, Francisco Javier

2929. Retrospective and prospective study on the degree of GEMA compliance with 2009 guidelines vs the 2015 guidelines, and its impact on the degree of control of asthma patients in primary care. 
Pl: Dr Ruiz Moruno, Francisco Javier

Pl: Dr Martín Ribo, Enrique

3010. Prospective, multi Centre, international registry of male and female patients newly diagnosed with atrial fibrillation and treated with Rivaroxaban. 
Pl: Dr González Lama, Jesús
Calcium metabolism. Vascular calcification

Principal Investigator (PI)
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Spanish Renal Research Network (REDinREN) (Collaborator)
PAIDI CTS-179 Scientific group

Emerging Researcher (ER)
Juan Rafael Muñoz Castañeda (Nicolás Monardes Contract)

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Aguilera Tejero, Escolástico
Canalejo Raya, Antonio (Collaborator)
López Villalba, Ignacio

Post-Doctoral Researchers
Pineda Martos, Carmen María
Raya Bermúdez, Ana Isabel
Rodríguez Ortiz, Mª Encarnación

Pre-Doctoral Researchers (PhD and MSc Students)
Baltanás López, Rodrigo
Pendón Ruiz de Mier, Mª Victoria
Ríos Varo, Rafael
Tocados Díaz, Juan Miguel
Vergara Segura, Noemí

HIGHLIGHTS
Publications
12
Impact Factor
53,545
Average Impact Factor
4,462

Other members of the Group (Nursing, Technical and Administrative Staff)
García Valdivia, Sandra
Ruiz Mora, Erena
Andújar Gil, Alicia
Scientific Activity
The “Calcium metabolism. Vascular calcification” research group is a consolidated group of IMIBIC, bringing together both basic and clinical researchers in various scientific disciplines, such as medicine, biology and veterinary medicine, and it includes also nursing, technical and administrative staff.

Our research group is focused on different aspects of calcium metabolism and vascular calcification. Our primary area of research is the study of the pathogenetic mechanisms of secondary hyperparathyroidism associated with renal failure. We study the parathyroid function, both at cellular and molecular level (PTH synthesis and secretion and cell proliferation) of normal and hyperplastic parathyroid glands. More recently we have also embarked on research of in vivo and in vitro mechanisms of vascular calcification. In addition, we are interested in studying biomarkers of renal disease progression as well as the bone alterations promoted during chronic kidney disease.

The main aim of our research group is to go deeper into the mechanisms that promote vascular calcifications and the progression of renal disease and to propose new therapeutic alternatives leading to improved renal health of the patients. Results derived from our research may lead to the proposal and use of new therapeutic targets for preventing and reversing vascular calcification and associated complications.

In the last year, our research group has published some important manuscripts that are contributing to our understanding about the alterations of mineral metabolism during renal disease. We are identifying new biomarkers of renal disease progression and contributing new mechanisms of vascular calcification and mineral bone disease.

The Principal Investigator of the group Juan Mariano Rodriguez Portillo acts as collaborator in both the Spanish Renal Research Network (REDinREN), the PAIDI CTS-179 Scientific group and World group from Chronic Kidney Disease and Metabolic Bone disorders (CKD-BD). Other collaborations include highly competitive research groups both on national and international level, as well as companies of pharmaceutical industry.

Research Lines
• Mechanisms of vascular calcification and renal disease progression
• Biomarkers of renal progression and vascular calcification
• Bone alterations during chronic kidney disease

Keywords
Calcium, phosphorus, mineral metabolism, parathyroid glands, PTH, calcification, uremia, HPTH2, vascular calcification, renal failure, bone mineral disease, VDR, CaR, mesenchymal stem cells, Wnt/beta-catenin.

Scientific Production
Publications
Main Publications
IF: 5,498  Q: 1  D: 1

IF: 5,498  Q: 1  D: 1

IF: 4,936  Q: 1

IF: 4,817  Q: 1

and expansion of Mesenchymal Stem Cells. SCIENTIFIC REPORTS. 2017.7(1):–7839.
Q: 1
IF: 4.259

Q: 3.351
IF: 2.289

Q: 1
IF: 2.806

Q: 2
IF: 3.131

Q: 1
IF: 3.351

Rios R, Raya AI, Pineda C, Rodriguez M, Lopez I, Aguilera-Tejero E. Vitamin E protects against extraskeletal calcification in uremic rats fed high fat diets. BMC NEPHROLOGY. 2017.18():–
Q: 2
IF: 2.806

Other Publications

Q: 1
IF: 6.857

Q: 1
IF: 2.806

Research Funding

National


Muñoz Castañeda, JR. Effect of paricalcitol on vascular smooth muscle cells. Funding agency: AbbVie Farmaceutica S.L.U. Reference: PSS.0015

Muñoz Castañeda, JR, Mariano Rodríguez. Preclinical Research Program Agreement for anti-PCSK9 mAb1. Funding agency: JYC Ediciones Medicas. Reference: PSS.0162


Contracts with Companies

Rodríguez Portillo, JM. Effect of paricalcitol on vascular smooth muscle cells. Funding agency: AbbVie Farmaceutica S.L.U. Reference: PSS.0015

Muñoz Castañeda, JR, Mariano Rodríguez. Preclinical Research Program Agreement for anti-PCSK9 mAb1. Funding agency: JYC Ediciones Medicas. Reference: PSS.0162

Mariano Rodríguez, Muñoz Castañeda, JR. Dazamart’ Agreement. Funding agency: Dazamart De Inversiones, S.L. Reference: PSS.0208

Regional

Muñoz Castañeda, JR. Hepatocyte differentiation from two pluripotent cell types in bone marrow. Application for cell regeneration in two experimental models of hepatic disease. Funding agency: Regional Ministry of Equality, Health and Social Policies (CISPS). Reference: ICE02137

Muñoz Castañeda, JR. In vivo and in vitro studies of oxidative stress, inflammation and vascular calcification in chronic kidney disease: application of mesenchymal stem cells to the search for new therapeutic targets. Funding agency: Regional Ministry of Economy, Innovation, Science and Employment (CEICE). Reference: CVI-7925

López Villalba, I. Conexiones entre el metabolismo mineral y el metabolismo energético: efecto de la dieta hipercalórica en el balance del fosforo y la función renal. Funding Agency: Andalusian Progress and Health Foundation (FPS). Reference: PI-0272-2014


Other Publications

Q: 1
IF: 6.857

Regional

Muñoz Castañeda, JR. Hepatocyte differentiation from two pluripotent cell types in bone marrow. Application for cell regeneration in two experimental models of hepatic disease. Funding agency: Regional Ministry of Equality, Health and Social Policies (CISPS). Reference: ICE02137

Muñoz Castañeda, JR. In vivo and in vitro studies of oxidative stress, inflammation and vascular calcification in chronic kidney disease: application of mesenchymal stem cells to the search for new therapeutic targets. Funding agency: Regional Ministry of Economy, Innovation, Science and Employment (CEICE). Reference: CVI-7925

Regional

Muñoz Castañeda, JR. Hepatocyte differentiation from two pluripotent cell types in bone marrow. Application for cell regeneration in two experimental models of hepatic disease. Funding agency: Regional Ministry of Equality, Health and Social Policies (CISPS). Reference: ICE02137

Muñoz Castañeda, JR. In vivo and in vitro studies of oxidative stress, inflammation and vascular calcification in chronic kidney disease: application of mesenchymal stem cells to the search for new therapeutic targets. Funding agency: Regional Ministry of Economy, Innovation, Science and Employment (CEICE). Reference: CVI-7925

Contracts with Companies


Muñoz Castañeda, JR, Mariano Rodríguez. Preclinical Research Program Agreement for anti-PCSK9 mAb1. Funding agency: JYC Ediciones Medicas. Reference: PSS.0162

Mariano Rodríguez, Muñoz Castañeda, JR. Dazamart’ Agreement. Funding agency: Dazamart De Inversiones, S.L. Reference: PSS.0208

Clinical Trials

0010/14. A multicenter, single-arm, extension study to assess long-term safety of AMG 416 (Velcalcetide) for secondary hyperparathyroidism in patients with chronic renal failure undergoing hemodialysis. PI: Dr Rodríguez Portillo, J. Mariano

0039/15. Open phase II clinical trial for assessment of the effectiveness of the decrease of intestinal absorption of phosphorous in the progression of kidney disease in patients with metabolic syndrome. PI: Dr Rodríguez Portillo, J. Mariano

3294. A Double-blind, Randomised, Placebo-controlled Study to Assess the Effect of SNF472 on Progression of Cardiovascular Calcification on Top of Standard of Care in End-stage-renal-disease (ESRD) Patients on Hemodialysis (HD). PI: Dr Rodríguez Portillo, J. Mariano

3353. Non-interventionist study for the safety, effectiveness and adherence of Velphoro in the short and long term in the real life of patients with hyperphosphatemia subjected to hemodialysis or peritoneal dialysis. PI: Dr Rodríguez Portillo, J. Mariano
HIGHLIGHTS

Publications
9

Impact Factor
28,982

Average Impact Factor
3,220

Principal Investigator (PI)
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Pre-Doctoral Researchers (PhD and MSc Students)
Carmona Luque, María Dolores
Paco Meza, Luis Miguel
Trujillo Aguilar, Cristina

Other members of the Group (Nursing, Technical and Administrative Staff)
Gutiérrez Fernández, Rosario
Luque Zafra, María
Scientific Activity

The group “Cellular Therapy” is a consolidated group of IMIBIC that focuses its activity on clinical and translational research in advanced therapies, specifically in cell therapy and cell-gene therapy. Regarding clinical research, in the last ten years we have participated in 10 independent clinical trials of cell therapy from cells derived from bone marrow in cardiovascular pathology (myocardial regeneration and peripheral vascular pathology), neurological diseases (stroke and multiple sclerosis), and transplant–related diseases (GVHD). In this context, the Cell Therapy Group is a central unit of cell production under GMP conditions that coordinates its activity with other IMIBIC groups in the development of new Advanced Therapy Medicinal Products (ATMPs) for various pathologies with a high sociosanitary impact. Along with clinical research, we devote our research to the basic and translational aspects of new cellular therapies in intermediate or early stages of its development. In this sense, we actively collaborate with GENYO in preclinical models of cell–gene therapy in genetic diseases such as Wiskott-Aldrich, and in anti-leukemic immunotherapy with T-CAR lymphocytes. The group’s PI Dr. Herrera is the coordinator of IMIBIC’s participation in the ATMP Platform of the European Infrastructure for Translational Medicine – EATRIS.

Research Lines

• Cell therapy based on autologous bone marrow in cardiac diseases and peripheral vascular system
• Cell therapy in neurological diseases (stroke and multiple sclerosis)
• Cell therapy in osteoarticular diseases
• Cell-gene therapy in genetic diseases
• CAR–t cell in hematological neoplasms

Keywords

Stem cells, cell therapy, regenerative medicine, myocardial regeneration, therapeutic angiogenesis, cell–gene therapy, CAR–T cells.

Scientific ProductionS

Publications

Main Publications

Martinez-Losada C, Martin C, Gonzalez R, Manzanares B, Garcia-Torres E, Herrera C. Patients lacking a Kir–ligand of HLA group C1 or C2 have a Better Outcome after Umbilical cord Blood Transplantation. FRONTIERS IN IMMUNOLOGY. 2017.8():-810.
IF: 6,429
Q: 1

IF: 3,203
Q: 2

Other Publications

IF: 6,204
Q: 1

IF: 5,498
Q: 1

IF: 4,294
Q: 1

IF: 2,806
Q: 1


IF: 0,548
Q: 4


### Research Fundings

#### Regional


#### National


### Contracts with Companies

Herrera Arroyo, Inmaculada C. Agreement with Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0040

Herrera Arroyo, Inmaculada C. Agreement with Roche (SESIÓN CLÍNIC). Funding agency: Roche Reference: PSS.0066

Herrera Arroyo, Inmaculada C. Agreement Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0075


Herrera Arroyo, Inmaculada C. Agreement with Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0130

Herrera Arroyo, Inmaculada C. Agreement Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0177

Herrera Arroyo, Inmaculada C. Agreement Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0204

Herrera Arroyo, Inmaculada C. Agreement Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0075

Herrera Arroyo, Inmaculada C. Agreement with Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0103


Herrera Arroyo, Inmaculada C. Agreement with Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0130

Herrera Arroyo, Inmaculada C. Agreement Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0177

Herrera Arroyo, Inmaculada C. Agreement Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0204

Herrera Arroyo, Inmaculada C. Agreement Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0075

Herrera Arroyo, Inmaculada C. Agreement with Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0103


Herrera Arroyo, Inmaculada C. Agreement with Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0130

Herrera Arroyo, Inmaculada C. Agreement Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0177

Herrera Arroyo, Inmaculada C. Agreement Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0204


### Clinical Trials

Open phase II controlled and randomized clinical trial to evaluate the efficacy in the intra-arterial infusion with mononuclear autologous bone marrow stem cells in patients with ischemic stroke.

PI: Dr R Valverde, Roberto (Neurology)
GC15 Invasive cardiology and cell therapy

HIGHLIGHTS

PUBLICATIONS

39

IMPACT FACTOR

165,629

AVERAGE IMPACT FACTOR

4,246

Principal Investigator (PI)
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Researchers
Anguita Sánchez, Manuel Pablo
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Castillo Domínguez, Juan Carlos
Delgado Ortega, Mónica Mº
López Granados, Amador
Mazuelos Bellidos, Francisco
Mesa Rubio, Mº Dolores
Ojeda Pineda, Soledad
Pavlovic Djurovic, Djordje
Romero Moreno, Miguel Ángel
Segura Saint-Gerons, José Mº
Suarez de Lezo Herreros de Tejada, Javier
Ruiz Ortíz, Martín

Post-Doctoral Researchers
López Aguilera, José

Pre-Doctoral Researchers (PhD and MSc Students)
Hidalgo Lesmes, Francisco

Other members of the Group (Nursing, Technical and Administrative Staff)
Cebrián Salgado, Eva
Scientific Activity

Our group has 16 cardiologists, of which 8 are dedicated to interventional cardiology in both adults and children (Congenital Heart Disease, Electrophysiology, Valvular Diseases and Coronary Diseases), 5 dedicated to the study of advanced and specialized heart failures, including cardiac/heart transplants, and 3 dedicated to imaging techniques and functional tests (Ecocardigraphs, Stress Tests, Holter, etc.).

The main research of our group focuses on interventional cardiology and cell therapy. The strategy and objectives of our research include:

1. Determination of the role of stem cells in ischemic and non-ischemic cardiac pathologies.
2. Development and deepening of our knowledge on percutaneous treatment of complex coronary lesions.
4. Development and deepening of our knowledge on percutaneous implantation of valvular prostheses.

Our group is nationally renowned in the treatment of different cardiovascular pathologies, especially in the field of Congenital Heart Disease, Structural Heart Disease, Coronary Disease and Cell Therapy, demonstrated not only by the excellent clinical results but also by the high number of scientific publications.

Our group works in close collaboration with the Cell Therapy Unit of the Reina Sofia University Hospital to develop clinical studies including the use of stem cells and related with myocardial regeneration. The majority of the group members carry out a wide range of research activities and contribute to broadening the knowledge in the area by publishing in high impact journals in the field of clinical research.

Research Lines

• Interventions for Coronary Heart Disease: bifurcations and chronic occlusions.
• Interventions for structural and valvular pathologies.
• Percutaneously implanted aorta and pulmonary prostheses.
• Mitral Valve Pathology Treatment: Balloon Valvuoplasty for stenosis and Mitraclip implantation for Heart Failure.
• Interventions for congenital pathologies: Closing of birth defects. Treatment of the Coarctation of Aorta.
• Cell Therapy applications to Cardiology: Myocardial Heart Attack, Chronic Occlusions or Dilated Myocardiopathy.
• Heart Failure and Cardiac Transplants.
• Imaging techniques for structural and congenital cardiac interventions.

Keywords
Cardiac interventions, cellular therapy, stents, percutaneous aortic valves, closing birth defects.

Scientific Production

Publications

Main Publications
IF: 8,841
Q: 1 D: 1

IF: 6,189
Q: 1

IF: 6,189
Q: 1

IF: 6,189
Q: 1

IF: 5,165
Q: 1

Carrasco F, Castillo JC, Ruiz M, Anguita M. Comments on clinical features and changes in epidemiology of infective endocarditis on pacemaker

IF: 4,485
Q: 1


IF: 4,485
Q: 1


IF: 4,485
Q: 2


IF: 4,485
Q: 2

Sanchez MA, Dominguez JCC. Do All Patients With Heart Failure Benefit From a Program for Early Follow-up After Hospital Discharge? REVISTA ESPANOLA DE CARDIOLOGIA. 2017.70(8):624-625.

IF: 4,485
Q: 2


IF: 4,485
Q: 2


IF: 4,485
Q: 2

Gamez JM, Masmiquel L, Ripoll T, Barrios V, Anguita M. SIRENA Study. Diabetes mellitus and cardiovascular clinical characteristics of Spanish women with stable ischaemic heart disease: Data from the SIRENA study. DIABETES RESEARCH AND CLINICAL PRACTICE. 2017.123():82-86.

IF: 3,639
Q: 2


IF: 3,203
Q: 2


IF: 2,331
Q: 2


IF: 1,042
Q: 3


IF: 0,971
Q: 3


IF: 0,971
Q: 3


IF: 0,971
Q: 3


IF: 0,971
Q: 3

Other Publications


Research Funding

National


CLINICAL TRIALS

3000. Secondary Prevention of Cardiovascular Disease in the Elderly Trial. PI: Dr Romero Moreno, Miguel Ángel

3126. A Phase III, Double-blind, Randomized Placebo-controlled Study to Evaluate the Effects of Dalcetrapib on Cardiovascular (CV) Risk in a Genetically Defined Population With a Recent Acute Coronary Syndrome (ACS): The Dal-GenE Trial. PI: Dr Pavlovic Djurovic, Djordje

3327. A Double-blind, Randomized, Placebo-controlled, Multicenter Study to Assess the Efficacy and Safety of Omecamtiv Mecarbil on Mortality and Morbidity in Subjects With Chronic Heart Failure With Reduced Ejection Fraction (GALACTIC-HF). PI: Dr Arizon Del Prado, José María

3341. An Open-label, 2 x 2 Factorial, randomized controlled, clinical trial to evaluate the safety of apixaban vs Vitamin K antagonist and aspirin placebo in patients with atrial fibrillation and acute coronary syndrome or percutaneous coronary intervention. PI: Dr Pavlovic Djurovic, Djordje

3388. A Multi-center, prospective, randomized, double-blind study to assess the impact of Sacubitril/Valsartan Vs. Enalapril on daily physical activity using a wrist worn actigraphy device in adult chronic heart failure patients. PI: Dr Arizon Del Prado, José María

3686. Anti-Thrombotic strategy to lower all cardiovascular and neurologic ischemic and hemorrhagic events after trans-aortic valve implantation for aortic stenosis. PI: Dr Pan Álvarez-Ossorio, Manuel

2594. Global review of long-term oral antithrombotic therapy in patients with atrial fibrillation (Phase II/III EU/ESA Member States). PI: Dr López Granados, Amador

2615. Long-term general register of atrial fibrillation. EORP Register. PI: Dr Anguita Sánchez, Manuel

2816. International registry to assess medical practice with longitudinal observation for treatment of heart failure. PI: Dr Arizon Del Prado, José María

2931. Epidemiological study to evaluate the management, quality of life and therapeutic adherence of patients with stable coronary disease. “AVANCE II” STUDY. PI: Dr López Aguilera, José

2961. EBC MAIN: Study conducted by the European Bifurcation Club: randomized comparison of the implementation of one or two stents to treat bifurcation lesions of the common trunk of the left coronary artery. PI: Dr Pan Álvarez-Ossorio, Manuel

3073. Study to assess the satisfaction and preferences of patients in preventive treatment of cardiovascular events with a cardiovascular polypill. PI: Dr López Aguilera, José

3413. Registry of familial hypersolemia in acute coronary syndrome. PI: Dr Anguita Sánchez, Manuel

3449. Prospective Observational Study of Pulmonary Vein Cryoablation in Subjects With Atrial Fibrillation (AF) in Spain. PI: Dr Segura Saint-Gerons, José María

3485. Registry of Patients Treated With Bioabsorbable Devices in Daily Clinical Practice: Costs, Effectiveness, QALYs, and Efficiency. REPARA-QALY Registry. PI: Dr Pan Álvarez-Ossorio, Manuel

3619. Retrospective observational study of the use of evolocumab in Spanish units of cardiology (RETOSS-Cardio). PI: Dr Hidalgo Lesmes, Francisco José

3639. Multicenter Registry of Secondary Revascularization. PI: Dr Ojeda Pineda, Soledad

3693. Descriptive observational study of convenience in patients treated with dabigatran for the prevention of stroke in non-valvular atrial fibrillation. PI: Dr López Aguilera, José
Cellular biology in Hematology. Hypercoagulability

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PAIDI CTS-620: Hematology XXI

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Martín Calvo, Carmen
Molina Hurtado, José Ramón
Rodríguez Villa, Antonia
Rojas Contreras, Rafael
Serrano López, Josefina
Tabares Carrasco, Salvador

Post-Doctoral Researchers
Serrano López, Juana

HIGHLIGHTS
Publications
8
Impact Factor
31,664
Average Impact Factor
3,958
Scientific Activity
We are a consolidated group within IMIBIC. Our research focuses on Hematological Malignancies, allogeneic stem cell transplantation and hypercoagulability, and we are particularly interested in looking for new targets to improve or complement Leukemia treatments. Over the last years, we have accumulated plenty of knowledge in Acute Leukemias, particularly in Acute Myeloid Leukemia (AML) which is one of the most heterogeneous leukemia. Currently, in agreement with the Spanish Hematology Association (FEHH), we are studying several key somatic gene mutations and fusion genes in AML to perform the pattern of clonal evolution. In this sense, we are also generating a new panel of probes to sequence 50 genes in AML in collaboration with CIC in Salamanca. We also routinely analyze the leukemic stem cell (LSC) enrichment in acute leukemia patients and intend to isolate the bona fide LSC by fluorescence-activated cell sorting (FACS) to develop functional assays. Furthermore, we study a type of B malignancy named Diffuse Large B-cell Lymphoma (DLBCL) within Non-Hodgkin Lymphoma. In this study, we are using an innovative technology for molecular classification of DLBCL by analysing a set of 20 genes in Nanostring platform and develop new personalized treatment strategies for the patients.

