



SANT PAU  
Campus Salut  
Barcelona



Institut  
de Recerca  
Sant Pau

2023

# Sant Pau Research Institute

SCIENTIFIC REPORT

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# Foreword





## Jordi Surrallés

Scientific Director IR Sant Pau



The 2023 has been an extraordinary year, marked by exceptional achievements and significant advancements at the Sant Pau Research Institute. I am thrilled to announce that we have celebrated the most successful year in our institute's history. This remarkable success stems from a year of outstanding scientific contributions and record-breaking milestones across various indicators, including project grants, top-tier journal publications, clinical trials and financial growth.

This year we applaud Sant Pau Campus Salut Barcelona for its strategic dedication to the advancement of research. I am honored to highlight the joined efforts and dynamic synergy fostered under the new Campus Sant Pau brand, underscoring our unwavering dedication to advancing medical research. Our Research Day is a great illustration of this commitment since it honors the significant work that is being done.

One of the things we are most proud this year is the launch of the new transversal research program in Women's Health and Gender, developed within the Responsible Research and Innovation Plan (RRI). This program aims to attract talent with an emphasis on gender research, collaborate across research groups, increase female representation in studies, and promote gender-sensitive health research. Through the use of an intersectional approach, this groundbreaking project aims to optimize health outcomes for everyone and establishes IR Sant Pau as a premier center dedicated to gender equality in research.

### Our Science and Its Impact

IR Sant Pau's standing as a premier scientific institution is cemented by our institute's ongoing success. Out of the 1,311 publications we have published, 22% fall into the top decile and 53% fall into the top quartile. 38% of these articles were led by our researchers, and 48% of these leaders were female scientists. Furthermore, 50% of our publications involved international collaborations.

In 2023, we completed 677 clinical trials, including 49 academic trials promoted by IR Sant Pau investigators, bringing scientific knowledge closer to our patients. This accomplishment reflects our mission to enhance health and quality of life through scientific knowledge.

Our unwavering dedication to innovation and technology transfer sowed in the maintenance of 23 active patent families, the purchase of 13 additional intellectual property registers, the granting of 22 IP and product licenses, and the generation of 1.9 million euros in revenue. Furthermore, we have kept up six startups and spin-offs, which have strengthened our position in the biomedical industry. These initiatives demonstrate our innovative capabilities and commitment to turning research into practical solutions that advance healthcare and improve patient outcomes, as does our cooperation between researchers and industry partners.

A record-breaking 15.49 million euros was funded by IR Sant Pau in 2023, with 126 new competitive grants



and 350 active projects. The funding was made up of 5.08 million euros from international grants and 10.41 million euros from national grants. This substantial competitive funding underscores our dedication to advancing scientific knowledge, fostering innovation, and translating discoveries into practical health solutions through a multidisciplinary and collaborative approach.

### Talent

During 2023 we have witnessed the stabilization of a new generation of high-caliber researchers within our institute, while also expressing our gratitude to our senior researchers who have concluded their professional journeys with us. Their contributions have laid a solid foundation for our future.

Our ability and knowledge base keeps expanding as new groups, areas, and individuals join us. At a scientific level, we welcomed a new research group in Advanced Medical Imaging, Artificial Intelligence, and Image-Guided Therapy. This cross-sectional and multidisciplinary study will be led by Dr. Josep Munuera, a renowned expert in AI applications to medicine and the director of the Radiodiagnosis Service at the Sant Pau Hospital, pushing the limits of conventional specializations.

### Public Engagement and Society

Our engagement with the public and society reached unprecedented heights. We organized 53 public engagement and outreach activities, impacting over

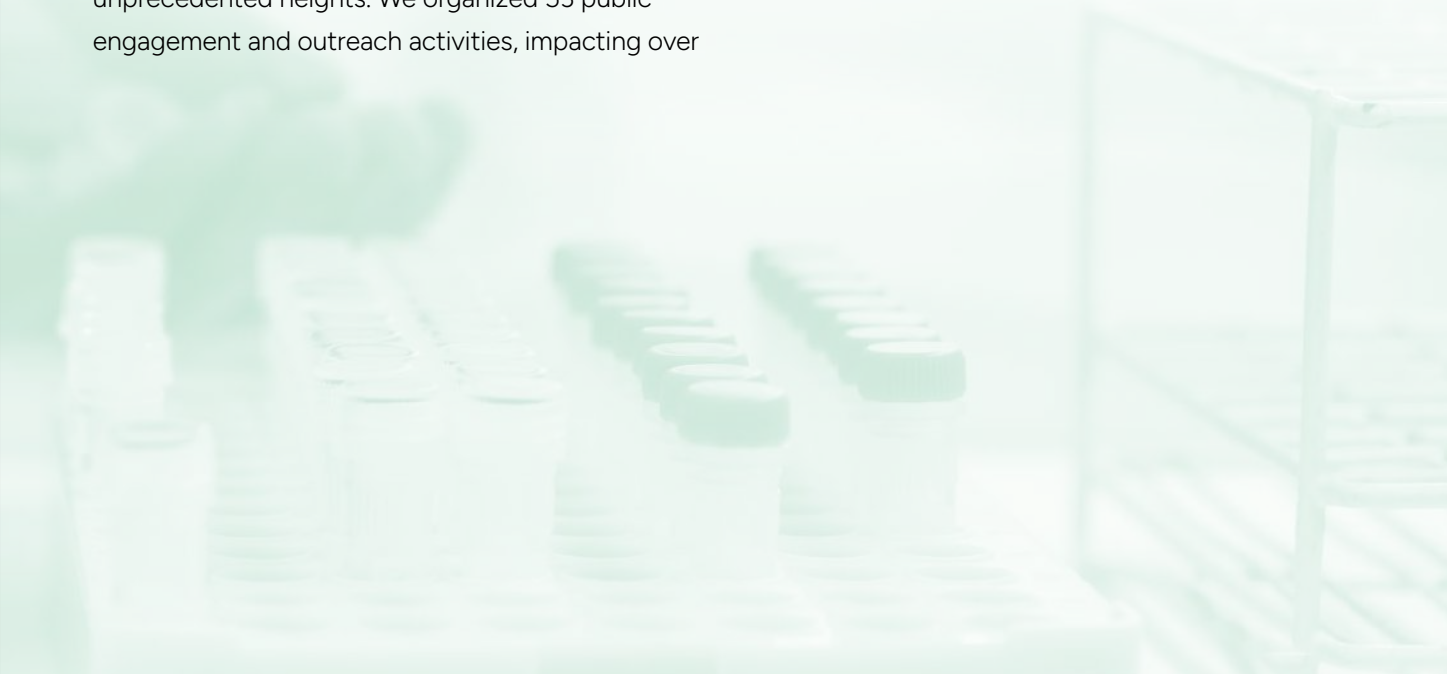
25,000 people. Our initiatives included collaborations with 19 schools, 14 community centers, and 7 secondary schools, reaching a total of 1,852 participants. Additionally, our research and activities were highlighted in 96 news articles and 32 press releases, resulting in 1,990 appearances in print and online media with an audience reach of 3.23 million. Events such as the 48h Open House, Sónar+D, Future Music Forum, and La Marató Visits played a significant role in promoting scientific education and fostering a closer relationship between science and the community.