Another research area of our interest is immunotherapy applied to Leukemia, in specific, the immunological recovery of allogeneic hematolopoietic stem cell transplantation (Allo-HSCT). We have evidences that after Alo-SCT, leukemic specific T-cells are immunosurveillance patients’ body. Additionally, in collaboration with the University of Cordoba, we are generating a new protocol based on nanoscience for reprogramming of T-cell against Leukemia. Moreover, Chronic graft-versus-host disease (cGvHD) is a late immune response of donor T and B against tissues recipient after Allo-HSCT and is the major cause of late morbidity and mortality. In attempt to elucidate new biomarkers in cGvHD to stop the progression or improve quality of patients’ life, we are analyzing gene expression profiling of T lymphocytes by Affymetrix microarrays to describe new pathways implicated in the pathophysiology of cGvHD.

Our clinical research activities include many clinical trials widely distributed in Acute leukemias, Lymphoma, Chronic Leukemia, Multiple Myeloma, Myelodysplastic and Myeloproliferative syndromes. We actively participate in various regional, national and international hematological networks such as PETHEMA, SEHOP, RESMD, and EBMT, increasing our collaborative network of leukemia researchers and clinicians. Our research has resulted in solid scientific production, contributing to improved clinical protocols and practices.

Research lines
• Cellular mechanisms of leukemogenesis and drug resistance
• Immunological mechanisms of stem cell transplantation
• Gene expression profiles in Non-Hodgkin Lymphoma for personalized treatments
• Cellular and molecular mechanisms of hypercoagulability

Keywords
Acute leukemia, lymphoma, allogenic stem cell transplantation, hypercoagulability.

Scientific Production
Publications
Main Publications
Martinez-Losada C, Martin C, Gonzalez R, Manzanares B, Garcia-Torres E, Herrera C. Patients lacking a Kir-ligand of HLA group C1 or C2 have a Better Outcome after Umbilical cord Blood Transplantation. FRONTIERS IN IMMUNOLOGY 2017.8():-810. IF: 6,429 Q: 1

Other Publications
Q: 2

Q: 1

IF: n/a
Q: 2

IF: 3,083
Q: 2

IF: n/a
Q: 2

Research Funding

Regional


National

Sánchez García, J. Analysis of Phenotype, genotype, and sensitivity to new leukemia stem cell pharmaceutical products in LAM and LAL. Funding Agency: Sociedad Española de Hematología-Hemoterapia. Reference: FEHH15_001

García Torres, E. Effect of immunomodulators (lenalomide and pomalidomide) in lymphoid populations and their impact on the development of the disease. Funding Agency: Asociacion Andaluza de Hematologia y Hemoterapia. Reference: AAHH2015_001

Losada Martínez, C. Effect of immunomodulators (lenalomide and pomalidomide) in lymphoid populations and their impact on the development of the disease. Funding Agency: AAHH2016_001

Losada Martin, C. Jornadas de investigación en hematologia en Andalucía. Funding Agency: Asociación Andaluza de Hematología y Hemoterapia. Reference: AAHH2017_001

Contracts with Companies

Sanchez Garcia, J. Agreement Fundacion. Funding agency: FUNDACION PETHEMA. Reference: PSS.0200


Álvarez Rivas, MA. Collaboration agreement with Celgene. Funding agency: Celgene, S.L.U. Reference: PSS.0104

Álvarez Rivas, MA. Collaboration agreement with Celgene. Funding agency: Celgene International SARL. Reference: PSS.0120


Clinical Trials

0279/11. Intergroup trial for children or teens with LNHB o LLAB (LLA-L3). Evaluation of the efficacy and safety of Rituximab for high-risk patients. PI: Dr Gómez García, Pedro

0020/12. Ofatumumab as part of the reduced intensity conditioning system (RIC) in patients at high risk of developing non-Hodgkin’s lymphoma B receiving allogeneic hematopoietic stem cell transplantation. PI: Dr Martin Calvo, Mª Carmen

0293/12. A randomized, double-blind, placebo-controlled, phase 3 study of the efficacy and safety of oral azacytidine plus the best supportive treatment vs. the best supportive treatment as maintenance therapy in patients with acute myelogenous leukemia i complete remission. PI: Dr Serrano López, Josefin
Pl: Dr Arqueros Martínez, Víctor

0123/13. Phase 3 randomized, double-blind, placebo-controlled study to evaluate the protective efficacy and safety of a therapeutic vaccine, ASP0113, recipients seropositive for cytomegalovirus (CMV) underwent allogeneic cells. 
Pl: Dr Rojas Contreras, Rafael

0148/13. Pilot study (Phase II) of combination pomalidomide / dexamethasone associated with low dose of cyclophosphamide in patients with refractory multiple myeloma who have received lenalidomide and bortezomib. 
Pl: Dr Álvarez Rivas, Miguel Ángel

024/16. Pilot study (Phase II) of combination pomalidomide / dexamethasone associated with low dose of cyclophosphamide in patients with refractory multiple myeloma who have received lenalidomide and bortezomib. 
Pl: Dr Álvarez Rivas, Miguel Ángel

Pl: Dr Arqueros Martínez, Víctor

0123/13. Phase 3 randomized, double-blind, placebo-controlled study to evaluate the protective efficacy and safety of a therapeutic vaccine, ASP0113, recipients seropositive for cytomegalovirus (CMV) underwent allogeneic cells. 
Pl: Dr Rojas Contreras, Rafael

0148/13. Multicenter phase IIIb study, international, open-label, single treatment group to assess the safety of obinutuzumab as a single agent or in combination with chemotherapy in patients with lymphatic leukemia relapsed / refractory chronic lymphocytic leukemia. 
Pl: Dr Molina Hurtado José Ramón

0148/13. A study of oral ixazomib citrate (MLN9708) in patients with relapsed / refractory multiple myeloma who have received lenalidomide and bortezomib. 
Pl: Dr Álvarez Rivas, Miguel Ángel

015/13. An open, phase IIIb trial to assess the safety of changing intravenous rituximab to subcutaneous rituximab in the course of first-line treatment of CD20+ Follicular and Diffuse Non-Hodgkin’s Large B-Cell Lymphoma. 
Pl: Dr Sánchez García, Joaquín

0202/13. A randomized, double-blind, phase 3 study to assess the efficacy and safety of rituximab plus lenalidomide (CC-5013) vs. rituximab plus placebo in subjects with indolent relapsed / resistant lymphoma. 
Pl: Dr Sánchez García, Joaquín

0165/13. An open, phase Ib trial to assess the safety of changing intravenous rituximab to subcutaneous rituximab in the course of first-line treatment of CD20+ Follicular and Diffuse Non-Hodgkin’s Large B-Cell Lymphoma. 
Pl: Dr Sánchez García, Joaquín

0148/14. Phase III, multicenter, randomized, open-azacytidine (Vidaza®) versus fludarabine and cytarabine (fluga scheme) in elderly patients with acute myeloid leukemia new diagnostic. 
Pl: Dr Serrano López, Josefina

Pl: Dr Alvarez Rivas, Miguel Ángel

0298/14. A phase II multicenter study of carfilzomib, lenalidomide and dexamethasone (KRd) plus high-dose therapy with melphalan-200 and autologous stem cell transplantation, followed by consolidation with KRd, and maintenance with lenalidomide and dexamethasone in patients with high risk smoldering multiple myeloma (SMM) under 65 years. 
Pl: Dr Álvarez Rivas, Miguel Ángel

0024/16. Pilot study (Phase II) of combination pomalidomide / dexamethasone associated with low dose of cyclophosphamide in patients with refractory multiple myeloma who have received lenalidomide and bortezomib. 
Pl: Dr Álvarez Rivas, Miguel Ángel

0165/13. An open, phase IIIb trial to assess the safety of changing intravenous rituximab to subcutaneous rituximab in the course of first-line treatment of CD20+ Follicular and Diffuse Non-Hodgkin’s Large B-Cell Lymphoma. 
Pl: Dr Sánchez García, Joaquín

3218. A Phase 3, Double-Blind, Placebo-controlled Study of Quizartinib (AC220) Administered in Combination With Induction and Consolidation Chemotherapy, and Administered as Maintenance Therapy in Subjects 18 to 75 Years Old With Newly Diagnosed FLT3-ITD (+) Acute Myeloid Leukemia. 
Pl: Dr Serrano López, Josefina

Pl: Dr Sánchez García, Joaquín

Pl: Dr Sánchez García, Joaquín

2109. An observational, post-authorization study to assess the evolution in regular clinical practice of patients newly diagnosed with myelodysplastic syndrome (MDS) or myelomonocytic leukemia (MML) according to the time of treatment initiation. 
Pl: Dr Sánchez García, Joaquín

2257. A study to validate an ex vivo individualized test for acute lymphoblastic leukemia. 
Pl: Dr Serrano López, Josefina

2570. Prospective observational study to identify clinical aspects leading to therapeutic decision making in patients with myelofibrosis. 
Pl: Dr Molina Hurtado, José Ramón

2634. Ex vivo pharmacology study treatments in hematological malignancies characterization by using automated flow cytometry platform ExviTch. 
Pl: Dr Sánchez García, Joaquín

2638. PASS Post-Authorization Safety Study (PASS) prospective, non-interventionist, designed as Disease Registry of patients with myelodysplastic syndromes (MDS) low risk (IPSS low and intermedium-1) cIN isolated Sq deletion and transfusion dependence 
Pl: Dr Sánchez García, Joaquín

2641. Non-interventional post-authorization Registration patients with relapsed and refractory multi-
ple myeloma treated with pomalidomide, who have received at least two prior treatments including lenalidomide and bortezomib, and who have experienced a proautologous hematopoietic stem cell transplant (VERSA STUDY)
PI: Dr Álvarez Rivas, Miguel Ángel

2678. Post-authorization safety study (PASS) ma25101 observational cohort study of the safety of brentuximab vedotin in the treatment of relapsed or refractory cd30 Hodgkins lymphoma and systemic anaplastic large relapsed or refractory cells.
PI: Dr Molina Hurtado, José Ramón

2699. A Study to the validation of a test ex vivo personalized medicine in Multiple Myeloma.
PI: Dr Álvarez Rivas, Miguel Ángel

2852. A retrospective study of clinical, phenotypic and genetic factors of peripheral T-cell lymphomas in the Spanish population.
PI: Dr Sánchez García, Joaquin

3390. Incidence and results associated with the treatment of adenovirus infections in allogeneic hematopoietic cell transplant recipients: Advance.
PI: Dr Molina Hurtado, José Ramón

3591. Study on direct and indirect clinical complications derived from the detection of cytomegalovirus (CMV) infection in patients with allogeneic hematopoietic progenitor cell transplantation (ALO-TPH) CMV-ALOTPH study.
PI: Dr Rojas Contreras, Rafael

3253/2. Observational Study to assess disease burden, in terms of health-related quality of life and direct healthcare costs, in patients with newly diagnosed multiple myeloma who are not candidates for autologous stem cell transplant (ASCT) in Spain.
PI: Dr Álvarez Rivas, Miguel Ángel
Pathophysiology of the endocrine system of vitamin D. Biotechnology and aging

Principal Investigator (PI)
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PAIDI CTS-413 Endocrine System of Vitamin D. Biotechnology and Aging

Researchers
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Santiago Mora, Raquel
Serrano Alférez, Ignacio

Post-Doctoral Researchers
Marín Hinojosa, Carmen
Romero Sánchez, Mª Concepción

Pre-Doctoral Researchers (PhD and MSc Students)
Cuenca Acevedo, Rafael
Rabaneda Garrido, Cristina

HIGHLIGHTS

Publications
5

Impact Factor
83

Average Impact Factor
16,614
Scientific Activity

Our group studies:

1. Osteoporosis: related risk factors, genetics and epidemiology. Endocrine system of vitamin D, other liposoluble vitamins, carotenoids, fatty acids related to osteoporosis and aging.

2. Differentiation of mesenchymal stem cells into osteoblasts, adipocytes or vessels. Study of genes and related factors. Its application in human clinical medicine.

   a) Evaluation of compounds that may influence the differentiation of mesenchymal stem cells to osteoblasts and adipocytes. By following this line, we intend to evaluate the differentiation capacity of mesenchymal stem cells into adipocytes and osteoblasts in drugs and natural compounds in order to determine what may favour or hinder the formation of new bone. The results obtained in this area may open up new therapeutic strategies to prevent and counter osteoporosis.

   b) Studies of gene expression of genes related to osteogenesis and adipogenesis.

The aim of this research is to identify human stem cells, which are genes involved in the differentiation into osteoblasts and adipocytes, and associated with osteoporosis. To achieve this, we hope to carry out functional genomics studies to compare gene expression profiles between stem cells originating from both osteoporotic and non-osteoporotic women.

Keywords

Osteoporosis, vitamin D, carotenoids, fatty acids, human mesenchymal stem cells (MSCh) of adult adipocytes, osteoblasts, polyphenols, gene expression, proteomics, nutrigenetics, nutrigenomics.

Scientific Production

Publications

Main Publications


Casado-Díaz A, Tunez-Finana I, Mata-Granados JM, Ruiz-Mendez MV, Dorado G, Romero-Sanchez MC, Navarro-Valverde C, Quesada–Gomez JM. Serum from postmenopausal women treated with a by-product of olive-oil extraction process stimulates osteoblastogenesis and inhibits adipogenesis in human mesenchymal stem-cells (MSC). EXPERIMENTAL GERONTOLOGY. 2017.90():71-78. IF: 3.34 Q: 1


Other Publications


Research Funding

National


Quesada Gómez, JM. Effect of the PTH (1-34) and vitamin D3 on mobilization of endothelial precursor cells and their role in regenerative medicine applied to the skin ulcers healing in diabetics. Funding agency: National Institute of Health Carlos III (ISCIII). Reference: PI15/01857

Casado Días, A. Effect of the PTH (1-34) and vitamin D3 on mobilization of endothelial precursor cells and their role in regenerative medicine applied to the skin ulcers healing in diabetics. Funding agency: Fundación Española de investi- gación ósea y del metabolismo mineral. Reference: FEOOMM2016_001

Quesada Gómez, JM. Fragility and Healthy Aging (Ciberfes). Funding agency: National Institute of Health Carlos III (ISCIII). Reference: CB16/10/00501

Contracts with Companies

Quesada Gómez JM. Agreement Quesper. Funding agency: QUESPER R&D, S.L. Reference: PSS.0077
Quesada Gómez JM. Collaboration agreements with Lilly SA (Formation). Funding Agency: LILLY, S.A. Reference: CCB.0079

**Clinical Trials**

3071. Non-interventional study with Binosto 70 mg effervescent tablets once weekly investigating gastro-intestinal events and medication errors. PI: Dr Quesada Gómez, José Manuel
GC18 Translational research in surgery of solid organ transplantation

Principal Investigator (PI)
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PAIDI CTS-273 Study of acute infections of the digestive system

Researchers
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López Cillero, Pedro
Medina Fernández, Francisco Javier
Muñoz Casares, Francisco Cristobal
Padial Aguado, Ana Cristina
Pozo Laderas, Juan Carlos
Regueiro Lopez, Juan Carlos
Robles Ariza, Juan Carlos
Rufian Peña, Sebastian
Ruiz Rabelo, Juan

HIGHLIGHTS

Publications
16

Impact Factor
58,706

Average Impact Factor
3,669

Post-Doctoral Researchers
Arjona Sánchez, Álvaro
Pleguezuelo Navarro, María

Pre Doctoral-Researchers (PhD and MSc Students)
Gómez Gómez, Irene
Jiménez Gómez, Jesus
Navarro Rodríguez, Elena
Scientific Activity
Our group studies aspects related to the increase in the donor pool and technical innovations in solid organ transplants. We also aim to establish guidelines to improve the use of expanded criteria donors, and to develop and implement improvements in surgical techniques and technological innovations in the transplant of solid organs.

Keywords
Liver transplant, pancreas transplant, kidney transplant, lung transplant, heart transplant, living donor transplantation, pediatric transplantation, split transplantation, expanded criteria donors.

Scientific Production
Publications
Main Publications
IF: 8.98
Q: 1

IF: 3.188
Q: 2

IF: 2.979
Q: 2

IF: 2.936
Q: 2

IF: 2.506
Q: 3

IF: 4.529
Q: 1

IF: 4.529
Q: 1

IF: 3.262
Q: 1

IF: 3.188
Q: 2

IF: 2.979
Q: 2

IF: 2.936
Q: 2

IF: 2.506
Q: 3

Other Publications
IF: 7.05
Q: 1

IF: 4.302
Q: 1

IF: 4.302
Q: 1

IF: 2.689
Q: 2

Di Stasi LL, Diaz-Piedra C, Ruiz-Rabelo JF, Rieiro H, Carrion JMS, Catena A. Quantifying the cognitive cost of laparo-endoscopic single-site surger-
Q: 1

Q: 1

RESEARCH FUNDING

Regional


Contracts with Companies

Briceño Delgado, FJ. Stand in course on advanced liver surgery. Funding agency: Covidien Spain, S.L. Reference: PSS.0041

Briceño Delgado, FJ. Agreement Covidien. Funding agency: COVIDIEN SPAIN S. L. Reference: PSS.0122

Clinical Trials

0131/15. Multicenter randomized clinical trial to evaluate the efficacy and safety of hyperthermic intraperitoneal chemotherapy (HIPEC) with mitomycin C associated with surgery in the treatment of locally advanced colorectal carcinoma. PI: Dr Arjona Sánchez, Álvaro

Funding Agency: Fundación Mutua Madrileña Reference: FMM-14-002


National

Ciria Bru, R. Condition mechanisms discarded tepatotic liver grafts after cold storage by normo or subnormo thermic machine perfusion. Funding Agency: National Institute of Health Carlos III (IS-CIII). Reference: PI14/01559

Ciria Bru, R. Rescue paragraph liver transplant grafts discarded normothermic extracorporeal perfusion.

0131/15. Multicenter randomized clinical trial to evaluate the efficacy and safety of hyperthermic intraperitoneal chemotherapy (HIPEC) with mitomycin C associated with surgery in the treatment of locally advanced colorectal carcinoma. PI: Dr Arjona Sánchez, Álvaro
Principal Investigator (PI)
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PAIDI TIC-161 Artificial Vision Applications (A.V.A.)

Researchers
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Yeguas Bolivar, Enrique
Garrido Castro, Juan Luis

Post-Doctoral Researchers
Cazzato, Dario

Pre-Doctoral Researchers (PhD and MSc Students)
Romero Ramírez, Francisco José
Sarmani, Hamid

HIGHLIGHTS
Publications
5
Impact Factor
4,377
Average Impact Factor
0,875
Scientific Activity

The Research Group “Artificial Vision Applications (A.V.A.)” is a consolidated group at IMIBIC. It is constituted by 7 PhD researchers in the field of Computer Engineering. The research carried out by our group is both basic and applied. Our applied research focuses on developing solutions of Computer Vision with applications to Biomedicine. All members of the group are professors at the University of Córdoba.

Our two main interests are to address new proposals for basic research in Computer Vision, and to apply its research results to health problems involving the use of medical images.

Computer technologies in the field of Computer Vision have many potential and promising applications in health. Good examples of current trends in the field are Medical robotics and the automatic analysis of the mobility of people affected by different diseases, among many others.

In the last 5 years (2013-17) we have published more than 15 articles in JCR journals specifically in the field of Computer Vision and Pattern Recognition. Most of the publications solve basic research questions that allow developing applications to solve clinical problems. Examples of such application are patenting a human mobility analysis system and creation of a spin-off company to commercialize the product, and the development of the 3D Vision system for the surgical robot called BROCA.

We currently carry out two main projects. The first, of basic research, aims to propose new mechanisms of fusion of visual information (color, texture, key-points...) to improve 3D reconstruction processes. The second project has the objective to develop a vision system, of low cost, to ensure that the position of a patient during radiotherapy sessions is exactly the same as the position of the patient during the TAC session that will take place before the treatment and during which the specific area with tumour to be treated is planned. The vision technology we develop will be able to capture in real time and in an interactive manner the exact position of the patient’s body during the TAC session, and later guide the positioning of the patient for the radiotherapy session, thus avoiding errors in targeting the radiotherapy and radiating health tissue.

Our group maintains collaborations with international research groups, including regular research stays by the group members in the different collaborating centers. Some examples of international institutions with which we collaborate are the University of Orebro (Sweden), the Technical University of Munich (Germany), the University of Malta or the INRIA Research Institute (France). In addition, we maintain regular relations with several national companies developing customized vision systems.

Research lines
- 3D scanning
- Stereo Human Pose Estimation
- Augmented Reality
- Markerless Human Pose Estimation
- Human Interaction Recognition
- Human Gait Recognition
- Image Segmentation, Edge Detection, Shape analysis and Polygonal approximation

Keywords


Scientific Production

Publications

Main Publications


Garrido-Castro JL, Gil-Cabezas J, da Silva-Grigoleto ME, Mialdea-Baena A, González-Navas C. Tri-


**Research Funding**

**Regional**


**National**

Medina Carnicer R. Muñoz Salinas R. Vision system for tracking and mapping, fusing markers, characteristic points, 3D information and color, and its application to 3-dimensional reconstruction and augmented reality. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: TIN2016-75279-P


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PAIDI BIO-272 Genetics and Behavioral Diseases

Co-Principals Investigators (CO-PI)
Juan Antonio Moriana
PAIDI HUM-924 Evidence-Based Psychology. Evaluation and design of effective psychological interventions (PBE EDIPE)

Researchers
Alejandre Duran, Encarna Alós Cívico, Francisco José Antolí Cabrera, Adoración Burgos Marín, Rafael Guijarro Granados, Teresa Martín Borreguero, Pilar Moreno, Eliana Pérez-Dueñas, Carolina Romero Balsera, María Auxiliadora Sánchez Raya, Mª Araceli Sánchez Vázquez, Vicente Soto Hidalgo, José Manuel

Pre-Doctoral Researchers (PhD and MSc Students)
Espejo Duran, Carmen Rodríguez Ramos, Ángel Rodríguez Ramos, Ángel Gálvez Lara, Mario Venceslá Martínez, José Fernando Cuadrado Hidalgo, Fátima Vacas Ruiz, Julia Jurado González, Francisco Arriaga Díaz, Valle

Other members of the Group (Nursing, Technical and Administrative Staff)
Moyano Santiago, Álvaro Velasco Rodríguez, Judith

HIGHLIGHTS

Publications
5

Impact Factor
15,589

Average Impact Factor
3,171
Scientific Activity
The group GC20 is a consolidated research group composed of over twenty researchers on genetics and behavioural diseases both from the clinical applied field and from the academic and basic research. Our research group is interprofessional and it gathers specialist from areas such as genetics, early attention, clinical and health Psychology, Artificial Intelligence and physiotherapy. Due to the multidisciplinary nature of the group, members are divided into several research lines, mainly:

1. Early detection of developmental disorders and other issues of human behaviour, as well as the development of a procedure to teach verbal and cognoscitive behaviours on children with developmental disabilities.
2. Clinical and health psychology, and the assessment of EST (Empirically Supported Treatments) for anxiety and depression on Primary Care services.
3. Psycho-oncology applied to cancer survivors and their families.
4. Artificial Intelligence applied to the evaluation of developmental disorders from a physiotherapeutic and psychological perspective.
5. Genetics and explanatory models for autism following model organisms based on the nematode Caenorhabditis elegans.

Our research has potential impact on several health areas. Research on genetics implies generating more knowledge regarding pathologies such as autism and its genetic base. Concerning early attention, our studies may improve some of the current assessment methods through the development of IT systems for the analysis of children’s development. These advances may be applied in paediatric services and in the context of child clinical Psychology as well as to improve learning procedures. Our team also endeavours to early detection of developmental disorders and neuropsychological alterations in children affected with cerebellar tumours and ataxias (cerebellum pathologies). Our studies on psychological treatments for anxiety and depression may increase actual knowledge of effective treatments, which may lead to reducing the costs associated with the treatment of depression and anxiety. In this context, we have conducted a clinical essay to demonstrate that brief therapy is a better and more efficient strategy in comparison to pharmacological treatment for anxiety and depression. To conclude, in the oncology area our research focuses on improving the psychological health of cancer patients and their families.

Research lines
- Emotional impairments in caregivers and cancer patients
- Development of a procedure to teach verbal and cognoscitive behaviours on children with developmental disabilities
- Brief therapies for anxiety and depression disorder in primary care. Assessment and design of psychological treatments
- Early attention. Developmental disorders and risk factors. Neuropsychological alterations on rare diseases
- Caenorhabditis elegans as an experimental tool for the study of complex neurological diseases

Keywords
Genetics: behaviour genetics, autism spectrum disorder, C. elegans
Oncology: oncology, clinical psychology, psycho-oncology
Clinical and mental health: psychological treatment, primary care, depression, anxiety, based-evidence psychology
Early attention and verbal behavior: early attention, developmental disorders, neuropsychological alterations, rare diseases, developmental disability, verbal behaviour, cognoscitive behaviour.

Scientific Production
Publications
Main Publications
Moriana JA; Galvez-Lara M; Corpas J. Psychological treatments for mental disorders in adults: A review of the evidence of leading international organizations. CLINICAL PSYCHOLOGY REVIEW. 2017.54():-.
IF: 8,897 Q: 1 D: 1

IF: 2,385 Q: 1

**Other Publications**


**Research Funding**

**Regional**


**National**


**Contracts with Companies**

Ruiz Rubio M. Caenorhabditis elegans as models of neurological diseases. Funding agency: Canvax Biotech S.L. Reference: INTER.0002

Moriana JA. New smartphone app for early detection of autism and the development of therapeutic activities on the part of parents and keepers. Funding agency: Fundación Privada Cajasur

Sánchez-Raya A, Luque B, Moriana JA. Agreement with the CISPS for the creation of the Early Child Care Center (Centro de Atención Infantil Temprana) of the University of Cordoba.

**Clinical Trials**

0040/14. Effectiveness studies for the treatment of aripiprazole in the control of severe alterations in behavior and irritability in children with autistic spectrum disorders. PI: Dr Burgos Marín, Rafael.

3661. Evaluation of the change in emotional expression in patients with attention deficit hyperactivity disorder (ADHD) with inadequate response to methylphenidate after change in their therapeutic strategy to lisdexamfetamine dimesylate (LDX). PI: Dr Burgos Marín, Rafael.
**Principal Investigator (PI)**
Feliciano Priego Capote
feliciano.priego@uco.es
CIBER on Fragility and Heathly Aging (CIBERFES). (Collaborator)
PAIDI FQM-227 Analytical platforms in metabolomics / proteomics and waste management in the agri-food industry
Merited Researcher: Luque de Castro, Mª Dolores

**Researchers**
Delgado Povedano, Mª del Mar
López Bascón, Mª Asunción
Mena Bravo, Antonio
Díaz Lozano, Azahara
Luque Córdoba, Diego
Castillo Peinado, Laura de Los Santos

**HIGHLIGHTS**

**Publications**
14

**Impact Factor**
49,775

**Average Impact Factor**
3,555

**Post-Doctoral Researchers**
Calderón Santiago, Mónica
Ledesma Escobar, Carlos Augusto

**Pre-Doctoral Researchers (PhD and MSc Students)**
Criado Navarro, Inmaculada
Scientific Activity

Our group is mid-size team formed by 10 people. It is a consolidated group that is dedicated to basic transversal research. Our main scientific activity is focused on the development and application of metabolomics methods for application in clinical and agrofood areas. We are specialized in targeted and untargeted metabolomics analysis by using mass spectrometry. For this purpose, we are well equipped with GC-MS and LC-MS/MS equipment both in high and low resolution acquisition modes to be implemented in metabolomics analysis. In targeted analysis our main objective is to enhance sensitivity and selectivity as well as to obtain a high automation level. In this context, we have contributed to the development of a number of analytical methods with applicability in clinical analysis (vitamin D and metabolites, lipid inflammation markers, phospholipids, etc.) and agrofood characterization (phenolic compounds in olive oil, steviol glycosides, etc.). Concerning untargeted analysis our aim is to combine analytical methods to maximize the number of detected metabolites in a specific sample. We also develop analytical methods for characterization of biological samples with special emphasis on biofluids and tissues. Finally, a pipeline for identification, configuration of biomarkers panels, and further validation is also available to be applied in metabolomics analysis. Due to our transversal focus we collaborate with clinical groups to offer a complementary view to be implemented in biomedical studies. Additionally, our group is active in the development of research projects with public and private companies which take benefits from the methodological innovation proposed by our group.

Research lines

- Development of analytical methods to improve the detection/identification coverage in metabolomics experiments
- Untargeted metabolomics analysis of biological samples for nutritional and clinical studies
- Targeted metabolomics for quantitative analysis of metabolites in nutritional and clinical studies
- Identification of bioactive compounds in agrofood products

Keywords

Metabolomics, mass spectrometry, targeted analysis, untargeted analysis, sample preparation, clinical analysis, agrofood, bioactive compounds.

Scientific Production

Publications

Main Publications


IF: 4,529
Q: 1 D: 1


IF: 4,529
Q: 1 D: 1


IF: 4,259
Q: 1


IF: 4,162
Q: 1


IF: 2,752
Q: 1


IF: 2,744
Q: 2

Molina-Calle M, Priego-Capote F, Luque de Castro MD. Headspace–GC–MS volatile profile of black garlic vs fresh garlic: Evolution along fermentation and behavior under heating. LWT – Food Science
IF: 2,329
Q: 1

IF: 4,162
Q: 1

IF: 4,162
Q: 1

IF: 3,255
Q: 1

Other Publications

IF: 4,259
Q: 1

IF: 2,806
Q: 1

IF: 1,298
Q: 2

Research Funding

National

López Miranda, J. (Priego Capote F. (CO-PI). This project was funded as a collaborative initiative among different research groups). Early predictors and causes of loss of phenotypic flexibility as individual risk factor of metabolic disease: towards a personalized medicine (FLEXI-MET). Funding agency: National Institute of Health Carlos III (ISCIII). REF: PIE/1400005


International


Contracts with Companies

Luque de Castro, MD, Priego Capote, F. Extraction of stevia plants: identifying the components of the extract and optimizing the extraction and purification of the compounds of interest. Funding agency: Consortium with Campus de Excelencia Internacional en Agroalimentación (ceiA3) (Agrifood Campus of International Excellence)

HIGHLIGHTS

Publications
2

Impact Factor
10,295

Average Impact Factor
5,147

Principal Investigator (PI)
Mª Teresa Roldán Arjona
ge2roarm@uco.es

PAIDI BIO-301 Epigenetics and repair of DNA, Genetics

Researchers
Rodríguez Ariza, Rafael
Post-Doctoral Researchers
Cordoba Cañero, Mª Dolores
García Ortiz, Mª Victoria
Morales Ruiz, Mª Teresa
Oliveira Rincón, Raphael
Parrilla Doblas, Jara Teresa

Pre-Doctoral Researchers (PhD and MSc Students)
Barbado García-Gil, Casimiro
Devesa Guerra, Iván
García Perejón, Ester
Valderrama Aguilar, Paul Fernando
**Scientific Activity**

The “Epigenetics” Group is a consolidated group at IMIBIC. It comprises 11 people (6 researchers, 4 pre-docs and 1 technical staff) and performs basic and applied research at the interface between Epigenetics, DNA Repair and human disease. Our primary research area is focused on developing molecular tools for epigenetic editing in human cells. Abnormal gene silencing through deposition of epigenetic marks such as DNA methylation is a hallmark of human diseases such as cancer. We are combining CRISPR technology with enzymes that initiate active DNA demethylation through DNA repair-like mechanisms for targeted reactivation of aberrantly methylated genes in cancer cells. We have shown that overexpression of a heterologous DNA demethylase in human cancer cells partially reverts their aberrant methylome to normal levels, causing reduced tumorigenesis in vivo. Additionally, we have recently achieved targeted DNA demethylation in human cells by fusion of a DNA demethylase to an RNA-guided dCAS9 protein. Results derived from our research may provide useful tools to epigenetically reprogram tumor cells in vitro and in vivo. A second research area of our group is focused in understanding the interconnection between Epigenetics and DNA Repair pathways. Accumulating evidence points towards important but poorly understood mechanistic links between DNA demethylation and Base Excision Repair processes, both in humans and other organisms. Using as a model organism the plant Arabidopsis thaliana, we have shown that DNA repair and demethylating factors cooperate in genome maintenance and epigenome modification processes. We are now making use of the knowledge gained in plants to decipher similar mechanisms operating in human cells. Since pharmacological inhibition of DNA repair and Epigenetic processes in tumor cells is a promising approach in therapy, results in this research area may contribute to design improved cancer treatments. The long goal of our group is to translate mechanistic findings gained through basic research in humans and other organisms into the implementation of useful diagnostic and therapeutic tools. Our group collaborates with other IMIBIC’s groups, such as GC06 (New Therapies in Cancer) and GC03 (Infectious Diseases). We have also successful collaborative links with the Biotech Company CANVAX.

**Research lines**

- Targeted DNA demethylation in human cells by CRISPR-guided plant 5-meC DNA glycosylases
- Deciphering mechanistic links between Base Excision Repair and DNA demethylation

**Keywords**

Epigenetics, DNA repair, cancer, DNA methylation, DNA demethylation, DNA glycosylases, base excision repair.

**Scientific Production**

**Publications**

**Main Publications**

- Cordoba-Cañero D, Cognat V, Ariza RR, Arjona TR, Molnierz J. Dual control of ROS1-mediated active DNA demethylation by DNA damage-binding protein 2 (DDB2). PLANT JOURNAL. 2017.92(6):1170-1181. IF: 5.901 Q: 1
- Parrilla-Doblas JT, Ariza RR, Roldan-Arjona T. Targeted DNA demethylation in human cells by fusion of a plant 5-methylcytosine DNA glycosylase to a sequence-specific DNA binding domain. EPIGENETICS. 2017.12(4):296-303. IF: 4.394 Q: 1

**Research Funding**

**Regional**


**National**

- Roldán Arjona, Mª T. DNA repairs by base excision: from genome maintenance to epigenome issue. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: BFU2016-80728-P

**International**

Contracts with Companies

Roldán Arjona, Mª T. Services provided for Canvax.
Funding agency: Canvax Biotech S.L. Reference: PSS.0032
GC23 Metabolism in Childhood

Principal Investigator (PI)
Mercedes Gil Campos
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CIBER on Obesity and Nutrition (CIBERobn)
CIBER on Rare Diseases (CIBERER) (Collaborator: Eduardo López Laso)
RECLIP Spanish Pediatric Clinical Trials Network
PAIDI CTS-639 Scientific Group

Researchers
Antón Gamero, Montserrat De La Torre Aguilar, Mª José Flores Rojas, Katherine Ibarra De La Rosa, Ignacio López Laso, Eduardo Mateos González, María Elena Pérez Navero, Juan Luis

HIGHLIGHTS
PUBLICATIONS
10
IMPACT FACTOR
29,036
AVERAGE IMPACT FACTOR
2,904

Post-Doctoral Researchers
Llorente Cantarero, Francisco Jesús

Pre-Doctoral Researchers (PhD and MSc Students)
Ordoñez Díaz, María Dolores Rodríguez Benítez, María-Victoria Gómez Fernández, Antonio Rafael Moreno Hidalgo, Carmen Maria
Scientific Activity
The GC23 group is a group of clinical researchers, mostly medical specialists in various areas of Pediatrics, related to nutrition and metabolism. It is a consolidated group of young researchers, PhD, doctors and professors from the University of Córdoba, with assistance activity at the Reina Sofía University Hospital in Córdoba, Spain.

The main research area of development is Nutrition and Metabolism during childhood, although is related with other pediatric specialties such as Oncology, Neuropediatrics, Endocrinology, Inborn Errors of Metabolism or Nephrology. In addition, it stands out for its research on childhood obesity.

Our objectives are based on the development of quality research oriented to the most prevalent pediatric health problems, in order to achieve results that have applicability and influence clinical practice.

Specifically, we intend to identify nutritional, cardiovascular and metabolic risk factors for the prevention of childhood-onset diseases, especially cardiovascular disease and the metabolic syndrome in relation to obesity and malnutrition or underlying diseases. The prevention of these diseases controlling risk factors in childhood can have a high impact on later stages of life in health.

In addition, we participate in alliances with other national and international researchers, who are leaders in nutritional research applied to the clinic, as well as with companies in the food sector or through clinical trials for new therapies. Among our relevant results, we highlight the research of the metabolic syndrome in prepubertal children, and risk factors associated with genetic polymorphisms, as well as the use of probiotics and therapies in rare metabolic diseases.

Research Lines:
• Study of metabolic risk factors in metabolic syndrome and pediatric obesity
• Probiotics: Use in prevention or treatment for pediatric diseases
• Metabolic factors related with autism spectrum disease
• Pediatric Oncology

Keywords:
Autism, children, childhood, metabolic syndrome, obesity, oncology, physical activity, pre-probiotics, renal disease.

Scientific Production
Publications
Main Publications
IF: 4,485
Q: 1

IF: 2,356
Q: 3

IF: 0,7
Q: 4

IF: n/a

Other Publications
IF: 8,966
Q: 1 D: 1

IF: 4,259
Q: 1

Olza J, Ruperez AI, Gil-Campos M, Leis R, Canete R, Tojo R, Gil A, Aguilera CM. Leptin Receptor Gene Variant rs11804091 Is Associated with BMI and Insulin Resistance in Spanish Female Obese Children:
Research Funding

Regional


National


Gil Campos, M.V volumetric Measuring System. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2016-5661-1_02

Roa Rivas, J (Co-PI: Gil-Campos M). Ethiopathogenic role and diagnostic/therapeutic implications of microRNAs on early puberty in obesity”. Proyecto Convocatoria Miguel Servet I. 2015 CPI15/0004 Año: 2016-2018


International


Contracts with Companies

Gil Campos, M. Design and development of nutritionally balanced foods, appealing and comfortable/easy to handle specified for ages 3 and 4. Funding agency: Grupo Sada P.A.S.L. Reference: ITC-20151270


Clinical Trials

0316/15. An International Prospective Study on Clinically Standard-risk Medulloblastoma in Children Older Than 3 to 5 Years With Low-risk Biological Profile (PNET 5 MB-LR) or Average-risk Biological Profile (PNET 5 MB-SR).

PI: Dr Mateos González, María Elena


PI: Dr Mateos González, María Elena

The International working group on inborn errors of neurotransmitter metabolism.

PI: Dr López Laso, Eduardo

2010-021396-81. LINES European Low and Intermediate Risk Neuroblastoma.

PI (node): Dr María Elena Mateos


LACTOPREM.

PI: Dr Ordoñez Díaz, María Dolores


PI: Dr Anton Gamero, Montserrat

3616. Paediatric Hepatic International Tumour Trial.

PI: Dr Mateos Gonzalez, Maria Elena

2060. An international registry which collects data on disease manifestations, interventions and out-
comes in patients with tuberous sclerosis complex.
P.I. Dr López Laso, Eduardo

1783. International pacientes registration with Niemann-Pick tipo C.
P.I. Dr López Laso, Eduardo
**Principal Investigator (PI)**
Luis Martínez Martínez
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*Spanish Network for Research on Infectious Diseases (REIPI)*

**Researchers**
- Bañón Arias, Rafael
- Causse del Río, Manuel
- Correa Gómez, Ignacio
- Gutiérrez-Aroca, Juan Bautista
- Gracia Ahufinger, Irene
- Harboui, Sarra
- Jenayeh, Rim
- Pérez Jiménez, Ana Belén
- Rodríguez-López, Fernando Carlos
- Tejero García, Rocío

**HIGHLIGHTS**

**Publications**
8

**Impact Factor**
34,033

**Average Impact Factor**
4,254

**Pre-Doctoral Researchers (PhD and MSc Students)**
- Gutiérrez D’Onofrio, Bruno
- Guzmán Puche, Julia María
- Marfil Pérez, Eduardo
- Muñoz de la Rosa, Montserrat

**Other members of the Group (Nursing, Technical and Administrative Staff)**
- Elías López, Cristina
**Scientific Activity**

The Consolidated Research Group of Clinical and Molecular Microbiology integrates (1) Clinical Microbiology Staff and Residents of the Unit of Microbiology, University Hospital Reina Sofia, (2) Professors of the Department of Microbiology–Medical School, University of Cordoba, and (3) Other Researchers and Technicians with a contractual tie to our group.