### Embracing The Future

The trust and continuous support from our Board of Trustees, including the consolidation of structural funding from the Generalitat de Catalunya exceeding 4.3 million euros, have been invaluable. The Board has approved measures to reinforce our structural integrity in scientific, financial, legal, and transparency areas. We will continue to fortify the institute's foundation to ensure its resilience and strength.

Our achievements in 2023 have set us up for future success. I am confident that our institute will not only maintain these outstanding records but also embrace new challenges in 2024 with optimism. This year will lay the groundwork for our transformative and ambitious new strategic plan. Together, we will build on our achievements and aspire to even greater heights.

I look forward to working together on these initiatives and challenges. Thank you all for being part of this journey!

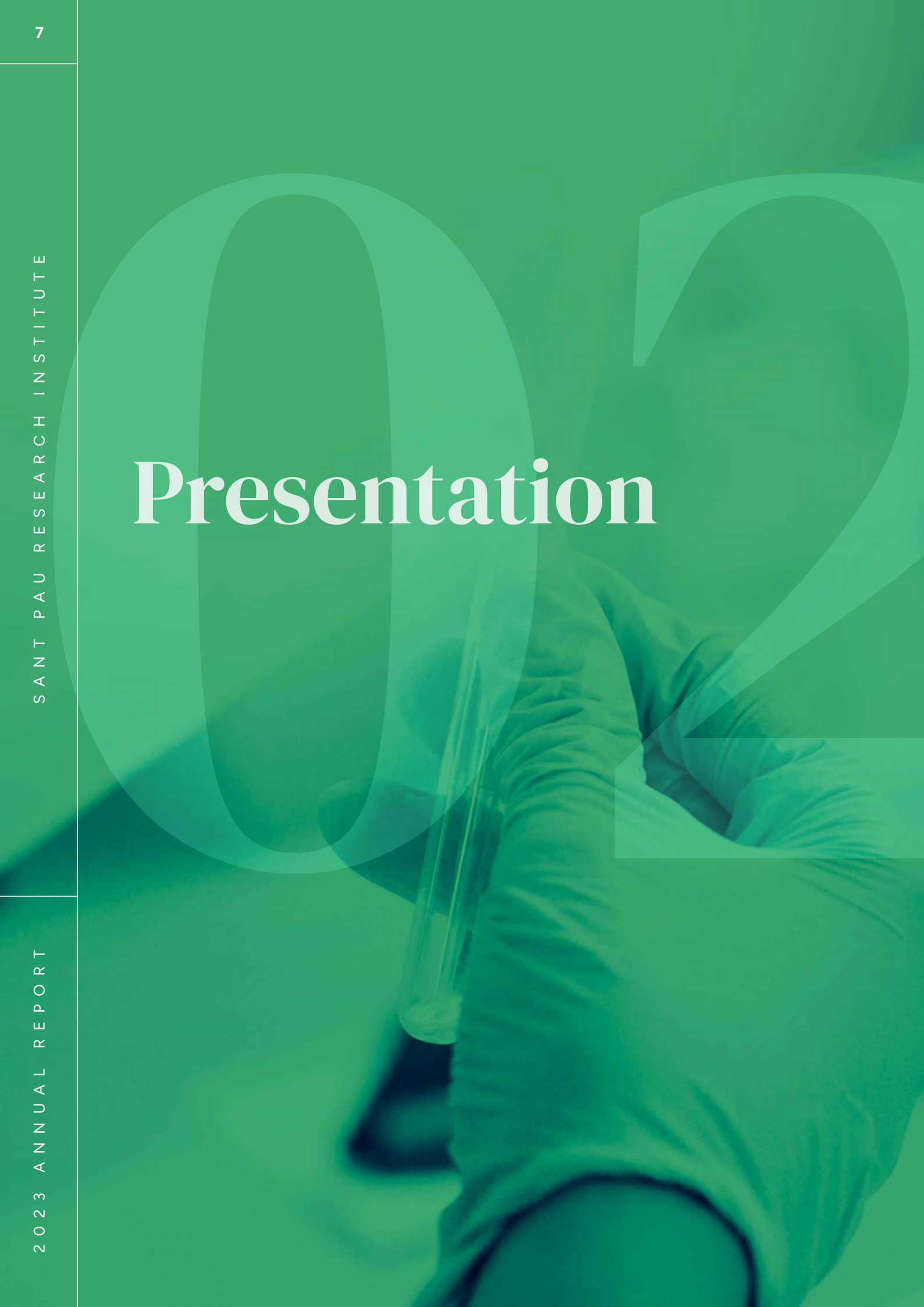




## ACKNOWLEDGMENTS

We thank the support of the board of trustees and other governing bodies, entities, organisations and companies that trusted us and financed our research. We also thank all the citizens and patient's associations who generously contribute through their private donations but, more important, by helping us in our mission while contributing to make our research projects possible and meaningful.

# Presentation



# Presentation

## 2.1 ABOUT US

The Sant Pau Research Institute (hereinafter IR Sant Pau) is a Research Centre of Catalonia (CERCA center) and has been accredited as a Biomedical Research Institute by the Spanish Institute of Health Carlos III (ISCIII) since 2011.

Located at the Sant Pau Health Campus, the IR Sant Pau's mission is to improve both populations' health and life quality through the production and dissemination of scientific knowledge, health-care innovation, and the application of these advances to clinical practice and health-care policy. Is one of the most active research centers in Catalonia particularly for translational research and the application of discoveries to clinical practice.