The research interests of the group include:

- Antimicrobial resistance in bacteria of medical interest, with special attention to multiresistant gram-negative organisms.
- In vitro activity of new antimicrobial agents.
- Diagnostic methods in Clinical Microbiology.

In the area of major interest for the group (antimicrobial resistance), we consider both Enterobacteria (Escherichia coli, Klebsiella pneumoniae, Enterobacter spp., etc.) and non-fermenters (Pseudomonas aeruginosa and other species, Actinetobacter baumannii and related species, Stenotrophomonas maltophilia, among others). Other studies are focused on methicillin-resistant Staphylococcus aureus and coryneform bacteria. Our objectives include: (1) To study mechanisms causing low-level resistance: porin alterations, (over)production of efflux pumps, (2) To study mechanisms of resistance to specific antimicrobial groups, extended-spectrum beta-lactamases, carbapenemases, plasmid-mediated quinolone resistance, type II topoisomerases, aminoglycoside-modifying enzymes, ARN 16S methyl-transferases,..., and (3) To characterize genes and mobile elements (plasmids, transposons, integrons, gene cassettes, etc.) involved in antimicrobial resistance.

We are also considering molecular epidemiology of multiresistant bacteria causing nosocomial infections, and the study of the relationship between antimicrobial resistance and virulence. The achievements of our research include:

- Discovery of qnr genes, causing plasmid-mediated quinolone resistance. Detailed contribution of these genes to resistance and design of molecular methods for their detection.
- Demonstration of the importance of porins in of low-level resistance.
- Analysis of penicillin-binding proteins of multiresistant A. baumannii.
- Characterization of mechanisms of resistance to aminoglycosides in multiresistant enterobacteria, non-fermenters and corynebacteria.
- Demonstration of the importance of manganese contents in culture media when testing tigecycline.
- Collaboration in multiples clinical studies on treatment and prognosis of infections caused by multiresistant bacteria. We contribute to the Programs “Resistance” and “Infections in Transplanted Patients” of the Spanish network for research on infectious diseases (REIPI, http://reipi.org/) supported by the Institute of Health Carlos III (ISCIII). This network has developed and is developing different multicenter studies on clinical and microbiological aspects of infections caused by resistant bacteria of clinical relevance.

**Research Lines**

- Mechanisms of resistance to antimicrobial agents in (multi)resistant bacteria
- In vitro activity of new antimicrobial agents
- Diagnostic methods in Clinical Microbiology

**Keywords**

Antimicrobial–resistance, beta-lactamases, aminoglycoside-modifying enzymes, methyl-transferases, Qnr, quinolones, polymyxins, carbapenems, cephalosporins, heteroresistance, antibiogram, susceptibility-testing, molecular-typing, enterobacteria, Pseudomonas, Acinetobacter.

**Scientific Production**

**Publications**


IF: 4.302 Q: 1


Contracts with Companies
Gracia Ahufinger, I. iCREST Agreement. Funding Agency: ASTRAZENECA FARMACEUTICA ESPAÑA S.A. Reference: PSS.0155
Martínez Martínez, L. Update of antimicrobial spectrum and potency of dalbavancin and other antibiotics tested in clinical isolates of Gram-positive pathogens from southern and central Europe and Russia. Funding Agency: QUINTILES SWITZERLAND SÀRL. Reference: CCB.0144

Clinical Trials
2595. Intestinal colonization by multiresistant enterobacteria in patients with renal and liver transplant: multicenter cohort study. PI: Dr Gracia Ahufinger, Irene
3592. Impact of intestinal colonization by multiresistant enterobacter in systemic infections, GVHD and mortality of patients receiving allogeneic bone marrow transplantation. PI: Dr Gracia Ahufinger, Irene

Research Fundings
National
GC25 Knowledge Discovery and Intelligent Systems in Biomedicine

**Principal Investigator (PI)**
Sebastián Ventura Soto
sventura@uco.es
PAIDI TIC-222 Scientific Group
Big Data y Análisis de Datos Escalable (Big-DADE)
Red de Excelencia en Ingeniería del Software basada en Búsqueda (SEBASENet)

**Researchers**
García Martínez, Carlos
Gibaja Galindo, Eva Lucrecia
Lucrecia Gibaja, Eva
Luque Rodríguez, María
Romero Morales, Cristóbal
Romero Salguero, José Raúl
Zafra Gómez, Amelia

**Post-Doctoral Researchers**
Cano Rojas, Alberto
Luna Ariza, José María
Reyes Pupo, Oscar Gabriel

**Pre-Doctoral Researchers (PhD and MSc Students)**
Delgado Osuna, José Antonio
Luque Guzmán, Carmen
Moyano Murillo, José María
Pérez Perdomo, Eduardo
Ramírez, Aurora

**HIGHLIGHTS**

<table>
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<td>AVERAGE IMPACT FACTOR</td>
<td>2,320</td>
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Scientific Activity
The Research Group “Knowledge Discovery and Intelligent Systems in Biomedicine” is a consolidated group of the IMIBIC. Our research team incorporates 10 researches and 5 PhD. students. Its research areas cover two main fields: knowledge discovery and data mining, and the application of artificial intelligence techniques for the industrial development of intelligent systems. We have experience in basic research on the areas of big data, machine learning, soft computing and optimization techniques. At the same time, we have proven experience on the use of these techniques over diverse application domains and, lately, we have focused on applying them to Biomedicine field.

Our line of work for the next years focuses on the development of data analysis methodologies/proposals for solving complex problems in Biomedicine field with great social relevance, such as melanoma prediction, alternative splicing, prediction and description of pathologies related to arterial hypertension, among others. Data analysis techniques play a fundamental role in medical diagnosis, especially with the growth of precision medicine and individualized prognosis; thus, early diagnosis models suppose a great advantage for both the patient and the health-care system, whereas, the models we obtain can shed light on the understanding of diseases.

The principal investigator of the group Sebastian Ventura Soto and the rest of members collaborate with the PAIDI TIC-222 Scientific group. Other collaborations include highly competitive research groups both on national and international level.

Research Lines
- Development of predictive models: biomedical applications
- Pattern mining in Biomedicine
- Big Data Models
- Workflows for data science

Keywords
Biomedical data analysis, big data, data science, data mining, machine learning, predictive models, classification, regression, descriptive models, association, clusters.

Scientific Production
Publications
Main Publication


Moyano JM, Gibaja EL, Ventura S. MLDA: A tool for analyzing multi-label datasets. KNOWLEDGE-BASED SYSTEMS. 2017.121():1-3. IF:4,529 Q: 1

Research Funding
National

Ventura-Soto, S. EMERging trends in Data analysis.
Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: TIN2017-83445-P

Contracts with Companies

Ventura-Soto, S. Agreement with Santillana Global S.L. Reference: PSS.U.2017
GE1 Oxidative stress and nutrition

HIGHLIGHTS

TOTAL

14

IMPACT FACTOR

40,562

AVERAGE IMPACT FACTOR

2,897

Principal Investigator (PI)
Isaac Túnez Fiñana
fm2tufii@uco.es
PAIDI CTS-624 scientific group
Spanish Brain Stimulation Network (Red Española de Estimulación Cerebral)
Spanish Multiple Sclerosis Network (REEM)
(Pl: Eduardo Agüera Morales)

Researchers
Cruz Guerrero, Antonio
Gascón Luna, Félix
Gómez Chaparro, José María
Jimena Medina, Ignacio
Lillo Roldán, Rafael
Luque Carabot, Evelio
Ochoa Sepúlveda, Juan José
Peña Amaro, José
Ruiz Villen, María Concepción

Pre Doctoral–Researchers (PhD and MSc Students)
Conde Gavilán, Cristina
Galván Jurado, Alberto
Valverde Moyano, Roberto

Other members of the Group (Nursing, Technical, and Administrative Staff)
Giraldo Polo; Ana Isabel
La Torre Luque; Manuel

Post–Doctoral Researchers
Agüera Morales, Eduardo
Ramirez Rivera, Alberto
Scientific Activity
To improve knowledge of underlying mechanisms in neurodegenerative processes, especially in Multiple sclerosis.
To consolidate and position the group.
To Design new therapeutic strategies that improve the quality of life of patients.
To Establish biomarkers that allow a better monitoring of the disease, as well as the beneficial effect of the treatment applied.
Description of the role played by oxidative stress and antioxidant systems in neurodegenerative disease such as multiple sclerosis.
Description of the potential therapeutic effect of transcranial magnetic stimulation and dietary compounds (garlic and olive oil) in Huntington’s disease and Multiple sclerosis models.
For more information see the group’s publications.
Our research group maintains close collaborations with IMIBIC groups, as well as with other national and international groups and companies with which it conducts joint studies.

Research Lines
• Oxidative stress and neurodegenerative diseases (Huntington’s disease and Multiple sclerosis).
• Transcranial magnetic stimulation and neuroplasticity.
• Role of Nutrition in development of Neurodegenerative diseases (Huntington’s disease and Multiple sclerosis).

Keywords
Antioxidant systems, Huntington’s disease, Multiple sclerosis, Neurodegenerative diseases, Neuroplasticity, Oxidative stress, Cell death, Transcranial magnetic stimulation

Scientific Productions
Publications
Main Publication
IF:5.166
Q:1

IF:3.815
Q:1

IF:2.936
Q:2

IF:2.506
Q:3

Others Publication
IF:3.144
Q:1

IF:3.188
Q:2
Research Funding

National

Túnez Fiñana, I. Drug development against tumor cells mothers (CSC) by screening libraries using synthetic kinase inhibitors of GPCRs and NFAT - calcineurininteraction. Funding Agency: Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2015-3386-1_1


Contract with Companies

Agüera Morales, E. Agreement Fundacion. Funding agency: FPS. Reference: CCB.0136

Túnez Fiñana, I. Agreement Canvax. Funding agency: CANVAX BIOTECH S.L. Reference: CCB.0143

Agüera Morales, E. Agreement Roche. Funding agency: Roche Pharma SA. Reference: CCB.0156

Agüera Morales, E. Agreement Merck. Funding agency: Merk SLU. Reference: CCB.0157

Agüera Morales, E. Agreement Biogen. Funding agency: Biogen Spain SLU. Reference: PSS.0195

Túnez Fiñana, I. Development of in vitro CNS disease models and trial of the activity of active compounds identified using FRIDA. Funding agency: Canvax Biotech S.L. Reference: INTER.0001

Tunez Fiñana, I. Agreement with MBT. Funding agency: MBT SL. Reference: PSS.0115

Agüera Morales, E. Agreement with Biogen. Funding agency: Biogen Spain S.L.U. Reference: PSS.0056

Tunez Fiñana, I. Agreement with Canvax. Funding agency: Canvax Biotech S.L. Reference: PSS.0135

Clinical Trials

/3275. A Double-Blind, Placebo-Controlled Study to Examine the Safety and Efficacy of Pimavanserin for the Treatment of Agitation and Aggression in Alzheimer’s Disease.
Pi: Dr/a Agüera Morales, Eduardo

/3478. Estudio en fase III, multicéntrico, aleatorizado, doble ciego, controlado con placebo y de grupos paralelos para evaluar la eficacia y seguridad de Crenezumab en pacientes con enfermedad de alzheimer de prodromica o leve
Pi: Dr/a Agüera Morales, Eduardo

/3630. Estudio multicéntrico, aleatorizado, doble ciego y controlado con placebo en sujetos con esclerosis múltiple recurrente para evaluar la eficacia y la seguridad de BIIB033 como tratamiento adicional a los tratamientos antinflamatorios modificadores de la enfermedad.
Pi: Dr/a Agüera Morales, Eduardo

0050/15. Estudio fase II, prospectivo, multicentrico, randomizado, doble ciego, controlado con placebo, de grupos paralelos para comparar la eficacia y seguridad de masitinib frente a placebo en pacientes con deterioro cognitivo asociado a la enfermedad de Parkinson. A prospective, multicenter, randomised, double-blind, placebo-controlled, parallel group, phase 2 study to compare the efficacy and safety of masitinib versus placebo on cognitive impairment associated with Parkinson’s disease.
Pi: Dr/a Agüera Morales, Eduardo

2569. Estudio observacional y prospectivo para evaluar la efectividad de inyecciones de la toxina botulinica tipo A (BoNT-A) en pacientes con espasticidad de miembros superiores y/o inferiores tras un ictus, en la fase temprana del desarrollo de la espasticidad. (ETREAT)
Pi: Dr/a Ochoa Sepulveda, Juan José

3042. Estudio observacional, no intervencionista para evaluar los cambios en la calidad de vida en pacientes con esclerosis múltiple remitente recurrente tratados con alemtuzumab (Lemtrada) en condiciones de práctica clínica habitual.
Pi: Dr/a Agüera Morales, Eduardo

3596. Evaluación de las necesidades de información de pacientes con esclerosis múltiple en España: preocupaciones, preferencias y nivel de satisfacción según su personalidad y caraterísticas clínicas y funcionales (infoseek-ms).
Pi: Dr/a Agüera Morales, Eduardo
3067. A randomized, double-blind, placebo-controlled study to evaluate the efficacy and safety of sage-547 injection in the treatment of subjects with super-refractory status epilepticus
Pl: Dr/a Estevez María, José Carlos

3625. Estudio de extensión abierto y multicéntrico para evaluar la seguridad y eficacia a largo plazo de Lacosamida como tratamiento complementario para las crisis tónico-clónicas generalizadas primarias no controladas en pacientes con epilepsia idiomática generalizada
Pl: Dr/a Estevez María, José Carlos

3626. Estudio doble ciego, aleatorizado, controlado con placebo, de grupos paralelos, multicéntrico para evaluar la seguridad y la eficacia de Lacosamida como tratamiento complementario para las crisis tónico-clónicas generalizadas primarias no controladas en pacientes con epilepsia idiomática generalizada
Pl: Dr/a Estevez María, José Carlos

0255/13. Ensayo Clínico Fase II, Multicéntrico, Abierto, Controlado y Aleatorizado, para valorar la eficacia de la Infusión Intra arterial de células Mononucleadas de Médula Ósea Autóloga en Pacientes Con Ictus Isquémico
Pl: Dr/a Valverde Moyano, Roberto

0133/09. A multicenter, extension, blind-dose study to determine the safety and efficacy of long-term monotherapy dose of BG00012 in patients with relapsing-remitting multiple sclerosis
Pl: Dr/a Agüera Morales, Eduardo

0106/11. A long-term, prospective, observational safety study of patients with multiple sclerosis who participated in clinical trials with cladribine
Pl: Dr/a Agüera Morales, Eduardo

0301/13. A prospective, multicenter, randomized, double-blind, parallel-group, placebo-controlled, phase III 96-week duration study to assess the efficacy and safety of masitinib 4.5mg/kg/day vs placebo.
Pl: Dr/a Agüera Morales, Eduardo

Pl: Dr/a Valverde Moyano, Roberto

0235/14. An open, multicenter, aleatorized study to assess the impact of natalizumab against tissue damage fingolimod in central nervous system and in recovery of subjects with multiple sclerosis
Pl: Dr/a Sánchez López, Fernando

0150/15. A phase 3 multicenter, randomized, double-blind, placebo-controlled, parallel-group study to evaluate the efficacy and safety of aducanumab (biib037) in subjects with early alzheimer’s disease.
Pl: Dr/a Agüera Morales, Eduardo

Pl: Dr/a Agüera Morales, Eduardo

*3268. Open-Label, Randomised, Multicenter, Multi-Dose, Active Controlled, Parallel-Group, Efficacy and Safety Study of BG00012 in Children from 10 to less than 18 years of age with relapsing-remitting multiple sclerosis, with optional open-label extension.
Pl: Dr/a Agüera Morales, Eduardo

3007. Spanish patient registration treated with glatiramer acetate (Copaxone®) 40mg/ml.
Pl: Dr/a Agüera Morales, Eduardo

3012. Retrospective epidemiological study to analyse clinical and radiological disease activity in patients with relapsing-remitting multiple sclerosis following withdrawal of Natalizumab in routine medical practice.
Pl: Dr/a Agüera Morales, Eduardo

3196. Retrospective study of adherence to the spanish consensus to treatments for spasticity in multiple sclerosis in Spain.
Pl: Dr/a Agüera Morales, Eduardo

3222. A multicenter, global, retrospective, observational study to characterize real-world clinical outcomes in patients with relapsing-remitting multiple sclerosis treated with disease-modifying therapies (Tecfidera, Copaxone, Aubagio, or Gilenya) (EFFECT)
Pl: Dr/a Agüera Morales, Eduardo
GE3

Inflammatory immune-mediated cutaneous diseases

HIGHLIGHTS

Publications

15

Impact Factor

51,822

Average Impact Factor

3,4548

Principal Investigator (PI)
Juan A Ruano Ruíz
juanruanoruiz@mac.com

Researchers
Isla Tejera, Beatriz
Vélez García-Nieto, Antonio

Post-Doctoral Researchers
González Padilla, Marcelino
Gómez García, Francisco

Pre-Doctoral Researchers (PhD and MSc Students)
Aguilar Luque, Macarena
Carmona Fernández, Pedro Jesús
Gay Míbrera, Jesús
Hernández Romero, José Luis
Sanz Cabanillas, Juan Luis
Vigueras Guerra, Isabel

Other members of the Group (Nursing, Technical and Administrative Staff)
Alcalde Mellado, Patricia
Clemente Milla, María del Carmen
López García, María
López González, Carmen
Maestre López, Beatriz
Montilla López, Ana María
**Scientific Activity**

The final goal of our team, established since 2015 as an emergent research group at the IMIBIC, is to find those evidences that help to make decisions in the clinical setting to improve the diagnosis and the treatment of the patients with immune-mediated chronic inflammatory skin diseases of high prevalence or of special severity, such as psoriasis, atopic dermatitis, chronic urticaria, vitiligo, suppurative hidrosadenitis, and various chronic alopecias such as alopecia areata or frontal fibrosing alopecia.

Our group consists of 17 researchers: 11 Clinicians (6 Dermatologists, 2 Hospital Pharmacists, and 3 Nurses) and 6 non-clinicians (1 Study Coordinator, 2 BSc in Biology PhD candidates, 3 Medical Students).

Our group also promotes the participation of students of undergraduate, postgraduate, and physician specialists in training by means of collaboration with the degrees and postgraduate programs of Medicine, Chemical sciences, and Biotechnology (medical Education, MSc programs, PhD programs).

All research activities of the group are guided by our commitment to:

1. Encourage participation of citizens in observational studies and clinical trials promoted and participated by our group.
2. Promote actions that attract the R + D + I industry by offering collaborations in the form of service delivery models or co-development agreements of innovative ideas from results obtained by our group or from needs or problems found in relation to some research product of the industry itself.
3. Stimulate transversal collaboration with other research groups dedicated to areas such as applied physics, nanotechnology, and evidence synthesis or with other high level Spanish or foreign centers (Cochrane collaboration, Rockefeller University, Mount Sinai Hospital).
4. Communicate to other researchers and citizens the results obtained, through participation in scientific meetings, publications in journals and meetings with associations of patients and young people in training, who visit us regularly.
5. Collaborate with the other groups of the IMIBIC in generating talent in future generations of researchers, especially in those with clinical profile, through collaboration with the Degree and Postgraduate programs of the University of Cordoba and the University of Granada.

**Research lines**

- Characterization at the molecular level of the immunological mechanisms that determine the pathogenesis of immune-mediated chronic inflammatory skin diseases
- Identification of new environmental, clinical and molecular factors that help us to better understand the behavior of the different drugs in real practice setting
- The development of systematic reviews, meta-analysis and meta-epidemiological studies
- The development of different clinical trials to evaluate the efficacy, tolerance and safety of drugs before they are approved by the corresponding regulatory agencies, in our case to EMA and AEMPS

**Keywords**

Immune-mediated skin diseases, psoriasis, atopic dermatitis, vitiligo, alopecia areata, genetic polymorphisms, biological therapies, cell culture, cold atmospheric plasma, cost-efficiency analyses, systematic reviews, meta-analyses, meta-epidemiology.