The creation of the IR Sant Pau meant a qualitative leap to reinforce biomedical and translational research and helped to bridge the gap between basic research and clinical Practice. Our research areas are aligned with advanced therapies and precision medicine, as well as genomic medicine and rare diseases. We also tackle infectious diseases, diagnostic techniques and biomarkers, and healthcare improvements. Highlight the institution's commitment promoting research with a gender perspective through the creation of a specific cross-cutting program on women's health and gender.



## 2.2 WHO WE ARE



Institut  
de Recerca  
Sant Pau



BANC DE SANG  
I TEIXITS



Hospital de  
la Santa Creu i  
Sant Pau



Cochrane  
Iberoamèrica



Fundació  
Privada Hospital  
de la Santa Creu i  
Sant Pau

eap | sardenya  
Centre Universitari

UAB  
Universitat Autònoma  
de Barcelona

CSB Consorci Sanitari  
de Barcelona



Agència  
de Salut Pública



Fundació Puigvert





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**Xavier Prats Monné**

### Appointed by the Fundació de Gestió Sanitària Hospital de la Santa Creu i Sant Pau

**Adrià Comella Carnicé**

**Joan Carles Souto Andrés** (until November 2023)

**José M<sup>a</sup> Gerra Ramos** (from December 2023)

### Appointed by the Fundació Privada Hospital de la Santa Creu i Sant Pau

**Jordi Sierra Gil**

**Josep M<sup>a</sup> Forcada i Casanovas**

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**Ana Ma Plaza Tesías** (Departament de Salut, Generalitat de Catalunya)

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### Appointed by the Universitat Autònoma de Barcelona (UAB)

**Josep Antón Montien Dacosta** (from December 2023).

**Manuel Armengol i Carrasco**

### Appointed by the Institut de Recerca Sant Pau, upon proposal from the Fundació Privada Hospital de la Santa Creu i Sant Pau.

**Antoni Esteve i Cruella**

**Jaume Kulisevsky Bojarski**

### Secretary (Not trustee)

**Joaquim Jornet i Porta**

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**Jordi Surrallés** (IR Sant Pau Scientific Director)

### Vice presidents

**Robert Belvís** (CEim President)

### Innovation, Quality, and training

**Miriam Ors** (Deputy Scientific Director. Innovation, Training, and Quality)

### Members by direct designation of the IR Sant Pau's Director

**Elisa Llurba** (Women & Perinatal Health Research)

**Noemí Rotllan** (Ramon y Cajal Researcher)

**Gemma Mas** (Nursing Care Research)

**Silvia Mateu** (Puigvert Foundation)

### Members from each IR Sant Pau's research areas

**Lina Badimon** (Cardiovascular Diseases Area)

**José M Guerra** (Cardiovascular Diseases Area)

**José Manuel Soria** (Cardiovascular Diseases Area)

**Javier Briones** (Oncohematological Diseases Area)

**Ramón Mangues** (Oncohematologic Diseases Area)

**Agustí Barnadas** (Oncohematological Diseases Area)

**Juan Fortea** (Neurological Diseases, Neuroscience & Mental Health Area)

**Maria J Portella** (Neurological Diseases, Neuroscience & Mental Health Area)

**Israel Fernández** (Neurological Diseases, Neuroscience & Mental Health Area)

**Pablo Alonso Coello** (Epidemiology, Public Health & Primary Care Area)

**Maica Rodríguez** (Epidemiology, Public Health & Primary Care Area)

**Carles Brotons** (Epidemiology, Public Health & Primary Care Area)

**Didac Mauricio** (Translational Medicine Area)

**Sílvia Vidal** (Translational Medicine Area)

**Roser Torra** (Translational Medicine Area)

### Secretary of the Internal Scientific Committee

**Miriam Ors Griera**

## IR SANT PAU EXTERNAL SCIENTIFIC COMMITTEE

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#### **José López-Barneo**

Professor of Physiology  
Instituto de Biomedicina de Sevilla (IBiS)  
Hospital Universitario Virgen del Rocío/CSIC/  
Universidad de Sevilla

### Secretary

#### **Jordi Surrallés**

IR Sant Pau Scientific Director

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#### **Ángel Maria Carracedo Álvarez**

Instituto de Medicina Legal  
Facultade de Medicina e Odontoloxía, Santiago de  
Compostela

#### **José Palacios**

Jefe de Servicio de Anatomía Patológica  
Hospital Ramón y Cajal, Madrid

#### **Mercedes Robledo**

Hereditary Endocrine Cancer Group, Group Leader  
Human Cancer Genetics Program, CNIO, Madrid

#### **Judith García**

Barcelona Institute for Global Health – Campus MAR  
ISGlobal, Barcelona

#### **Magdalena Sanz**

Associate Professor, Department of Obstetrics and  
Gynecology  
Fetal Surgery and Intervention, Baylor College of  
Medicine, Houston-Texas

#### **Manuel Arellano**

Plataforma de Organizaciones de Pacientes

#### **Gloria Gonzalez**

Directora del Programa de Terapia Génica y  
Regulación de la Expresión Génica CIMA-Navarra

## IR SANT PAU STEERING COMMITTEE

### President

#### **Adrià Comella**

Fundació Gestió Sanitària Hospital de la Santa Creu  
i Sant Pau

### Secretary

#### **Miriam Ors**

IR Sant Pau Deputy Scientific Director

### Members

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Fundació Privada Hospital de la Santa Creu i Sant  
Pau

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Universitat Autònoma de Barcelona

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#### **Jaume Sellarés**

Barcelona-Sardenya Primary Health Centre

#### **Carme Borrell**

Public Health Agency of Barcelona

#### **Jordi Surrallés**

IR Sant Pau Director  
Fundació Institut de Recerca Hospital Santa Creu i  
Sant Pau