**Scientific Production**

**Publications**

**Main Publications**


Q: 1  D: 1


Other Publications


Research Funding

Regional


National


International


Clinical Trials

0251/14. Phase 3, Multicenter, Randomized, Double-blind, Placebo and Active Comparator-controlled Study Evaluating the Efficacy and Safety of Guselkumab in the Treatment of Subjects With Moderate to Severe Plaque-type Psoriasis. PI: Dr. Ruano Ruiz, Juan A.

0032/15. Long Term Clear Skin Maintenance Treatment Optimization in Patients With Moderate to Severe Chronic Plaque Psoriasis: A Randomized, Multicenter, Open-label With Blinded-assessment, Comparative, 52 Week Study to Evaluate the Efficacy, Safety and Tolerability of Secukinumab 300 mg s.c. PI: Dr Ruano Ruiz, Juan A.

0104/15. A multicenter, randomized, double-blind, placebo and active-controlled phase 2b dose-finding study of QGE031 as add-on therapy to investigate the efficacy and safety in patients with Chronic Spontaneous Urticaria (CSU). PI: Dr Ruano Ruiz, Juan A.

0020/16. An Open Label, Multicenter, Extension Study to Evaluate the Long-term Safety of QGE031 240 mg s.c. Given Every 4 Weeks for 52 Weeks in Chronic Spontaneous Urticaria Patients Who Completed Study CQGE031C2201. PI: Dr. Ruano Ruiz, Juan A.

0125/15. A Double-Blind, Randomized, Parallel-Group, Active-Control Study to Compare the Efficacy and Safety of CHS-1420 Versus Humira in Subjects With Chronic Plaque Psoriasis. PI: Dr Ruano Ruiz, Juan A.

3247. A Multicentre, Randomized, Double-blind, Parallel-group, Controlled Study, to Assess the Efficacy and Safety of P-3074 Cutaneous Spray, Solution, in the Treatment of Male Pattern Baldness. PI: Dr Ruano Ruiz, Juan A.

3438. A Phase 3, Multicenter, Randomized, Double-blind Study Evaluating the Comparative Efficacy of NTCH 1959 (Guselkumab) and Secukinumab for the Treatment of Moderate to Severe Plaque-type Psoriasis. PI: Dr. Ruano Ruiz, Juan A.

3587. Open clinical study to evaluate the efficacy and long-term safety of dimethyl fumarate in adults with chronic moderate to severe plaque psoriasis in clinical practice (Estudio DIMESKIN I). PI: Dr. Vélez García-Nieto, Antonio

2700. Construction of a model to predict the response to anti-TNF drugs used for the treatment of moderate-to-severe psoriasis in routine medical practice. PI: Dr Ruano Ruiz, Juan Alberto

2719. World-wide antihistamine-refractory chronic urticaria patient evaluation. AWARE Study PI: Dr/a Ruano Ruiz, Juan A.

2740. Application of genomic techniques and image processing using artificial intelligence to obtain a predictor model for risk of melanoma. PI: Dr Ruano Ruiz, Juan A.
GE4

Applied Psychology

Principal Investigator (PI)
Bárbara Luque Salas
bluque@uco.es
PAIDI HUM-414 Gender, communication systems, beliefs and education
PAIDI HUM-924 Evidence-Based Psychology, Evaluation and design of effective psychological interventions (PBE EDIPE)

Researchers
Antolí Cabrera, Adoración Moreno Arenas, Alicia Pérez Dueñas, Carolina Rubio García, Sebastián Taberner Urbiet, María del Carmen

HIGHLIGHTS
TOTAL
4
IMPACT FACTOR
5,376
AVERAGE IMPACT FACTOR
1,344

Post-Doctoral Researchers
Cuadrado, Esther
Castillo Mayén, Rosario
Moyano Pacheco, Manuel

Pre-Doctoral-Researchers (PhD and MSc Students)
Gutiérrez Domingo, Tamara
**Scientific Activity**
our group studies the influence of psychosocial variables (age, sex, socioeconomic level, educational level, social support) and motivational processes (cognitive, affective and personality) on adherence to diet, life satisfaction and quality of life of patients with cardiovascular disease. We analyze the behavior of patients with cardiovascular disease from a social cognitive approach with the aim to design intervention programs based on the promotion of health through scientific evidence. More specifically, we aim to validate a model of structural equations that will allow the determination of the weight and interaction of motivational variables in adherence to diet, quality of life and well-being of patients suffering from cardiovascular diseases. Subsequently, we aim to test the effectiveness of an intervention program based on self-monitoring by the patients. One of our central research activities include the development of a training program for the regulation of emotions for facing stressful events. This intervention program will provide the keys for patients to become familiar with self-regulation of emotions in stressful situations through e-HEALTH platforms. Finally, we aim at extending our research activities to evaluate the relationship and impact of the proposed psychosocial and motivational variables with other biomedical variables collected from other IMIBIC teams (e.g. GC-09 Nutrigenomics, Metabolic Syndrome) and to widen our collaboration to several other research areas of IMIBIC. Our current collaborators include the Universidad degli Studi Roma La Sapienza (Italy), PAIDI CTS-525, The GC-09 Nutrigenomics, metabolic syndrome of IMIBIC, and the INDRHO research group (Investigación y Desarrollo de Recursos Humanos y Organizaciones, Grupo PAIDI HUM-568) of the University of Sevilla.

**Research Lines**
- Relationship and impact of psychosocial and motivational variables with other biomedical variables
- Self-regulation of emotions in stressful situations through e-HEALTH platforms
- Effectiveness of interventions based on the self-monitoring of patients with cardiovascular disease
- The weight and interaction of motivational variables in adherence to diet, quality of life and well-being of patients with cardiovascular disease
- The relationship between emotional processing and greater affective well-being in aging

**Keywords**

**Scientific Production**

**Publications**

**Main Publications**

IF: 2,323
Q: 2

IF: 1,709
Q: 1

IF: 1,344
Q: 2


**Research Funding**

**National**

GE5  Urology and Sexual Medicine

Principal Investigator (PI)
María José Requena Tapia
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Researchers
Anglada Jurado, Francisco
Prieto Castro, Rafael

Post-Doctoral Researchers
Blanca Pedregosa, Ana María
Carrasco Valiente, Julia
Campos Hernández, Juan Pablo

Pre-Doctoral Researchers (PhD and MSc Students)
Sánchez González, Álvaro
Rubio Galisteo, Juan Manuel

HIGHLIGHTS

Publications
15

Impact Factor
40,559

Average Impact Factor
2,703

Other members of the Group (Nursing, Technical and Administrative Staff)
Gil Contreras, Daniel
Scientific Activity

Our research group is denominated “GE05 Genitourinary diseases”, and encompasses a multidisciplinary team of both basic and clinical post-doctoral researchers who are specialised in the area, pre-doctoral researchers, and staff in charge of coordination of clinical trials. All of them are committed to quality translational research.

Our main activities include the study of the tumoral pathology of the genitourinary system and associated oncological research. We develop various lines of research in this area, aimed at the discovery of new biomarkers for the diagnosis and prognosis of urological tumors (Bladder Cancer, Prostate Cancer and Kidney).

Currently, our group carries out several research projects focused on the identification of non-muscle invasive bladder cancer prognostic factors. The results could contribute to the development of a genetic signature test to be used for the prognosis of bladder cancer. A more accurate prognosis is important as it is decisive for the selection of the most optimal and individualized treatment for each patient, thus improving patient care and health outcomes.

We also maintain stable collaboration with the biotechnology company Life length in the context of the European project called ONCOCHECK that was granted to the company within the Horizon 2020 Framework Program. ONCOCHECK aims at deepening the knowledge of genetic factors, such as the measurement of Chromosomal length, which can influence the development of prostate cancer and its clinical evolution. Our group is one of the partners participating in the project’s clinical study in prostate cancer.

In the field of kidney transplantation, our group is focused on the search for new strategies that improve the prognosis of the transplanted organ. Finally, the group’s experience in the field of robotic surgery could play an important role in the field of laparoscopic surgery.

Research Lines

- Identification and development of a gene expression profile with prognostic significance of bladder cancer behavior and predictive of response to treatment
- Identification of markers in plasma and urine of patients with prostate cancer (PCa)
- Research of new strategies and techniques to improve laparoscopic surgery, using robotic surgery

Keywords

Bladder cancer, prostate cancer, kidney transplantation, biomarkers, diagnosis, prognosis, predictive, robotic laparoscopic surgery.

Scientific Production

Publications

Main Publications


Carrasco J, Arias MR, Perula LA, Campos JP, Prieto R, Requena MJ. Renal lithiasis, erectile dysfunction and ADAM test: Observational study using tele-
Other Publications


Research Funding

Regional


National

Requena Tapia, M.J. Improved patient wellbeing and safety in management procedures using collaborative systems. m-LISTABLE. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2016-5149_003

Requena Tapia, M.J.Identificación de un panel de biomarcadores moleculares con significación pronóstica en pacientes con cáncer de vejiga pT1 de alto grado. Funding agency: Asociacion Española De Urologia. Reference: FIU16/001


Contracts with Companies


Requena Tapia, M.J. Agreement with Mecwins. Funding agency: Mecwins S.A. Reference: PSS.0214


Requena Tapia, M.J. Agreement with Mecwins. Funding agency: Mecwins S.A. Reference: PSS.0114


Requena Tapia, M.J. Agreement with Mecwins. Funding agency: Mecwins S.A. Reference: PSS.0214


Requena Tapia, M.J. Agreement with Mecwins. Funding agency: Mecwins S.A. Reference: PSS.0114
Requena Tapia, MJ. Agreement with Janssen. Funding agency: Janssen–Cilag, S.A. Reference: PSS.0124
Requena Tapia, MJ. Agreement with Janssen. Funding agency: Janssen–Cilag, S.A. Reference: PSS.0125
Requena Tapia, MJ. Agreement with Fundación para la investigación en Urología. Funding agency: Fundación para la investigación en Urología. Reference: PSS.0126
Requena Tapia, MJ. Agreement with Bayer. Funding agency: Bayer Hispania S.L. Reference: PSS.0157

Clinical Trials

3387. The LEADERSHIP 301 Trial: A 12-Week, Randomized, Multi-center, double-blind, placebo-controlled, 3-Arm, Parallel-Group, Phase 3 Trial to Evaluate the Efficacy and Safety of 2 Doses of AQX-1125 targeting the SHIP1 Pathway in Subjects with Interstitial Cyst.
PI: Dr Requena Tapia, María José.

3635. Estudio observacional y transversal para la optimización del diagnóstico de metástasis en fase de CPRC MO en la práctica clínica habitual en España (Estudio IDENTIFICA).
PI: Dr Requena Tapia, María José.

0344/14. Phase III, randomized, placebo-controlled, double-blind JNJ-56021927 in combination with abiraterone acetate and prednisone compared with abiraterone acetate and prednisone in patients with metastatic-resistant prostate cancer.
PI: Dr Requena Tapia, María José

0280/12. A randomized, double-blind, comparative study of ZYTIGA (abiraterone acetate) plus prednisone at low dose plus androgen deprivation therapy (ADT) against TPA alone in subjects with a new diagnosis of high-risk metastatic hormone-naive prostate cancer (mHNPC).
PI: Dr Requena Tapia, María José

0215/15. A phase 3 randomized, placebo-controlled, double-blind study of apalutamide plus androgen deprivation therapy (ADT) in subjects with metastatic hormone-sensitive prostate cancer (mHSPC). Estudio TITAN.
PI: Dr Requena Tapia, María José
Lung transplantation
Thoracic malignancies

Principal Investigator
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Emerging Researcher (ER):
Paula Moreno Casado

Researchers
Algar Algar, Francisco Javier Álvarez Kindelan, Antonio Ayala Montoro, José Baamonde Laborda, Carlos Cerezo Madueño, Francisco Espinosa Jimenez, Dionisio

HIGHLIGHTS
Publications
2
Impact Factor
8,053
Average Impact Factor
4,026

Pre-Doctoral Researchers (PhD and MSc Students)
Carrasco Fuentes, Guadalupe González García, Francisco Javier Guaman Arcos, Hugo Dario Murillo Brito, Diego Alejandro
Research Activity
Our research activity is focused on the effect of different molecules on lung preservation for transplantation. Additionally, we study the mechanism of chronic lung rejection and its effect on the regulation of different molecules. In our studies on lung preservation and chronic lung rejection we investigate the biological effects of different molecules especially serine-protease inhibitors on oxidative stress, inflammation, the endothelial function and cell signalling mechanisms.

Keywords
Lung preservation, chronic rejection, bronchiolitis obliterans, endothelium, inflammation, oxidative stress, proteomics, genomics.

Scientific Production

Publications
IF: 4.294
Q: 1

IF: 3.759
Q: 2

Research Funding

Regional


Contracts with Companies
Salvatierra Velazquez, A. 20 years of Andalusian lung transplant program functionality Funding agency: Novartis farmaceutica, S.A. Reference: PSS.003

Clinical Trials

2812. Study on the incidence of pulmonary thromboembolism in patients surgically intervened on by bronchogenic carcinoma
PI: Dr Álvarez Kindelán, Antonio
GA2

Comprehensive Nursing Care. Multidisciplinary Perspective

**Principal Investigator**
María Aurora Rodríguez Borrego
en1robom@uco.es
PAIDI CTS-666 scientific group

**Researchers**
Alanis López, Joaquin
Bretones, José Miguel (Collaborator)
Carmona Torres, Juan Manuel
Cuevas Pareja, Francisca (Collaborator)
Gonçalves Nitschke, Rosane
Medina Valverde, María José (Collaborator)
Moral Arroyo, Juan Antonio (Collaborator)
Muñoz Alonso, Adoración (Collaborator)
López Soto, Pablo Jesús
Redondo Pedraza, Rosa (Collaborator)
Ruiz Gándara, África

**Post-Doctoral Researchers**
Cobo Cuenca, Ana Isabel
Dios Guerra, Caridad
Guerra Martín, María Dolores
Hidalgo Lopezosa, Pedro

**Pre-Doctoral Researchers (PhD and MSc Students)**
Alcalá Albert, Gregorio J.
Arévalo Buitrago, Pedro
Clapés Roldán, Cristina
Campo Molina, Mº del Carmen
Fernández Rodríguez, Vicente
García Arcos, Aurora
González Gáncedo, Jacob
Jiménez Ruz, Andrea
López Cerdá, Elena
Luque Carrillo, Patricia
Miñarro Del Moral, Rosa
Morales Cané, Ignacio
Navarro Frutos, Gabriel J.
Rodríguez Muñoz, Pedro Manuel
Sánchez Herrera, Sergio
Sepúlveda Montijado, Miriam

**HIGHLIGHTS**

**Publications**
5

**Impact Factor**
9,358

**Average Impact Factor**
1,871
Scientific Activity

The Comprehensive Nursing Care - Multidisciplinary Perspective, is a multidisciplinary and gender balanced group composed of nurses, anthropologists, psychologists and medical doctors with a comprehensive vision of the human being and his experience of health and disease. The group's mission is to develop new knowledge that guides the nursing professionals in their patient care practice, always with a broad and comprehensive view and based on available scientific evidence.

The research activities carried out by the group are mostly multidisciplinary, multicenter and international. Our scientific activity is based on four basic principles that allow flexibility in the composition of and topics addressed by this group. The four basic principles are:

1. Promotion of research activities among nursing professionals to foster evidence-based nursing care practice. This Group is a vehicle for nursing professionals interested in research.
2. Promotion of professional development of nursing professionals by generating knowledge that serves as a guideline for nursing care practice.
3. Commitment to provide scientific training for future nursing professionals.
4. Adoption of a comprehensive and integral approach to how the human being experiences health and disease.

Keywords

Integral nursing care, nursing care philosophy, professional development of nursing professionals, assessment of training methods in Higher Education, nursing service management, evidence-based nursing care, health and disease, disease experience, health communication, integral human being, female nurses, healthcare in old age, aging-life quality, fragility.

Scientific Production

Publications

IF: 4.282
Q: 1

IF: 3.235
Q: 2

IF: 0.634
Q: 4

Research Funding

National

Rodríguez Borrego, Mª A. Violence in couples formed by health professionals working at the Spanish National Health System. Funding agency: National Institute of Health Carlos III (ISCIII). Reference: PI13/01253


Regional

Rodríguez Borrego, Mª A. Transfer of research results to the classroom: record of the occurrence of falls. Funding agency: Universidad de Córdoba. Reference: 2017-2-3009

Guerra Martín, Mª D. Flipped Classroom como estrategia para un aprendizaje más significativo, individualizado y colaborativo. Funding agency: Universidad de Sevilla. Reference: 3543.
GA3 Pneumology

**Principal Investigator:** Bernabé Jurado Gámez  
bjg01co@hotmail.com

**PAIDI CTS-992 Incorporation of new diagnostic and control methods of respiratory therapies**

**Researchers**
Arenas de Larriva, Marisol  
Arenas Vacas, Antonio Pablo  
Entrenas Costa, Luis Manuel  
Feu Collado, Nuria  
Gil García, Francisco Luis  
Lama Martínez, Rafael  
Muñoz Cabrera, Luis  
Pascual Martínez, Natalia  
Redel Montero, Javier  
Santos Luna, Francisco

**HIGHLIGHTS**

**Publications**
12

**Impact Factor**
58,192

**Average Impact Factor**
4,846

**Other members of the Group (Nursing, Technical, Students and Administrative Staff)**
Vega Rojas, Ana María
Scientific Activity

Our group develops research directed to the most prevalent health problems in respiratory pathologies. We are an associated group in IMIBIC composed by several emerging researcher who dedicate their principal work to clinical care in HURS. The objectives of our researches are always oriented in achieving results that have applicability in clinical practice and influence the global management (diagnosis, therapy and monitoring) of the patient with respiratory pathology. We aim at establishing alliances with other groups nationwide and internationally, that carry out research based on omics of chronic respiratory diseases. On institutional level, we welcome new researchers in the group through which to establish alliances between other IMIBIC groups and to create synergies in the common areas of research. We want to consolidate our research in the screening for lung cancer as a more effective tool to reduce the mortality of this tumor. In addition, we are beginning with new research lines to implement platforms based on the new omics for the therapeutic control and prognosis of chronic inflammatory diseases of the respiratory system (COPD-asthma); and other to determine the effect of the inhalation of toxic particles (environmental contamination) in respiratory pathology.

Our group was a pioneer in demonstrating the usefulness of human sweat analysis in lung cancer. In addition we have collaborated in the investigation of the effect of intermittent hypoxemia with the IMIBIC group of ‘Nutrigenomics, Metabolic Syndrome’ in patients with vascular risk factors to determine the consequences of the effect of hypoxemia on the effect of the Mediterranean diet and the vascular risk.

Currently, we collaborate with Dr. Antonio Rodríguez Ariza (Coordinator of Oncover study, GC-06 New therapies in cancer) and Dr. Mª Dolores Luque de Castro (GC-21 Metabolomics. Identification of bioactive components) in the identification and quantification of useful compounds in the diagnosis of Lung cancer in the condensate of the exhaled air. In this same line, we also collaborated with the group of Dr. Mª Dolores Luque de Castro in the identification of clinical phenotypes through metabolomic studies in exhaled air condensate, and in the search for new markers in lung cancer in various biofluids.

We are carrying out two multicenter studies, one with the San Pedro Alcántara Hospital from Cáceres and others, in which we analyse the influence of suffering Sleep Apnea in the worsening of Kidney Disease, as well as the improvement of the CKD if these apneas are corrected with either AutoCPAP or other treatments. Another collaborative study we are involved in is with the Valme Hospital in Seville and others, in which we study the association of sleep apnea with impaired metabolism and prostate tumor prognosis.

Research Lines

- Lung cancer screening and non-invasive biofluids
- Influence of sleep apnea in the metabolic syndrome and in the impact of vascular disease

Keywords

Cancer, hypoxemia, cell damage, chronic respiratory disease, metabolomics, proteomics, telecare, telemedicine, respiratory therapies.

Scientific Production

Publications

Main Publications


Scientific Activity

Our group develops research directed to the most prevalent health problems in respiratory pathologies. We are an associated group in IMIBIC composed by several emerging researcher who dedicate their principal work to clinical care in HURS. The objectives of our researches are always oriented in achieving results that have applicability in clinical practice and influence the global management (diagnosis, therapy and monitoring) of the patient with respiratory pathology. We aim at establishing alliances with other groups nationwide and internationally, that carry out research based on omics of chronic respiratory diseases. On institutional level, we welcome new researchers in the group through which to establish alliances between other IMIBIC groups and to create synergies in the common areas of research. We want to consolidate our research in the screening for lung cancer as a more effective tool to reduce the mortality of this tumor. In addition, we are beginning with new research lines to implement platforms based on the new omics for the therapeutic control and prognosis of chronic inflammatory diseases of the respiratory system (COPD-asthma); and other to determine the effect of the inhalation of toxic particles (environmental contamination) in respiratory pathology.