We are



Accredited by



We are members of



## MANAGEMENT TEAM

Scientific Director

Jordi Surrallés

Managing Director

Jaume Bacardit

Deputy Scientific Director

Miriam Ors

Director of Legal Advisory

Sílvia Ribas Martínez

Communications Director

Laura Díaz-Roig

Assistant to the Management Team

Eva Sanfeliu

## 2.3 ETHICS COMMITTEES

### 2.3.1 ETHICS COMMITTEE FOR INVESTIGATION WITH MEDICINAL PRODUCTS (CEIM)

President

Robert Belvís Nieto

Physician. Specialist in Medical Neurology

Vice-President

Estela Moreno Martínez

Specialist in Hospital Pharmacy

Secretary

Milagros Alonso Martínez

Specialist in Clinical Pharmacology

Members

Juan Ángel Aibar Durán

Physician. Specialist in Neurosurgery

Núria Alberich Margalef

Lawyer and DPD

Cristina Arqueros Nuñez

Physician. Specialist in Oncology

Maria Rosa Ballester Veneda

Pharmacist



**Claudia Erika Delgado Espinoza**  
Physician. Specialist in Clinical Pharmacology

**Beatriz Fernández-Montells Rama**  
Biomedical Engineer

**Ignasi Gich Saladich**  
Physician

**Marta Lestón Vázquez**  
Primary care pharmacist

**Laia Matas Pericas**  
Physician. Specialist in Internal Medicine.

**Indalecio Morán Chorro**  
Physician. Specialist in Intensive Care Medicine

**Silvana Novelli Canales**  
Physician. Specialist in Haematology

**Maria Jesús Portella Moll**  
Psychologist

**Marta Pujol Benaiges**  
Patient's representative. Non sanitary

**Maria Teresa Ricart Basagaña**  
Nurse

**Miguel Alberto Rizzi Bordigoni**  
Physician. Specialist in Internal Medicine

**Santiago Sánchez Cabús, Santiago**  
Physician. Specialist in Digestive Surgery

**Jordi Torralbas Ortega**  
Nurse

**Lucía Vallez Valero**  
Pharmacist

**Miguel Àngel Viciano Rodríguez**  
User Attention Unit

## MISSION, FUNCTIONS, AND AREAS OF ACTION

The Ethics Committee for Research with Medicinal Products (CEIm) is an independent body that, by the corresponding legal provisions, ensures that the rights, safety, and well-being of clinical trial subjects are protected.

The CEIm provides public assurance of that protection by reviewing and approving clinical trial protocols and the methods used to collect and document the informed consent of the subjects and by ensuring the suitability of investigators, facilities and materials.

## 2.3.2 ETHICS COMMITTEE FOR ANIMAL RESEARCH (CEEA)

**President**  
**Laura Casaní**

**Secretary**  
**Sergi Florit**

**Vocals**  
**Sandra Camino**  
**Jose M. Guerra**  
**Esther Peña**  
**Cristina Rodríguez**  
**Elisabet Sánchez**  
**Gemma Vilahur**



The Ethics Committee for Animal Research (CEEA) of the Sant Pau Research Institute is an independent body that, according to the current legislation on laboratory research animals, serves as an expert and advisory committee in the area of animal experimentation, with members drawn from various disciplines – basic research, veterinary medicine, animal welfare and human medicine. Any animal research carried out in the Animal Facilities in the Institute must be approved by the CEEA.

The working guiding principles of this Committee are good science and good animal welfare, based on the 3R's Principles: replacement, refinement, and reduction.

# Highlighted News of 2023

## A new tool, for the first time, combines clinical and genomic data, showing excellent predictive capability for the risk of thrombosis in cancer patients



3 February 2023

-  Scientific Paper
-  News Article



## First-trimester screening reduces the incidence of preterm preeclampsia by 68% with low-dose aspirin treatment between weeks 12 and 36 of pregnancy

8 February 2023

-  Scientific Paper
-  News Article

## The Sant Pau Research Institute initiates the first Phase II clinical trial with an active vaccine against amyloid protein, crucial in the onset of Alzheimer's

21 March 2023

-  News Article



## The Sant Pau Research Institute establishes the emerging Epilepsy group

11 April 2023

[🔗 News Article](#)



## Sant Pau begins administering a new CAR-T medication, self-produced, against B-cell lymphomas

3 May 2023

[🔗 News Article](#)

## A study reveals the existence of different patterns of cognitive progression in Huntington's disease, confirming at least two cognitive phenotypes that significantly differ in terms of progression rate

4 May 2023

[📄 Scientific Paper](#)

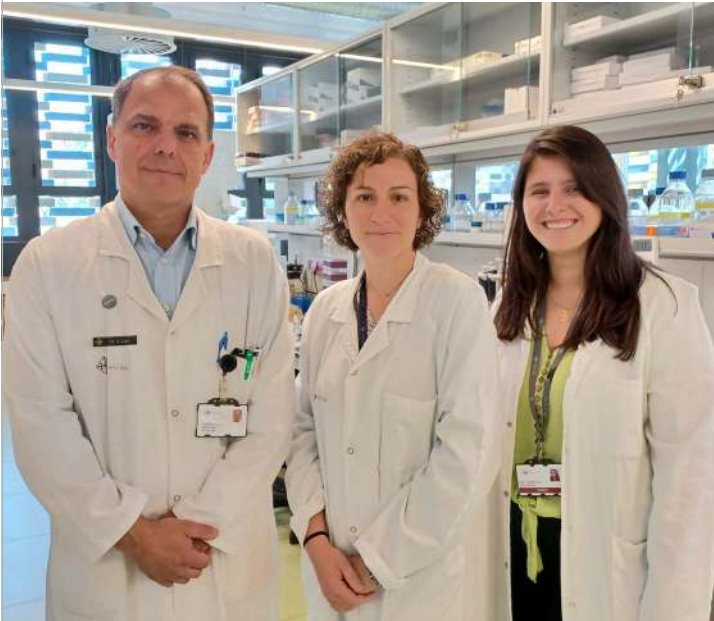
[🔗 News Article](#)



### Sant Pau creates a new cross-cutting research program on Women's Health and Gender

21 December 2023

News Article



### A study describes that harmful proteins accumulating in the brains of individuals with Alzheimer's disease spread through synapses

16 May 2023

Scientific Paper  
 News Article

### A new treatment significantly improves survival in non-small cell lung cancer patients

7 June 2023

Scientific Paper  
 Scientific Paper  
 News Article





### Prolonged breastfeeding implies a higher volume of gray matter at the age of 10

7 June 2023

- Scientific Paper
- News Article



### Sant Pau promotes a framework agreement for sharing data, images, and samples among twenty Spanish hospitals and primary care centers to enhance maternal and child research

14 June 2023

- News Article

### A renal cancer patient survives remarkably

15 June 2023

- Scientific Paper
- News Article



### Deep brain stimulation demonstrates long-term benefits in treatment-resistant depression patients

29 June 2023

- Scientific Paper
- News Article



### Combined therapy, a new option for patients with advanced urothelial cancer unable to receive conventional chemotherapy

17 July 2023

- Scientific Paper
- News Article

### Transferring hemorrhagic stroke patients to the nearest center improves their prognosis



13 August 2023

- Scientific Paper
- News Article



## Circulating microRNA could help predict and detect metastasis in early-stage breast cancer

22 September 2023

-  Scientific Paper
-  News Article



# Top Scientific Articles

According to Impact Factor over 15

- **Effect of Colchicine on Perioperative Atrial Fibrillation and Myocardial Injury after Non-Cardiac Surgery in Patients Undergoing Major Thoracic Surgery (COP-AF): an International Randomised Trial.** Conen D, Ke M, Popova E, Chan MTV, Landoni G, Cata JP, Reimer C, McLean SR, Srinathan SK, Reyes JCT, Grande AM, Tallada AG, Sessler DI, Fleischmann E, Kabon B, Voltolini L, Cruz P, Maziak DE, Gutiérrez L, McIntyre WF, Tandon V, Martínez E, Guerra JJ, DuMerton D, et al. *LANCET*. 2023; 402(10413)DOI:10.1016/S0140-6736(23)01689-6. PMID:37640035. IF:168,900 (Q1/1D).
- **Perioperative Pembrolizumab for Early-Stage Non-Small-Cell Lung Cancer.** Wakelee H, Liberman M, Kato T, Tsuboi M, Lee S-H, Gao S, Chen K-N, Dooms C, Majem M, Eigendorff E, Martinengo GL, Bylicki O, Rodríguez D, Chaft JE, Novello S, Yang J, Keller SM, Samkari A, Spicer JD. *NEW ENGLAND JOURNAL OF MEDICINE*. 2023; 389(6)DOI:10.1056/NEJMoa2302983. PMID:37272513. IF:158,500 (Q1/1D).
- **Overall Survival with Osimertinib in Resected EGFR-Mutated NSCLC.** Tsuboi M, Herbst RS, John T, Kato T, Majem M, Grohé C, Wang J, Goldman JW, Lu S, Su WC, De Marinis F, Shepherd FA, Lee KH, Le NT, Dechaphunkul A, Kowalski D, Poole L, Bolanos A, Rukazenkov Y, Wu YL, ADAURA I. *NEW ENGLAND JOURNAL OF MEDICINE*. 2023; 389(2)DOI:10.1056/NEJMoa2304594. PMID:37272535. IF:158,500 (Q1/1D).
- **Phase 3 Trial of Nemolizumab in Patients with Prurigo Nodularis.** Kwatra SG, Yosipovitch G, Legat FJ, Reich A, Paul C, Simon D, Naldi L, Lynde C, De Bruin MS, Nahm WK, Sauder M, Gharib R, Barbarot S, Szepietowski JC, Conrad C, Fleischer A, Laquer VT, Misery L, Serra E, Lapeere H, Ahmad F, López ZKJ, Piketty C, Ständer S, OLYMPIA 2. *NEW ENGLAND JOURNAL OF MEDICINE*. 2023; 389(17)DOI:10.1056/NEJMoa2301333. PMID:37888917. IF:158,500 (Q1/1D).
- **Tarlatamab for Patients with Previously Treated Small-Cell Lung Cancer.** Ahn MJ, Cho BC, Felip E, Korantzis I, Ohashi K, Majem M, Juan O, Handzhiev S, Izumi H, Lee JS, Dziadziuszko R, Wolf J, Blackhall F, Reck M, Alvarez JB, Hummel HD, Dingemans A, Sands J, Akamatsu H, Owonikoko TK, Ramalingam SS, Borghaei H, Johnson ML, Huang S, Mukherjee S, Minocha M, Jiang TY, Martinez P, Anderson ES, Paz L, DeLLphi I. *NEW ENGLAND JOURNAL OF MEDICINE*. 2023; 389(22) DOI:10.1056/NEJMoa2307980. PMID:37861218. IF:158,500 (Q1/1D).
- **Down Syndrome in a New Era for Alzheimer Disease.** Rafii MS, Fortea J. *JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*. 2023; 330(22)DOI:10.1001/jama.2023.22924. PMID:37991807. IF:120,700 (Q1/1D).
- **Motixafortide and G-CSF to Mobilize Hematopoietic Stem Cells for Autologous Transplantation in Multiple Myeloma: a Randomized Phase 3 Trial.** Crees ZD, Rettig MP, Jayasinghe RG, Stockerl K, Larson SM, Arpad I, Milone GA, Martino M, Stiff P, Sborov D, Pereira D, Micallef I, Moreno G, Mikala G, Coronel MLP, Holtick U, Hiemenz J, Qazilbash MH, Hardy N, Latif T, García I, Vainstein A, Sorani E, Gliko I, Goldstein I, Ickowicz D, Shemesh L, Kadosh S, Gao F, Schroeder MA, Vij R, DiPersio JF. *NATURE MEDICINE*. 2023; 29(4)DOI:10.1038/s41591-023-02273-z. PMID:37069359. IF:82,900 (Q1/1D).
- **Cloxacillin Plus Fosfomycin Versus Cloxacillin Alone for Methicillin-Susceptible Staphylococcus Aureus Bacteremia: a Randomized Trial.** Grillo S, Pujol M, Miró JM, López J, Euba G, Gasch O, Boix L, García MJ, Pérez MT, Gomez S, Oriol I, López LE, Pedro ML, San R, Aguado JM, Gioia F, Iftimie S, Morata L, Jover A, García G, Loeches B, Izquierdo Á, Goikoetxea AJ, Gomila A, Dietl B, Berbel D, Videla S, Hereu P, Padullés A, Pallerès N, Tebé C, Cuervo G, Carratalà J, SAFO G.



NATURE MEDICINE. 2023; 29(10)DOI:10.1038/s41591-023-02569-0. PMID:37783969. IF:82,900 (Q1/1D).