Our group was a pioneer in demonstrating the usefulness of human sweat analysis in lung cancer. In addition we have collaborated in the investigation of the effect of intermittent hypoxemia with the IMIBIC group of ‘Nutrigenomics, Metabolic Syndrome’ in patients with vascular risk factors to determine the consequences of the effect of hypoxemia on the effect of the Mediterranean diet and the vascular risk.

Currently, we collaborate with Dr. Antonio Rodríguez Ariza (Coordinator of Oncover study, GC-06 New therapies in cancer) and Dr. Mª Dolores Luque de Castro (GC-21 Metabolomics. Identification of bioactive components) in the identification and quantification of useful compounds in the diagnosis of Lung cancer in the condensate of the exhaled air. In this same line, we also collaborated with the group of Dr. Mª Dolores Luque de Castro in the identification of clinical phenotypes through metabolomic studies in exhaled air condensate, and in the search for new markers in lung cancer in various biofluids.

We are carrying out two multicenter studies, one with the San Pedro Alcántara Hospital from Cáceres and others, in which we analyse the influence of suffering Sleep Apnea in the worsening of Kidney Disease, as well as the improvement of the CKD if these apneas are corrected with either AutoCPAP or other treatments. Another collaborative study we are involved in is with the Valme Hospital in Seville and others, in which we study the association of sleep apnea with impaired metabolism and prostate tumor prognosis.

Research Lines

- Lung cancer screening and non-invasive biofluids
- Influence of sleep apnea in the metabolic syndrome and in the impact of vascular disease

Keywords

Cancer, hypoxemia, cell damage, chronic respiratory disease, metabolomics, proteomics, telecare, telemedicine, respiratory therapies.

Scientific Production

Publications

Main Publications


Other Publications


IF: 10,569
Q: 3


IF: 2,912
Q: 3


IF: 1,865
Q: 3


IF: 1,719
Q: 4


IF: 0,971
Q: 3


IF: 3,094
Q: 3

Contracts with Companies

Entrenas Costa, LM. Collaboration with Novartis. Funding agency: Novartis Farmacéutica SA. Reference: CCB.0060


Research Funding

Regional


National


Clinical Trials

2856. Phase IV observational, multinational study on disease control. Findings reported by patients treated with inhalers of a dosage combination set for persistent asthma and COPD in clinical practice (SPRINT).

PI: Dr Entrenas Costa, Luis Manuel

3444. Pilot study of reslizumab in patients with severe asthma who have not responded to Omalizumab.

PI: Dr Entrenas Costa, Luis Manuel

2711. Randomized clinical trial on the effect of a program of aerobic exercise in patients with moderate to severe sleep apnea.

PI: Dr Feu Collado, María Nuria
2733. Multicentric retrospective observational study to describe the most frequent clinical phenotypes of the patient with persistent severe asthma in treatment with omalizumab in usual clinical practice.
PI: Dr Arenas Vacas, Antonio Pablo

2741. Prevalence of breathing disorders during sleep in patients with COP.
PI: Dr Feu Collado, María Nuria
Endocrinology and Nutrition. Insulin resistance, diabetes and metabolism

Principal Investigator
María Ángeles Gálvez Moreno
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Researchers
Bellido Muñoz, Enrique
Berral de la Rosa, Francisco José
Calañas Continente, Alfonso
Corpas Jiménez, Mª Sierra
Molina Puertas, Mª José
Palomares Ortega, Rafael
Paniagua González, Juan Antonio
Vigara Madueño, Remedios

HIGHLIGHTS
Publications
7
Impact Factor
14,902
Average Impact Factor
2,128

Post-Doctoral Researchers
Herrera Martínez, Aura Dulcinea
Scientific Activity

Our group investigates the effect of different nutrients on insulin resistance and body fat distribution in patients with metabolic syndrome. The two main lines of research are: 1) Endocrinology and nutrition, and 2) Insulin resistance, diabetes and metabolism.

Endocrinology and nutrition: We investigate, together with Dr. Justo Castaño Fuentes’ group, the expression of different hormone receptors and intracellular mediators in the onset and development of pituitary tumors. In line with transnational research principles, we apply the findings of our research to real clinical practice using inhibitors or stimulators in order to inhibit hormone production and / or reduce their size when surgery is not fully successful. Collaborations in this area include: Dr. Quesada Gómez’s group in the investigation of osteoporosis, particularly, vitamin D and bone stem cells; Dr. Soriguer in the performance of epidemiological studies of diabetes mellitus type 2 and in the prevention of diabetes through a behaviour modification programme which is being implemented in a village in southern Cordoba; and Dr. Caballero in the study of bone metabolism in pregnant women with diabetes.

Insulin resistance, diabetes and metabolism: within this area, our group studies the effect of diet components and pharmacologic interventions on the insulin resistance syndrome and the risk of developing diabetes in patients with “prediabetes”. For such purpose, we characterize the specific effect of macronutrients on the release of digestive tract incretins and the subsequent signalling. In addition, we study the effect of diets with different macronutrient contents on body composition and body fat redistribution and its relationship with insulin sensitivity and secretion. We also study the role of adipose tissue expansion as a pathogenic factor of insulin resistance, beta-cell failure and diabetes. Finally, we examine the transcription of metabolic, inflammatory and adipokine pathways in peripheral adipose tissue into diet models, macronutrients and different pharmacologic agents.

Research Lines

- Endocrinology and Nutrition: the expression of different hormone receptors and intracellular mediators in the onset and development of pituitary tumors
- Insulin resistance, diabetes and metabolism

Keywords

Insulin resistance, β-pancreatic dysfunction, prediabetes, metabolic syndrome, adipotoxicity, adipose tissue, inflammation, oxidative stress, gene expression, metabolomics, Pituitary Adenoma, Somatostatin receptors, Vitamin D, Metabolic Sindrome Prevalence of Diabetes Mellitus Type 2, Diabetes Mellitus and Pregnancy.

Scientific Production

Publications

Main Publications


Other Publications


Prior-Sanchez I, Martin AB, Ortega EM, Casas JAV, Moreno MAG. Is a second recombinant human thyrotropin stimulation test useful? The value of postsurgical undetectable stimulated thyroglobulin level at the time of remnant ablation on clinical outcome. CLINICAL ENDOCRINOLOGY. 2017.86(1):97-107. IF: 3,327 Q: 2

**Research Funding**

**Regional**

Calañas Continente, A. Intervention study on lifestyle in obese women with infertility who need assisted reproduction techniques. Funding agency: Sociedad Andaluza de Endocrinología, Diabetes y Nutrición. Reference: SAEDYN15_002

**Contracts with Companies**


Gálvez Moreno, MA. Agreement with JYC. Funding agency: JYC Ediciones Medicas. Reference: PSS.0163

Calañas Continente A. Agreement with Nutri. Funding agency: Nutricia Nutricia. Reference: CCB.0116

**Clinical Trials**

3487. Retrospective and Multicentric Study in Habitual Clinical Practice with Isglt2 (Dapagliflozin) and Idpp4 (Sitabliptin) in Patients with Type 2 Diabetes in Spain. Dapa-Rwe study.

PI: Dr Palomares Ortega, R

0230/15. Pragmatic real-world test, 26 weeks with 6-month extension, randomized, open, 2 parallel arms, to evaluate the results of clinical and health benefits of the transition to ToujeoR compared to d insulins.

PI: Dr Gálvez Moreno, MA

3487. Retrospective and multicentric study in habitual clinical practice with Isglt2 (Dapagliflozin) and Idpp4 (Sitabliptin) in patients with type 2 Diabetes in Spain. Dapa-Rwe study.

PI: Dr Palomares Ortega, R

3216. An open-label study to assess the safety and efficacy of COR-003 (25,4R- ketoconazole) in the treatment of endogenous Cushing’s Syndrome.

PI: Dr Galvez Moreno, MA

3043. Study to assess blood-sugar monitoring in patients receiving enteral nutrition in routine clinical practice. Novadi-Control Study

PI: Dr Molina Puerta, MJ

3164. International multi-centre observational study to assess the efficacy in daily clinical practice of lanreotide autogel 120 mg during a prolonged dosage period (over 4 weeks), for the treatment of acromegaly: SOMAC Study.

PI: Dr Galvez Moreno, MA
GA5

Study of growth. Endocrinology and Child Nutrition

HIGHLIGHTS

<table>
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Principal Investigator (PI)
Ramón Cañete Estrada
em1caesr@uco.es
CIBER on Obesity and Nutrition (CIBERobn) (Collaborator)
PAIDI CTS-329 Study of Growth, Endocrinology and Nutrition

Researchers
Cañete Vázquez, Mª Dolores
Jiménez Reina, Luis
Martos Estepa, Rosario
Párraga Quiles, Mª José
Tofé Valera, Inés
Torres Borrego, Javier
Valle Jiménez, Miguel
Vázquez Rueda, Fernando
Ruiz González, Mª Dolores
García Martínez, Elena

Pre-Doctoral Researchers
Gómez Guzmán, Elena

Other members of the Group (Nursing, Technical, and Administrative Staff)
Cañete Vázquez, Mª Dolores
Scientific Activity

Our research group is an associated research group of IMIBIC, formed by clinical and basic researchers and pre-doctoral students. The group is currently formed by 11 clinical and basic researchers: 9 Phd MD, 1 Phd and 1 Pre-Doctoral Researcher. The line of research that we have been developing for many years on growth disorders focuses on improving both the follow up and specialized care for children with deficits in Growth Hormone treated at the Pediatric Endocrinology Unit.

Many of our projects have resulted in publications and doctoral theses, contributing to our knowledge about the metabolic consequences of growth hormone related diseases in children, as well as the possible secondary and long-term alterations caused by them.

We have recently gained experience in the study of the human serum proteome with the completion of a doctoral thesis entitled “Proteomic alterations in serum of newborns with intrauterine growth retardation” by Dr. Dolores Ruiz González. The group leader is responsible of the PAIDI CTS-329 group on Study of Growth, Endocrinology and Nutrition (Andalusian Plan for Research, Development and Innovation (PAIDI)), as well as the Network of Physiopathology of Obesity and Nutrition (CIBERobn) of the Spanish National Institute of Health Carlos III (ISCIII).

Research Lines

• Growth and nutrition in prepubertal children
• Nutrition in children with extrauterine growth retardation
• Comparative proteomic analysis of umbilical cord blood from preterm infants
• Food allergies

Keywords
Child obesity, metabolic syndrome, diet, endothelium, inflammation, cardiovascular biomarkers, gene expression, proteomics, intrauterine-growth-retardation (IUGR), growth hormone (GH), food allergy.

Scientific Production

Publications


Tortajada-Girbes M, Torres-Borrego J. The influence of microorganisms in allergic diseases. ALLERGOLIA ET IMMUNOPATOLOGIA. 2017;45(6):519-520. IF: 1.439 Q: 4


Research Funding

Local

Cañete Estrada, R. Short-term effects on body composition of growth hormone treatment in prepubertal children with growth hormone (GH) deficiency. Funding Agency: UNIVERSIDAD DE CORDOBA-OTRI. Reference: 103343

National


Clinical Trials

2079. Observational, non-interventional, multi-centre, multi-national study of patients with atypical hemolytic-uremic syndrome (AHUS Registry). PI: Dr García Martínez, E.

3336. Multicenter, Open-label study to evaluate safety, tolerability, pharmacokinetics, and pharmacodynamics of LCZ696 followed by a 52-week randomized, double-blind, parallel group, active-controlled study to evaluate the efficacy and safety of LCZ696 compared with enalapril in pediatric patients from 1 month to < 18 years of age with heart failure due to systemic left ventricle systolic dysfunction. PI: Dr Gómez Guzmán, E.

3580. A Phase 2b randomized, double-blind, placebo-controlled study to evaluate the safety and efficacy of MEDI8897, a monoclonal antibody with an extended half-life against respiratory syncytial virus, in healthy preterm infants. PI: Dr Ruiz González, MD.

3633. A Double-Blind, placebo-controlled study to examine the safety and efficacy of pimavanserin for the treatment of agitation and aggression in Alzheimer’s Disease. PI: Dr Gómez Guzmán, E.

3013. Tolerance to the introduction of a formula based on highly hydrolyzed lactoserum proteins enriched with Lactobacillus fermentum (Damira-Pro) cow’s milk protein allergy in children. PI: Dr Torres Borrego, Javier
**Principal Investigator (PI)**
Fernando Rodríguez Cantalejo
fernando.rodriguez.c.sspa@juntadeandalucia.es

**Researchers**
Caballero Villarraso, Javier
Martínez Peinado, Antonio

**Post-Doctoral Researchers**
Barcos Martínez, Montserrat
Espejo Portero, Isabel

**Pre-Doctoral Researchers (PhD and MSc Students)**
Moyano Gallego, Mª José
Peña García, Victoria
Romero Baldonado, Cristina

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### HIGHLIGHTS

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<td>Impact Factor</td>
<td>23,809</td>
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<td>Average Impact Factor</td>
<td>4,762</td>
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**Scientific Activity**

Our group is currently developing two main lines of research. The first is the evaluation of emerging health technologies, including studies of effectiveness and efficiency of techniques and equipment in the clinical laboratory environment, and falling into the framework of Health Technology Assessment (HTA). The second area of research is concerned with programming activities, where we develop the study titled Impact of endocrinology and nutrition during pregnancy and pediatric age on metabolic programming.

Our research in the area of evaluation of health technologies and testing of laboratory techniques focuses on the metrological evaluation of techniques, autoanalyzers and technical procedures. An example is the technological evaluation of point-of-care testing (POCT) and the transferability of its results, with special attention to the parameters of quality control (QC). We have assessed new point-of-care testing (POCT) methodologies such as gas, blood metabolite and ion determination; diagnosis and evolution of celiac disease, and use of POCT methods in coagulometry for the follow-up of anticoagulated patients.

In the area of programming, our main focus is the study of impact of endocrinology and nutrition during pregnancy and pediatric age on metabolic programming (programming the diseases of adult life from early stages of life). In addition, we study bone and mineral metabolism in programming. More recently, we have also widened our research to neurodevelpment and its potential further impact on neuroinvolution, as well as to neurodegenerative diseases in general.

**Research lines**
- Evaluation of health technologies and testing of laboratory techniques
- Impact of endocrinology and nutrition during pregnancy and pediatric age on metabolic programming

**Keywords**
Evidence-based medicine (EBM): systematic reviews of the literature, bibliometric studies and economic evaluations; point-of-care testing, POCT, programming.

**Scientific Production**

**Publications**

**Main Publications**

**Other Publications**


GA8 Radiology

Principal Investigator (PI)
Daniel López Ruiz
danieljlruiz@gmail.com

Researchers
Álvarez Benito, Marina
Benito Ysamat, Alberto
Cano Sánchez, Antonio
Cara García, María
Delgado Acosta, Fernando
García Ortega, María José
García-Revillo García, José
Izquierdo Palomares, Lucía Nuria
Muñoz Carrasco, Rafaela
Roldán Romero, Elisa
Santos Romero, Ana Luz
Ysamat Marfa, Roser

HIGHLIGHTS

Publications
1

Impact Factor
2,959

Average Impact Factor

Other members of the Group (Nursing, Technical and Administrative Staff)
Amate Rivas, Cristina
**Scientific Activity**

Continuous advances in diagnostic imaging techniques have allowed physician to make highly accurate diagnoses, perform a close follow-up of the evolution of the disease and assess TJE response of a large number of nosologic entities to a range of drugs and therapies. The collaboration of the Diagnostic Radiology Unit has allowed to assess the effect of new drugs on the evolution of a large number of neoplasms, rheumatologic diseases, demyelinating diseases of the central nervous system or inflammatory diseases of the digestive tract. In other cases, the group has helped other researchers to quantify the prevalence of certain complications associated to different therapies such as corticosteroids-based therapies.

Apart from strictly diagnostic scans, the group also performs innovative interventional procedures. Among them, it is worth mentioning the intra-arterial infusion of autologous bone marrow mononuclear cells in diabetic and non-diabetic patients with chronic critical ischemia of the lower limbs.

**Keywords**

Stem cells, arterial ischemia of the lower limbs, therapeutic angiogenesis, neoplasms, demyelinating diseases, rheumatic diseases, pathochrony, radiological assessment of response to drugs, diagnostic radiological scans, therapeutic radiological scans.

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**Scientific Production**

**Publications**


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**Research Funding**

**National**


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**In Collaboration with other IMIBIC Groups:**


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**Contracts with Companies**


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**Clinical Trials**

2802. Pilot endovascular recanalization study of stroke beyond 8 hours from the selected start via imaging techniques

PI: Dr Delgado Acosta, F.

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2763. Primary post-angioplasty permeability of native dysfunctional arteriovenous fistulas in hemodialysis: treatment by means of balloon versus conventional pre-loaded balloon.

PI: Dr García-Revillo García, J.

3118. Efficacy and safety of intra-arterial administration of rexmyelocel t to treat critical limb ischemia in subjects with diabetes mellitus: a multicenter, randomized, double-blind, placebo controlled trial.

PI: Dr García-Revillo García, J.
GA9
Cardiovascular Pathology

**Principal Investigator (PI)**
Ignacio Muñoz Carvajal
ignacio.munoz.carvajal.sspa@juntadeandalucia.es
PAIDI TEP-226 PRINIA Scientific Group (Collaborator)

**Researchers**
Alados Arboledas, Pedro Jose Blazquez Ruiz, Maria Del Valle
Canis López, Miguel
Casares Mediavilla, Jaime Guillermo
Chacón Quevedo, Antonio
Elías Fuentes, Agustín (Collaborator)
Hervas Sotomayor, Daniela
Jiménez Castilla, Agustina
Jurado Morata, Aurea
López Romero, Rosalia
Merino Cejas, Carlos Manuel
Moya González, Javier
Ortega Lopera, Bibián
Pernía Orena, Isabel
Turegano Cisneros, Jose María
Zurita Martínez, Federico

**HIGHLIGHTS**

**PUBLICATIONS**
9

**IMPACT FACTOR**
14,332

**AVERAGE IMPACT FACTOR**
1,592

**Pre Doctoral-Researchers (PhD and MSc Students)**
Conejero Jurado, Maria Teresa
Arias Dachary, Francisco Javier
Fernandez Carbonell, Azahara
Domínguez del Castillo, Jose Joaquin

**Other members of the Group (Nursing, Technical and Administrative Staff)**
Canales Ruiz, Rafael
Riballo Cortes, Raquel
Romero Morales, María del Carmen
Scientific Activity
Our group is made up of professionals from different levels and specialties (graduates and doctors in medicine, nurses, engineers, biologists and research managers) for the realization of basic biomedical research, clinical research and development of technology, in the field of cardiovascular diseases. The research activities are formally associated with the clinical and teaching activities of the Clinical Management Unit of Cardiovascular Surgery of the Reina Sofia University Hospital, which provides clinical support to research projects carried out at IMIBIC. Our objectives are to carry out and manage high level research projects and clinical trials, funded by national and international agencies, and collaborate with private companies to conduct pre-commercial clinical trials or projects to develop new biomedical technologies in the field of cardiovascular diseases. As a result of our basic and clinical research activities and teaching, numerous scientific articles in high-impact journals are published every year, and doctoral theses awarded. Furthermore, we collaborate in patents for new products or utility models, as well as in projects focusing on initial development of novel biomedical technologies.

Keywords
Cardiovascular, cardiac surgery

Scientific Production

Publications

Main publications


Carbonell AF, Hernandez MAT, Perez IV, Ciriza GG, Mejias CS. Correcting congenital heart diseases with 3 D models. CIRUGIA CARDIOVASCULAR. 2017.24(4):255-257. IF:n/a

Carbonell AF, Jurado MTC, Bustos JJS, Carvajal IM. Vena cava and right atrium thrombectomy secondary to carcinoma renal cell. CIRUGIA CARDIOVASCULAR. 2017.24(5):311-312. IF:n/a

Other publications


Research Funding

International

Contracts with Companies

Muñoz Carvajal, I. Prestación servicios. Funding agency: FUNDACIÓN PROFESOR NOVOA SANTOS. Reference: PSS.0165

Muñoz Carvajal, I. PROYECTO CARELINK. Funding agency: C.S.A. Tecnicas Médicas, S.L. Reference: CCB.0065

Clinical Trials


3128. Acute study on extravascular defibrillation, electrostimulation and electrograms. ASD2. PI: Dr Muñoz Carvajal, I.
Principal Investigator (PI)
Juan Antonio Vallejo Casas
jantonio.vallejo.sspa@juntadeandalucia.es

Researchers
Albalá González, María Dolores
Benítez Velasco, Ana
Carmona Asenjo, Elvira
Maza Muret, Francisco Roberto
Mena Bares, Luisa
Pacheco Capote, Carmen
Moreno Ortega, Estefanía

Pre-Doctoral Researchers (PhD and MSc Students)
Guiote Moreno, María Victoria
Rodríguez Caceres, Esther
Santos Bueno, Antonio María
Marquez Fernández, Juan

HIGHLIGHTS
Publications
5
Impact Factor
6,180
Average Impact Factor
1,236

Other members of the Group (Nursing, Technical and Administrative Staff)
Martin Ruiz, Antonio
Rojas Arroyo, Anahi
Zurera Pareja, Rocio
Moriana Porras, María del Carmen
**Scientific Activity**

Our group aims is to develop new treatment lines for Differentiated Thyroid carcinoma and Neuroendocrine Tumors, as active part of SEMNIM Group. Also, we continue our active participation in clinical trials, specifically in the use of new radio isotopic treatment for Prostate Cancer and Lymphoma. We have different projects using PET/CT for diagnosis and monitoring response in brain tumors, others neoplastic diseases and dementia. New research areas are the use of machine learning for diagnosis (parkinson disease) and the Lean methodology and clustering analysis to improve the patients accessibility to public health system.