- Genomics of Perivascular Space Burden Unravels Early Mechanisms of Cerebral Small Vessel Disease.** Duperron MG, Knol MJ, Le Q, Evans TE, Mishra A, Tsuchida A, Roshchupkin G, Konuma T, Tregouet DA, Romero JR, Frenzel S, Luciano M, Hofer E, Bourgey M, Dueker ND, Delgado P, Hilal S, Tankard RM, Dubost F, Shin J, Saba Y, Armstrong NJ, Bordes C, Bastin ME, Beiser A, et al. NATURE MEDICINE. 2023; 29(4)DOI:10.1038/s41591-023-02268-w. PMID:37069360. IF:82,900 (Q1/1D).
- Second International Consensus Report on Gaps and Opportunities for the Clinical Translation of Precision Diabetes Medicine.** Tobias DK, Merino J, Ahmad A, Aiken C, Benham JL, Bodhini D, Clark AL, Colclough K, Corcoy R, Cromer SJ, Duan D, Felton JL, Francis EC, Gillard P, Gingras V, Gaillard R, Haider E, Hughes A, Ikle JM, Jacobsen LM, Kahkoska AR, et al. NATURE MEDICINE. 2023; 29(10)DOI:10.1038/s41591-023-02502-5. PMID:37794253. IF:82,900 (Q1/1D).
- Fixed-Duration Ibrutinib-Venetoclax Versus Chlorambucil-Obinutuzumab in Previously Untreated Chronic Lymphocytic Leukaemia (GLOW): 4-Year Follow-Up from a Multicentre, Open-Label, Randomised, Phase 3 Trial.** Niemann CU, Munir T, Moreno C, Owen C, Follows GA, Benjamini O, Janssens A, Levin MD, Robak T, Simkovic M, Voloshin S, Vorobyev V, Yagci M, Ysebaert L, Qi KQ, Qi QY, Sinet P, Parisi L, Srinivasan S, Schuier N, Baeten K, Howes A, Caces DB, Kater AP. LANCET ONCOLOGY. 2023; 24(12)DOI:10.1016/S1470-2045(23)00452-7. PMID:37944541. IF:51,100 (Q1/1D).
- Short-Term Outcomes of Chemoradiotherapy and Local Excision Versus Total Mesorectal Excision in T2-T3ab,N0,M0 Rectal Cancer: a Multicentre Randomised, Controlled, Phase III Trial (The TAU-TEM Study).** Serra X, Pericay C, Badia J, Golda T, Biondo S, Hernández P, Targarona E, Borda N, Reina A, Delgado S, Vallribera F, Caro A, Gallego J, Pascual M, Álvarez C, Gualajara HG, Mora L. ANNALS OF ONCOLOGY. 2023; 34(1)DOI:10.1016/j.annonc.2022.09.160. PMID:36220461. IF:50,500 (Q1/1D).
- Association of Location of Brca1 and Brca2 Mutations with Benefit from Olaparib and Bevacizumab Maintenance in High-Grade Ovarian Cancer: Phase III PAOLA-1/ENGOT-ov25 Trial Subgroup Exploratory Analysis.** Labidi SI, Rodrigues M, Sandoval JL, Kurtz JE, Heitz F, Mosconi AM, Romero I, Denison U, Nagao S, Vergote I, Parma G, Nøttrup TJ, Rouleau E, Garnier G, El A, Zamagni C, Martín C, Pujade E, Fiévet A, Ray IL. ANNALS OF ONCOLOGY. 2023; 34(2)DOI:10.1016/j.annonc.2022.11.003. PMID:36564284. IF:50,500 (Q1/1D).
- Osimertinib Treatment Based on Plasma T790M Monitoring in Patients With EGFR-Mutant Non-Small-Cell Lung Cancer (NSCLC): Eortc Lung Cancer Group 1613 APPLE Phase II Randomized Clinical Trial.** Remon J, Besse B, Aix SP, Callejo A, Al K, Bernabe R, Greillier L, Majem M, Reguart N, Monnet I, Cousin S, Garrido P, Robinet G, Campelo RG, Madroszyk A, Mazieres J, Curcio H, Wasag B, Pretzenbacher Y, Fournier B, Dingemans A, Dziadziuszko R. ANNALS OF ONCOLOGY. 2023; 34(5)DOI:10.1016/j.annonc.2023.02.012. PMID:36863484. IF:50,500 (Q1/1D).
- Neurological Adverse Events Related to Immune-Checkpoint Inhibitors in Spain: a Retrospective Cohort Study.** Fonseca E, Cabrera JM, Ruiz R, Naranjo L, Diaz C, Velasco R, Macias A, Mili-senda JC, Munoz E, Pascual E, Perez JG, Saiz A, Dalmau J, Blanco Y, Graus F, Martinez E. LANCET NEUROLOGY. 2023; 22(12)DOI:10.1016/S1474-4422(23)00335-6. PMID:37977714. IF:48,000 (Q1/1D).
- A Clinical-Genetic Risk Score for Predicting Cancer-Associated Venous Thromboembolism: a Development and Validation Study Involving Two Independent Prospective Cohorts.** Muñoz A, Ay C, Grilz E, López S, Font C, Pachón V, Castellón V, Martínez V, Salgado M, Martínez E, Calzas J, Ortega L, Rupérez A, Salas E, Pabinger I, Soria JM. JOURNAL OF CLINICAL ONCOLOGY. 2023; 41(16)DOI:10.1200/JCO.22.00255. PMID:36730884. IF:45,300 (Q1/1D).
- Phase II Trial of Atezolizumab Combined with Carboplatin and Pemetrexed for Patients with Advanced Nonsquamous Non-Small-Cell Lung Cancer with Untreated Brain Metastases (Atezo-Brain, GECP17/05).** Nadal E, Rodríguez D,



Simó M, Massutí B, Juan O, Huidobro G, López R, De Castro J, Estival A, Mosquera J, Sullivan I, Felipe E, Blasco A, Guirado M, Pereira E, Vilariño N, Navarro V, Bruna J. *JOURNAL OF CLINICAL ONCOLOGY*. 2023; 41(28)DOI:10.1200/JCO.22.02561. PMID:37603816. IF:45,300 (Q1/1D).

- Definitions, End Points, and Clinical Trial Designs for Bladder Cancer: Recommendations from the Society for Immunotherapy of Cancer and the International Bladder Cancer Group.** Kamat AM, Apolo AB, Babjuk M, Bivalacqua TJ, Black PC, Buckley R, Campbell MT, Compérat E, Efstathiou JA, Grivas P, Gupta S, Kurtz NJ, Lamm D, Lerner SP, Li R, McConkey DJ, Palou J, Powles T, Psutka SP, Shore N, Steinberg GD, Sylvester R, Witjes JA, Galsky MD. *JOURNAL OF CLINICAL ONCOLOGY*. 2023; 41(35):JCO2300307. DOI:10.1200/JCO.23.00307. PMID:37793077. IF:45,300 (Q1/1D).
- Impact of Minimal Residual Disease on Progression-Free Survival Outcomes after Fixed-Duration Ibrutinib-Venetoclax Versus Chlorambucil-Obinutuzumab in the GLOW Study.** Munir T, Moreno C, Owen C, Follows G, Benjamini O, Janssens A, Levin MD, Osterborg A, Robak T, Simkovic M, Stevens D, Voloshin S, Vorobyev V, Yagci M, Ysebaert L, Qi KQ, Qi QY, Parisi L, Srinivasan S, Schuier N, Baeten K, Howes A, Caces DB, Niemann CU, Kater AP. *JOURNAL OF CLINICAL ONCOLOGY*. 2023; 41(21)DOI:10.1200/JCO.22.02283. PMID:37279408. IF:45,300 (Q1/1D).
- Enfortumab Vedotin with or without Pembrolizumab in Cisplatin-Ineligible Patients with Previously Untreated Locally Advanced or Metastatic Urothelial Cancer.** O'Donnell PH, Milowsky MI, Petrylak DP, Hoimes CJ, Flaig TW, Mar N, Moon HH, Friedlander TW, McKay RR, Bilen MA, Srinivas S, Burgess EF, Ramamurthy C, George S, Geynisman DM, Bracarda S, Borchiellini D, Geoffrois L, Maroto JP, Ferrario C, Carret A-S, Yu Y, Guseva M, Homet B, Rosenberg JE. *JOURNAL OF CLINICAL ONCOLOGY*. 2023; 41(25) DOI:10.1200/JCO.22.02887. PMID:37369081. IF:45,300 (Q1/1D).
- Adjuvant Osimertinib for Resected Egfr-Mutated Stage IB-III A Non Small-Cell Lung Cancer: Updated Results from the Phase III Randomized ADAURA Trial.** Herbst RS, Wu Y-L, John T, Grohe C, Majem M, Wang J, Kato T, Goldman JW, Laktionov K, Kim S-W, Yu C-J, Vu HV, Lu S, Lee KY, Mukhametshina G, Akewanlop C, De Marinis F, Bonanno L, Domine M, Shepherd FA, Urban D, Huang X, Bolanos A, Stachowiak M, Tsuboi M. *JOURNAL OF CLINICAL ONCOLOGY*. 2023; 41(10)DOI:10.1200/JCO.22.02186. PMID:36720083. IF:45,300 (Q1/1D).
- Insulin Degludec Versus Insulin Detemir, both in Combination with Insulin Aspart, in the Treatment of Pregnant Women with Type 1 Diabetes (EXPECT): an Open-Label, Multinational, Randomised, Controlled, Non-Inferiority Trial.** Mathiesen ER, Alibegovic AC, Corcoy R, Dunne F, Feig DS, Hod M, Jia T, Kalyanam B, Kar S, Kautzky A, Marchesini C, Rea RD, Damm P, EXPECT G. *LANCET DIABETES & ENDOCRINOLOGY*. 2023; 11(2)DOI:10.1016/S2213-8587(22)00307-2. PMID:36623517. IF:44,500 (Q1/1D).
- Continuous Glucose Monitoring and Metrics for Clinical Trials: an International Consensus Statement.** Battelino T, Alexander CM, Amiel SA, Arreaza G, Beck RW, Bergenstal RM, Buckingham BA, Carroll J, Ceriello A, Chow E, Choudhary P, Close K, Danne T, Dutta S, Gabbay R, Garg S, Heverly J, Hirsch IB, Kader T, Kenney J, Kovatchev B, Laffel L, Maahs D, Mathieu C, Mauricio D, Nimri R, et al. *LANCET DIABETES & ENDOCRINOLOGY*. 2023; 11(1)DOI:10.1016/S2213-8587(22)00319-9. PMID:36493795. IF:44,500 (Q1/1D).
- The European Society of Cardiology Working Group on Thrombosis.** Rubboli A, Gorog DA, Vilahur G. *EUROPEAN HEART JOURNAL*. 2023; 44(25):ehad063. DOI:10.1093/eurheartj/ehad063. PMID:36814406. IF:39,300 (Q1/1D).
- Women, Lipids, and Atherosclerotic Cardiovascular Disease: a Call to Action from the European Atherosclerosis Society.** Van J, Tokgozoglul LS, Badimon L, Dumanski SM, Gulati M, Hess CN, Holven KB, Kavousi M, Kayikcioglu M, Lutgens E, Michos ED, Prescott E, Stock JK, Tybjaerg A, Wermer MJH, Benn M. *EUROPEAN HEART JOURNAL*. 2023; 44(39):ehad472. DOI:10.1093/eurheartj/ehad472. PMID:37611089. IF:39,300 (Q1/1D).
- Perivascular Adipose Tissue as a Source of Therapeutic Targets and Clinical Biomarkers a**



**Clinical Consensus Statement from the European Society of Cardiology Working Group on Coronary Pathophysiology and Micro-Circulation.** Antoniadou C, Tousoulis D, Vavilakis M, Fleming I, Duncker DJ, Eringa E, Manfrini O, Antonopoulos AS, Oikonomou E, Padro T, Trifunovic D, De Luca G, Guzik T, Cenko E, Djordjevic A, Crea F. *EUROPEAN HEART JOURNAL*. 2023; 44(38) DOI:10.1093/eurheartj/ehad484. PMID:37599464. IF:39,300 (Q1/1D).