**Scientific Production**

**Publications**

**Main Publications**

Bares LMM, Asenjo EC, Sanchez MVG, Ortega EM, Muret FRM, Moreno MVG, Bueno AMS, Flores EI, Cantero JMB, Casas JAV. 75SeHCAT scan in bile acid malabsorption in chronic diarrhoea. REVISTA ESPANOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR. 2017.36(1):37-47.

IF: 0,951
Q: 4


IF: 0,951
Q: 4

**Other Publications**


IF: 3,327
Q: 2


**Clinical Trials**

3664. Estudio epidemiológico, retrospectivo, longitudinal para caracterizar la historia natural de los pacientes con carcinoma diferenciado de tiroides avanzado en España y Portugal. Estudio ERUDIT. PI: Dr Vallejo Casas, JA.
Learning and Artificial Neural Networks—AYRNA

HIGHLIGHTS

Publications
7

Impact Factor
19,232

Average Impact Factor
2,747

Principal Investigator (PI)
Cesar Hervás Martínez
chervas@uco.es
PAIDI - TIC-148 Learning and Artificial Neural Networks (AYRNA)

Researchers
Becerra Alonso, David
Carbonero Ruz, Mariano
De la Paz Marín, Mónica
Fernández Caballero, Juan Carlos
Fernández Navarro, Francisco
García Alonso, Carlos
Gutiérrez, Pedro Antonio
Martínez Estudillo, Alfonso Carlos
Martínez-Estudillo, Francisco José
Pérez Ortiz, María
Sánchez Monedero, Javier
Salcedo-Sanz, Sancho
Salinas Pérez, José Alberto
Rodero Cosano, Mª Luisa
Torres Jiménez, Mercedes

Pre-Doctoral Researchers (PhD and MSc Students)
Dorado Moreno, Manuel
Durán Rosal, Antonio M
Guijo Rubio, David

Other members of the Group (Nursing, Technical and Administrative Staff)
Camacho Cañamón, Julio
Scientific Activity

Our research group, Learning and Artificial Neural Networks (AYRNA) (TIC-148, “Junta de Andalucía”), was founded in 1994 by a small group of researchers interested in the field of Artificial Neural Networks. During the last years, the group has diversified its interest areas by searching solutions to different problems through machine learning and soft computing techniques (artificial neural networks, kernel methods, evolutionary algorithms, among others).

Currently, our group consists of 15 doctoral and 3 pre-doctoral researchers, and is led by Professor César Hervás Martínez as the main researcher of the group. Our group has published 328 works, including 148 international journal papers, and has been involved in 11 research projects, including one project with the European Space Agency. Finally, 28 PhD thesis have been supervised in AYRNA. Additional information can be found at AYRNA’s website.

With respect to biomedicine, we propose to tackle problems such as donor-recipient matching in liver transplants, medical imaging analysis for melanoma detection and Parkinson disease detection including different severity degrees, and assignment of treatments for HIV/HCV patients. The long-term objectives of the group are to contribute to the scientific community all the advances we achieve in the field of machine learning. As far as possible, we want to apply our techniques and algorithms to real societal problems, as we are already doing with dermatology, liver transplants, Parkinson’s Disease, climate change and renewable energies, among others.

Among our achievements, we highlight the importance of the research carried out by our group in the field of liver transplantation, which has been awarded on many occasions by different entities both nationally and internationally.

We collaborate with different companies who may be interested in the application of our computational solutions. Among them are General Electric, Iberdrola, Astellas Pharma, among others.

Research Lines

- Ordinal classification: development of ordinal classification by evolutionary computation
- Development of Evolutionary Artificial Neural Networks algorithms
- Donor-recipient matching in liver transplants

Keywords

Ordinal classification, artificial neural networks, processing of biomedical images, time series segmentation, regression models, ordinal regression, evolutionary computation.

Scientific Production

Publications

Main Publications

IF: 4,832
Q: 1

IF: 4,529
Q: 1

IF: 4,357
Q: 1

IF: 2,009
Q: 2

IF: 1,894
Q: 1

IF: 1,62
Q: 3

Duran-Rosal AM, Dorado-Moreno M, Gutierrez PA, Hervas-Martinez C. Identification of extreme wave heights with an evolutionary algorithm in combination with a likelihood-based segmentation. PROGRESS IN ARTIFICIAL INTELLIGENCE. 2017. 6 (1); 59-66.
IF: n/a
Research Funding

Local


National

**Anesthesia Unit**

**Publications**
1

**Impact Factor**
4,867

**Average Impact Factor**
4,867

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**Scientific Production**

### Publications

IF: 4,867
Q: 2

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### Research Funding

Galán Cabezas, A. Improved patient wellbeing and safety in management procedures using collaborative systems. m-LISTABLE. Funding agency: Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2016-5149_001


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### Contracts with Companies

Herrador Montiel, I. Grünenthal Agreement. Funding Agency: GRÜENTHAL PHARMA, S.A. Reference: PSS.0159

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### Clinical Trials

3219. One-arm, open-label, multi-centric phase IIIb study to evaluate the effectiveness, safety, tolerability, ease of use and use of Zalviso resources in the management of moderate-to-severe acute postoperative pain.
Pl: Dr Herrador Montiel, Inmaculada

Pl: Dr Herrador Montiel, Inmaculada

2934. Epidemiological study to estimate the prevalence and evaluate the severity, approach and organizational structures used for the management of acute post-operative pain after major surgery in admitted patients in Spain.
Pl: Dr Herrador Montiel, Inmaculada
### Dermatology Unit

#### Scientific Production

**Publications**

**Main Publications**
IF: 5.621
Q: 1  D: 1

IF: 5.92
Q: 1

IF: 1.415
Q: 3

**Other Publications**
IF: n/a

**Contracts with Companies**

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### Emergencies Unit

#### Scientific Production

**Publications**

IF: 2.82
Q: 2

IF: 0.971
Q: 3

IF: 0.261
Q: 4

**Clinical Trials**
3270. Study Design and Rationale of A Multicenter, Open-Labeled, Randomized Controlled Trial Comparing Midazolam Versus Morphine in Acute Pulmonary Edema: MIMO Trial.
PI: Dr Calvo Rodriguez, Rafael
General and Digestive Surgery Unit

Scientific Production
Publications
IF: 2,342
Q: 3

Clinical Trials
3119. A multicenter, randomized, placebo-controlled, double-blind study to evaluate the efficacy and tolerability of 2% diltiazem hydrochloride in the treatment of chronic anal fissure, and open-label extension of 24 weeks.
PI: Dr Gallardo Valverde, José María

Impact Factor: 2,342
Average Impact Factor: 2,342

Gynecology & Obstetrics Unit

Scientific Production
Publications
IF: 2,174
Q: 2

IF: 2.09
Q: 2

IF: 1.086
Q: 4

IF: 1.086
Q: 4

Impact Factor: 8,526
Average Impact Factor: 1,421

Contracts with Companies
Arjona Berral, JA. Johnson Agreement. Funding Agency: JOHNSON & JOHNSON S.A. Reference: PSS.0029

Guisado López, R. Agreement Takeda. Funding Agency: TAKEDA FARMACEUTICA ESPAÑA S.A. Reference: PSS.0097

Ríos Aragón, J. Agreement Merck. Funding Agency: MERCK SHARP & DOHME DE ESPAÑA SA. Reference: PSS.0085

Clinical Trials
3146. Comparison of the effect of a combination of myo-inositol: D-chiro-inositol with a low proportion of D-chiro-inositol (40:1) versus a combination with a higher proportion of D-chiro-inositol (3.6:1) on oocyte quality.

Scientific Production
Publications

Clinical Trials
3520: Estudio multicéntrico, no aleatorizado y abierto, para evaluar la eficacia y seguridad de ibrutinib seguido por consolidación con Olatumumab, en pacientes con leucemia linfocítica crónica (LLC) o linfoma linfocítico de células pequeñas (LLCP) sin tratamiento.

PI: Dr Fernández de la Mata, M.

3280: ECHO: Expanding Communications on Hemophilia-A Outcomes – Estudio observacional, internacional, longitudinal, prospectivo en pacientes en tratamiento de Hemofilia A de moderada a grave para la evaluación de los resultados comunicados por los pacientes

PI: Dr Fernández Sánchez de Mora, MC.

1766: Registro de PNH (Hemoglobinuria paroxística nocturna)
PI: Dr Moreno Garrido, D.

Inmunology & Allergy Unit
Contracts with Companies
Santamaria Ossorio, M. Clinic Agreement Funding Agency: CLINICORD, S.L. Reference: CCB.0002

Clinical Trials

PI: Dr Santamaria Ossorio, Manuel

2927. PID-RSV study: etymological study on the incidence of acute respiratory infections (ARI) caused by respiratory syncytial virus (RSV) requiring hospitalization in pediatric populations with primary immunodeficiency (PID).

PI: Dr Santamaria Ossorio, Manuel
Scientific Production

Publications


Contracts with Companies
Jiménez Puya, R. Prospective observational study of the risk factors for hospital acquired and ventilator associated bacterial pneumonia. Funding agency: UNIVERSITY MEDICAL CENTER UTRECHT. Reference: PSS.0176

Clinical Trials
3461. Determinants of antimicrobial use and de-escalation in critical care (DIANA STUDY). PI: Dr Pozo Laderas, Juan Carlos
**Neurology Unit**

**TOTAL**

3

**Impact Factor**

6,819

**Average Impact Factor**

2,273

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**Scientific Production**

**Publications**


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**Clinical Trials**

3067. A randomized, double-blind, placebo-controlled study to evaluate the efficacy and safety of sage-547 injection in the treatment of subjects with super-refractory status epilepticus. PI: Dr Estévez María, José Carlos

3625. An Open-label, Multicenter Extension Study to Evaluate the Long-term Safety and Efficacy of Lacosamide as Adjunctive Therapy for Uncontrolled Primary Generalized Tonic Clonic Seizures in Subjects With Idiopathic Generalized Epilepsy. PI: Dr Estévez María, José Carlos

3626. A Double-blind, Randomized, Placebo-controlled, Parallel-Group, Multicenter Study to Evaluate the Efficacy and Safety of Lacosamide as Adjunctive Therapy for Uncontrolled Primary Generalized Tonic-Clonic Seizures in Subjects With Idiopathic Generalized Epilepsy. PI: Dr Estévez María, José Carlos


0255/13. A Phase II, Multicentric, Open, Controlled and Randomized, to assess the efficacy of the in-tri-arterial infusion of mononuclear cells of autologous bone marrow in patients with ischemic stroke. PI: Dr Moyano Roberto, Valverde
Neurosurgery Unit

Scientific Production

Publications
IF: 4,259
Q: 1

IF: 0,548
Q: 4

Research Funding

Onco-radiotherapy Unit

Scientific Production

Publications
Main Publications

Other Publications
IF: 4,328
Q: 1

IF: 2,353
Q: 3

IF: 2,353
Q: 3

Contracts with Companies
Palacios Eito, A. Janssen Agreement. Funding Agency: JANSSEN-CILAG, S.A. Reference: PSS.0133

Clinical Trials
PI: Dr Palacios Eito, Amalia

2637. OPTimizing Irradiation through Molecular Assessment of Lymph node.
PI: Dr Espinosa Calvo, María

3553. Enzalutamide and External Beam Hypofractionated Radiotherapy For Intermediate Risk Localized Prostate Cancer.
PI: Dr Palacios Eito
Ophthalmology Unit

Research Funding

Gallardo Galera, JM. Improved patient wellbeing and safety in management procedures using collaborative systems. m-LISTABLE. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2016-5149_003

Contracts with Companies

Clinical Trials
0184/11. Allogeneic Tissue Engineering (Nanostructured Artificial Human Cornea) in Patients With Corneal Trophic Ulcers in Advanced Stages, Refractory to Conventional (Ophthalmic) Treatment Corneal. PI: Dr Gallardo Galera, José María

0236/13. Safety and Efficacy Assessment of Monoprost® in Comparison With Lumigan® 0.01% and Lumigan® 0.03% Unit Dose, in Patients With Primary Open Angle Glaucoma or Ocular Hypertension, Stabilized by Lumigan® 0.01% With Ocular Surface Intolerance. PI: Dr Gimenez Gomez, Rafael

Pathological Anatomy Unit

Scientific Production

Publications


Pathological Anatomy Unit

Publications

2

Impact Factor
5,05

Average Impact Factor
2.750
Pediatrics Unit

Clinical Trials

3215 A Phase 1, open-label, single-dose, non-randomized study to evaluate pharmacokinetics and pharmacodynamics of edoxaban in pediatric patients.
Pl: Dr Tejero Hernández, María Ángeles

Scientific Production

Publications

Main Publications

Q: 3
IF: 1.14

Murcia Pascual FJ, Delgado Cotán L, Jiménez Cre-

Impact Factor

2.28

Average Impact Factor

1.760
Pharmacy Unit

Publications

3

Impact Factor

4,919

Average Impact Factor

1,639

Scientific Production

Publications

Main Publications

Aumente MD, Lopez-Santamaria J, Donoso-Rengifo MC, Reyes-Torres I, Hervas PM. Optimization of biological therapy in rheumatoid arthritis patients: outcomes from the CREATE registry after 2 years of follow-up. RHEUMATOLOGY INTERNATIONAL. 2017. 37(10); 1701-1708.

Other Publications

IF: 0.917
Q: 4

Contracts with Companies
Del Prado Llergo, JR. Agreement Novartis. Funding agency: NOVARTIS FARMACEUTICA, S.A. Reference: PSS.0170

Del Prado Llergo, JR. Agreement Sanofi. Funding agency: SANOFI-AVENTIS, S.A. Reference: PSS.0173


Del Prado Llergo, JR. Agreement Teva. Funding agency: TEVA PHARMA, SLU. Reference: PSS.0182

Del Prado Llergo, JR. Agreement Novartis. Funding agency: NOVARTIS FARMACEUTICA, S.A. Reference: PSS.0186

Del Prado Llergo, JR. Agreement Sanofi. Funding agency: SANOFI-AVENTIS, S.A. Reference: PSS.0188


Clinical Trials
3072. The prospective study of clinical toxicity with different formulations of docetaxel.
PI: Dr Gago Sanchez, Ana Isabel

3130. Impact of the PROVAUR stewardship program on linezolid resistance in a tertiary university hospital: A before- after interventional study.
PI: Dr Garcia Martínez, Lucrecia
Contracts with Companies

Clinical Trials
3005. Effectiveness of a Homebased Cardiac Rehabilitation Program of Mixed Surveillance Using NUUBO Monitoring Vest in Patients With Ischemic Heart Disease at Moderate Cardiovascular Risk. PI: Dr Heredia Torres, Ángela

Scientific Production
Publications
Psychiatric Unit

**Publications**
3

**Impact Factor**
10,464

**Average Impact Factor**
3,488

---

**Scientific Production**

**Publications**

**Other Publications**
IF: 3.365
Q:2

IF:0.426
Q:4

**Research Funding**
Sarramea F. Efficacy in patients with severe mental disorders of an intensive motivational interventional programme offering individualized information on respiratory damage for smoking cessation. Funding agency: Institute Carlos III Health (ISCIII). Reference: PI16/00802

**Clinical Trials**
3451/3. Nalmefeno para la reducción del consumo de alcohol en el trastorno bipolar en comorbilidad con trastorno por consumo de alcohol. PI: Dr Sarramea Crespo, Fernando

---

Quality Unit

**Research Funding**

Radiotherapeutic Oncology

Contracts with Companies
Palacios Eito A. Agreement Janssen. Funding Agency: Janssen-Cilag, S.A. Reference: PSS.0133

Palacios Eito A. Agreement Janssen. Funding Agency: Janssen-Cilag, S.A. Reference: PSS.0134

Traumatology Unit

Publications
1

Impact Factor
3,124

Average Impact Factor
3,124

Scientific Production

Publications

Clinical Trials
0339/15. A Multicentre, Randomised, Double-blind, Controlled, Phase IIIb Study to Assess the Efficacy and Safety of Rivaroxaban 10mg od Versus Enoxaparin 4000 UI for VTE PROphylaxis in NOn Major Orthopaedic Surgery. PI: Dr Mesa Ramos, Manuel

0339/15/2. A Multicentre, Randomised, Double-blind, Controlled, Phase IIIb Study to Assess the Efficacy and Safety of Rivaroxaban 10mg od Versus Enoxaparin 4000 UI for VTE PROphylaxis in NOn Major Orthopaedic Surgery. PI: Dr Sotillo Marmol, Jose Maria

3041. Multicenter Register of Treatment of Scoliosis Patients in Andalusia. PI: Dr Fuentes Caparros, Simón
9. Facts & Figures

9.1 Publications
The scientific activities carried out by researchers in their respective groups have led to the following global production:

<table>
<thead>
<tr>
<th>Nr of Publications</th>
<th>Total IF</th>
<th>Average IF</th>
</tr>
</thead>
<tbody>
<tr>
<td>424</td>
<td>1845,259</td>
<td>4,352</td>
</tr>
</tbody>
</table>

Evolution in the last 5 years

The following graph shows the evolution of Impact Factor over the past five years:

<table>
<thead>
<tr>
<th></th>
<th>Nr of publications</th>
<th>Total IF</th>
<th>Average IF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>349</td>
<td>1254</td>
<td>3,593</td>
</tr>
<tr>
<td>2013</td>
<td>362</td>
<td>1250</td>
<td>3,453</td>
</tr>
<tr>
<td>2014</td>
<td>384</td>
<td>1237</td>
<td>3,221</td>
</tr>
<tr>
<td>2015</td>
<td>346</td>
<td>1236</td>
<td>3,572</td>
</tr>
<tr>
<td>2016</td>
<td>401</td>
<td>1528</td>
<td>3,8105</td>
</tr>
<tr>
<td>2017</td>
<td>424</td>
<td>1845</td>
<td>4,352</td>
</tr>
</tbody>
</table>

Distribution of publications per quartiles and first decile
Of note, more than half of these publications appeared in journals within the first quartile, and of those, 17,92 % in the first decile, which underscores the growing rates of scientific quality of the published articles.

<table>
<thead>
<tr>
<th></th>
<th>Nr of publications</th>
<th>Total IF</th>
<th>Average IF</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>228</td>
<td>1,391,76</td>
<td>6,104</td>
<td>54%</td>
</tr>
<tr>
<td>Q2</td>
<td>102</td>
<td>316,45</td>
<td>3,102</td>
<td>24%</td>
</tr>
<tr>
<td>Q3+Q4</td>
<td>94</td>
<td>137,06</td>
<td>1,458</td>
<td>22%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>424</td>
<td>1845,259</td>
<td>4,352</td>
<td>100%</td>
</tr>
</tbody>
</table>
Regarding the authorship, in 57% of the published articles, the first/last or corresponding author is an IMIBIC researcher, whereas the remaining 43% corresponds to co-authorships in the framework of collaborative research projects.

**Distribution of national and international journals**

<table>
<thead>
<tr>
<th>Nr of Publications</th>
<th>Total IF</th>
<th>Average IF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles in international journals</td>
<td>310</td>
<td>1392,362</td>
</tr>
<tr>
<td>Articles in national journals</td>
<td>39</td>
<td>68,117</td>
</tr>
<tr>
<td>Editorials in International Journals</td>
<td>8</td>
<td>48,990</td>
</tr>
<tr>
<td>Editorials in national journal</td>
<td>8</td>
<td>14,975</td>
</tr>
<tr>
<td>Reviews in international journals</td>
<td>31</td>
<td>142,698</td>
</tr>
<tr>
<td>Reviews in national journals</td>
<td>2</td>
<td>4,219</td>
</tr>
<tr>
<td>Letters in national journals</td>
<td>13</td>
<td>131,806</td>
</tr>
<tr>
<td>Letters in international journals</td>
<td>13</td>
<td>42,092</td>
</tr>
<tr>
<td>TOTAL</td>
<td>424</td>
<td>1845,259</td>
</tr>
</tbody>
</table>
Distribution of affiliation of the authors

Regarding the affiliation of the authors, the articles published in collaboration with groups from other research organisations are shown in the table below:

<table>
<thead>
<tr>
<th>Affiliation of the authors pertains to</th>
<th>Total IF</th>
<th>Nr of publications</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Groups</td>
<td>876,874</td>
<td>158</td>
<td>31%</td>
</tr>
<tr>
<td>National Groups</td>
<td>667,896</td>
<td>178</td>
<td>44%</td>
</tr>
<tr>
<td>Local Groups</td>
<td>300,489</td>
<td>88</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>IMIBIC Groups</td>
<td>481,552</td>
<td>127</td>
<td>32%</td>
</tr>
</tbody>
</table>

International Collaborations

TOTAL: 158 IF: 876,874
### 9.2 Research projects & networks

#### Ongoing Projects in 2017

<table>
<thead>
<tr>
<th></th>
<th>NATIONAL</th>
<th>INTERNATIONAL</th>
<th>REGIONAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>118</td>
<td>16</td>
<td>79</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Projects – Funding agency</th>
<th>Nr of ongoing projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Institute of Health Carlos III (ISCIII)</td>
<td>59</td>
</tr>
<tr>
<td>Ministry of Economy and Competitiveness (MINECO)</td>
<td>27</td>
</tr>
<tr>
<td>Ministry of Education, Culture and Sport (MECD)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation for innovation and health prospective in Spain (FIPSE)</td>
<td>1</td>
</tr>
<tr>
<td>Private</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional Projects – Funding agency</th>
<th>Nr of ongoing projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Ministry of Health and Social Policy (CISPS)</td>
<td>41</td>
</tr>
<tr>
<td>Regional Ministry of Economy, Innovation, Science and Employment (CEICE)</td>
<td>7</td>
</tr>
<tr>
<td>Andalusian Progress and Health Foundation (FPS)</td>
<td>8</td>
</tr>
<tr>
<td>The official college of medical doctors in the province of Cordoba (ComCordoba)</td>
<td>1</td>
</tr>
<tr>
<td>Private</td>
<td>5</td>
</tr>
<tr>
<td>FIBICO. Research Programme</td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>International Projects – Funding agency</th>
<th>Nr of ongoing projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Commission</td>
<td>13</td>
</tr>
<tr>
<td>Jpi Hdl: Biomarkers For Nutrition And Health</td>
<td>1</td>
</tr>
<tr>
<td>Academy of Finland</td>
<td>1</td>
</tr>
<tr>
<td>Private</td>
<td>1</td>
</tr>
</tbody>
</table>
## Granted Projects & Networks in 2017

<table>
<thead>
<tr>
<th></th>
<th>National</th>
<th>International</th>
<th>Regional</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>29</td>
<td>1</td>
<td>26</td>
</tr>
</tbody>
</table>

### National projects – Funding agency

<table>
<thead>
<tr>
<th>Funding agency</th>
<th>Nr of granted projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Institute of Health Carlos III (ISCIII)</td>
<td>12</td>
</tr>
<tr>
<td>Research Programme (PI+D+i)</td>
<td>10</td>
</tr>
<tr>
<td>Networks Programme (RC, PT)</td>
<td>2</td>
</tr>
<tr>
<td>Ministry of Economy and Competitiveness (MINECO)</td>
<td>2</td>
</tr>
<tr>
<td>Foundation for innovation and health prospective in Spain (FIPSE)</td>
<td>1</td>
</tr>
<tr>
<td>Private Funding</td>
<td>14</td>
</tr>
</tbody>
</table>

### Regional projects – Funding agency

<table>
<thead>
<tr>
<th>Funding agency</th>
<th>Nr of granted projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Ministry of Health and Social Policy (CISPS)</td>
<td>13</td>
</tr>
<tr>
<td>Regional Ministry of Economy, Innovation, Science and Employment (CEICE)</td>
<td>1</td>
</tr>
<tr>
<td>FIBICO. Research Programme</td>
<td>12</td>
</tr>
</tbody>
</table>

### International projects – Funding agency

<table>
<thead>
<tr>
<th>Funding agency</th>
<th>Nr of granted projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Commission H2020</td>
<td>1</td>
</tr>
</tbody>
</table>

## Personnel contracted by funding from competitive grants & networks in 2017

<table>
<thead>
<tr>
<th>Personnel Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Researchers</td>
<td>24</td>
</tr>
<tr>
<td>Post-MIR Researchers</td>
<td>5</td>
</tr>
<tr>
<td>Post-Doctoral Researchers</td>
<td>9</td>
</tr>
<tr>
<td>Pre-Doctoral Researchers</td>
<td>6</td>
</tr>
<tr>
<td>Support Staff</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
</tr>
</tbody>
</table>
## Senior Researchers

Nicolas Monarde - Andalusian Health Service 6  
Miguel Servet Programme II 5  
Juan Rodés Programme 1  
Juan de la Cierva Programme 1  
Strengthening of research activity Programme – National Institute of Health Carlos III (ISCIII) – SNS 4  
Strengthening of research activity Programme – Regional Ministry of Health and Social Policy (CISPS) 7

## POSTDOCTORAL RESEARCHERS

SAS Postdoctoral Programme 1  
Sara Borrell 4  
Marie Skłodowska-Curie 1  
POST-MIR RESEARCHERS 1  
Río Hortega Programme 4  

## PRE-DOCTORAL RESEARCHERS

PFIS 2  
FPU 2  
I-PFIS 2  
Pre-doctoral Programme Ministry of Economy and Competitiveness (MINECO) 2  
Pre-doctoral Programme (CEICE) 1

## SUPPORT STAFF

Support staff Programme 2  
Ministry of Economy and Competitiveness (MINECO) 14  
National Institute of Health Carlos III (ISCIII) – GIS 1  
Andalusian Health System 6  
**Total** 67
9.3 Clinical Trials

Ongoing Clinical Trials in 2017
*Classified according to the Trial Phase or study type (EPA, observational study)

<table>
<thead>
<tr>
<th>NO PHASE</th>
<th>PHASE IV</th>
<th>PHASE III</th>
<th>PHASE II</th>
<th>PHASE I</th>
<th>EPA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>18</td>
<td>195</td>
<td>91</td>
<td>4</td>
<td>141</td>
<td>463</td>
</tr>
</tbody>
</table>

Clinical Trials classified according to promoter in 2017

<table>
<thead>
<tr>
<th>Promoter</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDUSTRY</td>
<td>73%</td>
<td>340</td>
</tr>
<tr>
<td>OTHER ENTITIES</td>
<td>22%</td>
<td>103</td>
</tr>
<tr>
<td>FIBICO</td>
<td>4%</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>463</strong></td>
<td></td>
</tr>
</tbody>
</table>

Clinical Trials Submitted to Ethics Committees in 2017

- Clinical Trials: 6
- Observational Studies: 55
- Research Projects: 144
- TFGs: 65
- PAS Ammendments: 25
- Sample transformations and integrations: 1
9.4 Innovation

Evolution of patents

<table>
<thead>
<tr>
<th></th>
<th>National &amp; international Priority patents</th>
<th>Extensions (PCTS &amp; entry in national phases)</th>
<th>Licenses</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>2012</td>
<td>8</td>
<td>3</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>2013</td>
<td>13</td>
<td>3</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>2014</td>
<td>11</td>
<td>4</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>2015</td>
<td>14</td>
<td>7</td>
<td>2</td>
<td>23</td>
</tr>
<tr>
<td>2016</td>
<td>9</td>
<td>6</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>2017</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td>17</td>
</tr>
</tbody>
</table>

Evolution of Start-up or spin-off companies created

<table>
<thead>
<tr>
<th></th>
<th>Start-up or spin-off companies created</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>2</td>
</tr>
<tr>
<td>2013</td>
<td>1</td>
</tr>
<tr>
<td>2014</td>
<td>1</td>
</tr>
<tr>
<td>2015</td>
<td>0</td>
</tr>
<tr>
<td>2016</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

9.5 Media

Website imibic.org

<table>
<thead>
<tr>
<th>Visited Pages</th>
<th>Single Users</th>
<th>Frequent Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>240.490</td>
<td>104.153</td>
<td>136.337</td>
</tr>
</tbody>
</table>
Social Media

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Followers</td>
<td>2.420</td>
</tr>
<tr>
<td>PAGE Likes</td>
<td>2.269</td>
</tr>
</tbody>
</table>

Awards

Potro de Oro Award 2017
Knowledge Transfer
10. Knowledge Transfer

IMIBIC acknowledges the importance of developing and promoting scientific and innovative collaboration. The institute works as a multidisciplinary space where different research projects’ focus is to answer unmet medical needs. Thus, IMIBIC promotes the translation of results derived from its research activities - as well as the ideas generated - into concrete solutions that improve patient care and health. IMIBIC encourages its researchers to build an innovative culture within the institute and approach innovation from a broad perspective with the objective to improve both the quality of the patient care as well as the professional praxis of the personnel belonging to IMIBIC.

In 2017, one of the priority challenges of the Innovation Unit was the identification of innovations (new products, services, devices, or organizational processes) implemented by the different Clinical Management Units of the Reina Sofia University Hospital and by the IMIBIC research groups. A series of meetings were organized with the research groups and the Clinical Management Units of the hospital to identify and map innovations implemented in 2017. The main criteria taken into account was the innovations’ capacity to improve clinical practice or quality of life of patients or society. Based on this study, altogether 91 innovations implemented during 2017 were identified. The following graph illustrates the type of innovations that were detected, including Organization and support, Information Technologies, Imaging, Materials and devices, and Biotechnology.

![Chart 1 - Types of innovation](chart.png)

The report of the study shows that the majority of the implemented innovative solutions are improvements of organizational and support procedures. Those are a result of the continuous improvement methodology applied throughout all activities and the com-
mitment of the health professionals of the Reina Sofia University Hospital. The second most commonly implemented new solution corresponds to information and communication technologies, in specific new software, and novel devices. Implementation of new biotechnological solutions is also a growing trend among the health professionals.

Other key activities carried out by the Innovation Unit in 2017 were:

1. IMIBIC is part of ITEMAS platform (Innovation Platform in Medical and Health Technologies) funded by the National Institute of Health Carlos III (ISCIII) which promotes innovation in health technologies as a key tool to provide sustainability to the National Health System since 2013. The Innovation Unit actively participated in the ITEMAS’ ISO 166.002:2014 Certification Work Group. Furthermore, the Innovation Unit also collaborated with ITEMAS in the organization of courses targeted to the IMIBIC research community.

2. The Innovation Unit implemented a management quality system according to the ISO 166.002:2014 standard.

3. With the purpose of promoting innovation culture, and to maintain close contact with the healthcare professionals and researchers, the Innovation Unit organized meetings with the different clinical management units of the hospital. The objective of these meetings was to inform clinicians about the services of the Innovation Unit and about the basics of innovation and technology transfer processes. In addition, the meetings served to share insights regarding the process of detecting ideas, innovations and research results that could potentially be protected by means of intellectual property.

4. The Innovation Unit’s team attended various national and international conferences and fairs, with the main objective to establish links and collaboration with company representatives and other research centres. The most important ones were:
   a. MEDICA 2017 13th–16th November, Düsseldorf (Germany).
   b. EATRIS 2017, European infrastructure for translational medicine 24th-26th September, Prague (Czech Republic).
   c. Convention ITEMAS 2017, 26th–27th October, Santander (Spain). Award for the best poster: “Experiences in International Pre-commercial Purchase”.
   d. Farmaindustria XVI Cooperation Farma-Biotech meeting 2017, 14th November, Madrid (Spain).
   e. SME Instrument H2020 meeting, 19th December, Seville (Spain).

5. The Innovation Unit participates in two Pre-Commercial Procurement (PCP) projects funded by the European Commission H2020 program. The RELIEF project, which started in 2016, concerns chronic pain management, and the STARS project, stress reduction and measurement management (project started in 2017).

6. Two project proposals were submitted to the FIPSE competitive call (The Foundation for Innovation and Prospective in Health in Spain), and one of them was selected for funding. The project will help to carry out the validation and feasibility studies of new biomarkers for prediction and prognosis of response to cancer treatment, towards a successful transference to the market.
7. The Innovation Unit has promoted the participation of different research groups of IMIBIC in public-private collaboration via competitive calls. Specifically, 2 project proposal were submitted to the Leonardo programme of the BBVA Foundation, 3 projects for the Caixa Impulse grants, and 4 projects within the Explore Science and Explore Technology programme. Of those, 1 Caixa Impulse project was selected for funding with 70,000€.

8. The Innovation Unit has established collaboration with technological and industrial networks, as well as with technological groups of other research entities. The Innovation Unit carried out technical workshops with Tecnalia, CEIA3 and with the biomedical engineering department of the University of Seville US-CIBER-BBN, among others.

9. In relation to activities to promote the creation of start-up companies, the Innovation Unit has supported three important projects, in Units of regenerative medicine, new prostate cancer biomarkers and surgical robotics, by negotiating with potential investors and searching for additional funds for their development.

As a result of all the activities described above, the following results were obtained:

<table>
<thead>
<tr>
<th>Evolution of Results</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATENTS</td>
<td>6</td>
<td>8</td>
<td>13</td>
<td>11</td>
<td>14</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>PCTs</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>LICENSES</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>COMPANIES</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Industrial and intellectual property patents**

During 2017, a total of 16 industrial/intellectual property registrations were applied for:

<table>
<thead>
<tr>
<th>Title</th>
<th>Registry type</th>
<th>Owner Entity</th>
<th>Research Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomarkers for the diagnosis of growth hormone deficiency, procedure and kit.</td>
<td>National Patent</td>
<td>SAS, UCO</td>
<td>GA05, GA06, Proteomics Unit</td>
</tr>
<tr>
<td>Breast templates to breast cancer diagnosis.</td>
<td>Utility Model</td>
<td>SAS</td>
<td>GA08</td>
</tr>
<tr>
<td>Description</td>
<td>Intellectual Property Registration</td>
<td>Institutes</td>
<td>Code</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>------------------------------------</td>
<td>-------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Software for the evaluation of healthy aging (Nutri-clock).</td>
<td>SAS, UCO, CIBEROBN</td>
<td>GC09</td>
<td></td>
</tr>
<tr>
<td>Software for the prediction of type 2 diabetes risk (Glucogene).</td>
<td>SAS, UCO, CIBEROBN</td>
<td>GC09</td>
<td></td>
</tr>
<tr>
<td>Biomarkers to cancer diagnosis and new therapeutic targets in tumour pathologies.</td>
<td>National Patent SAS, UCO</td>
<td>GC08, GE05</td>
<td></td>
</tr>
<tr>
<td>Pencil tip to sentinel node mark in limpho-gammagrophy.</td>
<td>Utility Model SAS</td>
<td>GA10</td>
<td></td>
</tr>
<tr>
<td>Biomarkers in exhaled breath condensate for the diagnosis, classification and monitoring of lung cancer.</td>
<td>International Patent SAS, UCO</td>
<td>GC05, GC06</td>
<td></td>
</tr>
<tr>
<td>Biomarkers to diagnosis and screening of primary antiphospholipid syndrome.</td>
<td>International Patent SAS, UCO</td>
<td>GC05</td>
<td></td>
</tr>
<tr>
<td>Tool coupling.</td>
<td>International Patent SAS, UCO, TECNALIA, UMA</td>
<td>GC19, GC18, GE05, GA01, GA09, Gynaecology, Paediatric surgery</td>
<td></td>
</tr>
<tr>
<td>Biomarkers to screening and diagnostic of Prostate Cancer with LC-QTOF.</td>
<td>International Patent SAS, UCO</td>
<td>GE05, GC08, GC21</td>
<td></td>
</tr>
<tr>
<td>Non-invasive method for the diagnostic of cancer.</td>
<td>International Patent SAS, UCO</td>
<td>GC08, GE05</td>
<td></td>
</tr>
<tr>
<td>Lysates of mesenchymal stem cells for the treatment of skeletal muscle injuries.</td>
<td>National Phases SAS, UCO</td>
<td>GC13</td>
<td></td>
</tr>
<tr>
<td>Procedure to obtain useful data to detect angiogenesis on lower limbs.</td>
<td>National Phases SAS</td>
<td>GA08</td>
<td></td>
</tr>
</tbody>
</table>
Goals for 2018
## 11. Goals for 2018

<table>
<thead>
<tr>
<th>Goals</th>
<th>Indicators</th>
</tr>
</thead>
</table>
| 1. Promote and consolidate institutional integration in relation to human resources, by fostering synergies among IMIBIC institutions and corporate social responsibility (CSR) projects; by offering social benefits to IMIBIC professionals; and encouraging strategic alliances with companies. | Obtain it.  
- Development and implementation of an Equality and Transparency Plan.  
- Implementation of existing agreements between the institutions and other companies (e.g. special conditions with financial institutions, travel agencies, hotels, etc.).  
- Development and realization of initiatives and activities in collaboration with companies. (e.g. Roche “Stop brain drain” grant). |
| 2. Develop strategies to increase the quality and number of scientific publications and leadership of IMIBIC researchers. | 50 articles published in first decile journals |
| 3. Promote and improve clinical research at IMIBIC, increasing the number, quality and efficiency of independent clinical research projects. | ≥ 11 clinical trials carried out as promoter |
| 4. Maximize and improve IMIBIC’s self-sustainability. Optimize the management of own resources by increasing the fund from European and public competitive calls, as well as via fostering collaborations with the business fabric. | Structure income ≥ 2.1 million euros  
Private/public activity revenues ≥ 44% |
| 5. Develop a strategy for incorporating new clinical and academic groups, as well as for promoting the existing groups. | 2 new groups (of which at least one emerging group) incorporated to IMIBIC  
1 group promoted to Emerging or Consolidated group category. |
| 6. Increase the attraction of research talent and promote their professional development. | Nr. of researcher contracts funded by competitive calls > 66  
Nr. of new Emerging Researchers > 3 |
| 7. Foster, specify and consolidate international alliances and collaborations. | 38 projects applied for funding |
| 8. Promote and increase the protection of intellectual property generated and the transfer of technology to the business fabric. | >20% of the patents exploited |
| 9. Ensure the quality of the service provided by the Research Support Units (UCAIB) and institute’s management units, and promote cross-sector innovation through them. | User satisfaction ≥ 85% |
| 10. Develop and implement an action plan to promote the research activities of medical residents. | 90% of the plan implemented |
| 11. Develop and implement an action plan to promote research in primary care and nursing. | Active projects in these areas > 7 |
12 IMIBIC Highlights
## 12. IMIBIC Highlights

<table>
<thead>
<tr>
<th>Year</th>
<th>Events</th>
</tr>
</thead>
</table>
| 2008 | • Signature of the IMIBIC development agreement  
      • Creation of the institute and configuration of IMIBIC governing bodies |
<p>| 2009 | • Creation of the External Scientific Advisory Board |
| 2010 | • Development and drafting of the 2011-2015 Strategic Plan |</p>
<table>
<thead>
<tr>
<th>Year</th>
<th>Events</th>
</tr>
</thead>
</table>
| 2011 | • Accreditation as a Health Research Institute by the National Institute of Health Carlos III (ISCIII)  
• Financing obtained for three UCO-IMIBIC innovative public procurement projects |
| 2012 | • Start of construction of the IMIBIC building |
| 2013 | • New structure for scientific programs  
• Cordoba award for 2013 – Cordoba newspaper |
<table>
<thead>
<tr>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>• ISCIII – FLEXIMET integrated project</td>
<td>• Opening of the new IMIBIC building</td>
<td>• Launch of the new 2016-2020 Strategic Plan</td>
</tr>
<tr>
<td>• Gold Averroes award for Medical Sciences from the city of Cordoba</td>
<td>• RELIEF and STARS, innovative public procurement projects</td>
<td>• YOUTH Cordoba prize in UNIVERSITY category</td>
</tr>
<tr>
<td></td>
<td>• Robotics conference – ROBOT presentation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Launch of the two clinical research units</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• YOUTH Andalusian prize in UNIVERSITY category</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Changes in IMIBIC’s scientific management and designation of two</td>
<td></td>
</tr>
<tr>
<td></td>
<td>scientific departments (Fundamental Research and Clinical Research)</td>
<td></td>
</tr>
</tbody>
</table>
2017

- Renewal of accreditation by the National Institute of Health Carlos III
  QUALITY:
  - Certificate on R&D management system (AENOR)
  - Official European Seal of HR Excellence in Research, awarded by the European Commission
- Potro de Oro award (2017)