- **Acute, Periprocedural and Longterm Antithrombotic Therapy in Older Adults 2022 Update by the ESC Working Group on Thrombosis.** Andreotti F, Geisler T, Collet JP, Gigante B, Gorog DA, Halvorsen S, Lip GYH, Morais J, Navarese EP, Patrono C, Rocca B, Rubboli A, Sibbing D, Storey RF, Verheugt F, Vilahur G. *EUROPEAN HEART JOURNAL*. 2023; 44(4)DOI:10.1093/eurheartj/ehac515. PMID:36477865. IF:39,300 (Q1/1D).
- **Management of Patients on Antithrombotic Therapy with Severe Infections: a Joint Clinical Consensus Statement of the ESC Working Group on Thrombosis, the ESC Working Group on Atherosclerosis and Vascular Biology, and the International Society on Thrombosis and Haemostasis.** Gigante B, Levy JH, van E, Bartoloni A, Bochaton ML, Back M, ten H, Christersson C, Ferreira JL, Geisler T, Lutgens E, Schulman S, Storey RF, Thachil J, Vilahur G, Liaw PC, Rocca B. *EUROPEAN HEART JOURNAL*. 2023; 44(32) DOI:10.1093/eurheartj/ehad388. PMID:37439553. IF:39,300 (Q1/1D).
- **Phase II Trial Of CDK4/6 Inhibitor Palbociclib in Advanced Sarcoma Based on mRNA Expression of CDK4/ CDKN2A.** Martin J, Martinez J, Moura DS, Redondo A, Gutierrez A, López A, Martinez J, Sevilla I, Diaz R, Solis MP, Carnero A, Perez M, Marcilla D, García J, Romero P, Fernández J, López D, Arribas I, Hindi N. *SIGNAL TRANSDUCTION AND TARGETED THERAPY*. 2023; 8(1):405. DOI:10.1038/s41392-023-01661-8. PMID:37875500. IF:39,300 (Q1/1D).
- **2023 ESC Guidelines for the Management of Endocarditis.** Delgado V, Marsan N, de Waha S, Bonaros N, Brida M, Burri H, Caselli S, Doenst T, Ederhy S, Erba PA, Foldager D, Fosbol EL, Kovac J, Mestres CA, Miller O, Miro JM, Pazdernik M, Pizzi MN, Quintana E, Rasmussen TB, Ristic AD, Rodés J, Sionis A, Zühlke LJ, Borger MA, ESC Sci Document GRP. *EUROPEAN HEART JOURNAL*. 2023; 44(39) DOI:10.1093/eurheartj/ehad193. PMID:37622656. IF:39,300 (Q1/1D).
- **Fulminant Myocarditis Proven by Early Biopsy and Outcomes.** Huang F, Ammirati E, Ponnaiah M, Montero S, Raimbault V, Abrams D, Lebreton G, Pellegrino V, Ihle J, Bottiroli M, Persichini R, Barrionuevo MI, Ariza A, Ng PY, SWC, Ayer R, Buscher H, Belaid S, Delmas C, Ferreira R, Albuquerque RRJR, López T, Bunge JJH, Fisser C, Franchineau G, Mccanny J, Ohshimo S, Sionis A, Hernández FJ, Barge E, et al. *EUROPEAN HEART JOURNAL*. 2023; 44(48)DOI:10.1093/eurheartj/ehad707. PMID:37941449. IF:39,300 (Q1/1D).
- **SCORE2-Diabetes: 10-Year Cardiovascular Risk Estimation in Type 2 Diabetes in Europe.** Pennells L, Kaptoge S, Ostergaard HB, Read SH, Carinci F, Franch J, Petitjean C, Taylor O, Hageman SHJ, Xu Z, Shi FC, Spackman S, Gualdi S, Holman N, Costa R, Bonnet F, Brenner H, Kiechl S, Lawlor DA, Potier L, Schottker B, Sofat R, Volzke H, Willeit J, Baltane Z, Fava S, Janos S, Lavens A, Pildava S, Poljicanin T, Pristas I, Rossing P, Sascha R, Scheidt C, Stotl I, Tibor G, Urbancic V, Vanherwegen AS, Vistisen D, Du Y, Walker MR, Willeit P, Ference B, De Bacquer D, Halle M, Huculeci R, McEvoy JW, Timmis A, Vardas P, Dorresteijn J, Graham I, Wood A, Eliasson B, Herrington W, Danesh J, Mauricio D, Benedetti MM, et al. *EUROPEAN HEART JOURNAL*. 2023; 44(28)DOI:10.1093/eurheartj/ehad260. PMID:37247330. IF:39,300 (Q1/1D).
- **Hypotension-Avoidance Versus Hypertension-Avoidance Strategies in Noncardiac Surgery an International Randomized Controlled Trial.** Marcucci M, Painter TW, Conen D, Lomivorotov V, Sessler DI, Chan MTV, Borges FK, Leslie K, Duceppe E, Martinez MJ, Wang CY, Xavier D, Ofori SN, Wang MK, Efremov S, Landoni G, Kleinlugtenbelt YV, Szczeklik W, Schmartz D, Garg AX, Short TG, Wittmann M, Meyhoff CS, Amir M, Torres D, Patel A, Ruetzler K, et al. *ANNALS OF INTERNAL MEDICINE*. 2023; 176(5)DOI:10.7326/M22-3157. PMID:37094336. IF:39,200 (Q1/1D).
- **Effect of Routine Invasive vs Conservative Strategy in Older Adults with Frailty and Non-St-Segment Elevation Acute Myocardial Infarction: a Randomized Clinical Trial.** Sanchis J,



- Bueno H, Miñana G, Guerrero C, Martí D, Martínez M, Domínguez L, Díez P, Barrabés JA, Marín F, Villa A, Sanmartín M, Llibre C, Sionís A, Carol A, García S, Calvo E, Morales MJ, Elízaga J, Gómez I, Alfonso F, García Del Blanco B, Núñez J, Formiga F, Ariza A. *JAMA INTERNAL MEDICINE*. 2023; 183(5)DOI:10.1001/jamainternmed.2023.0047. PMID:36877502. IF:39,000 (Q1/1D).
- **Epidemiology of Surgery Associated Acute Kidney Injury (EPIS-AKI): a Prospective International Observational Multi-Center Clinical Study.** Zarbock A, Weiss R, Albert F, Rutledge K, Kellum JA, Bellomo R, Grigoryev E, Candela AM, Demir ZA, Legros V, Rosenberger P, Menéndez PG, Alvarez MG, Peng K, Leger M, Khalel W, Orhan M, Meersch M, Epis I. *INTENSIVE CARE MEDICINE*. 2023; 49(12)DOI:10.1007/s00134-023-07169-7. PMID:37505258. IF:38,900 (Q1/1D).
  - **ERS/ESICM/ESCMID/ALAT Guidelines for the Management of Severe Community-Acquired Pneumonia.** Martin I, Torres A, Nagavci B, Aliberti S, Antonelli M, Bassetti M, Bos L, Chalmers J, Derde L, de Waele J, Garnacho J, Kollef M, Luna C, Menéndez R, Niederman M, Ponomarev D, Restrepo M, Rigau D, Schultz M, Weiss E, Welte T, Wunderink R. *INTENSIVE CARE MEDICINE*. 2023; 49(6)DOI:10.1007/s00134-023-07033-8. PMID:37012484. IF:38,900 (Q1/1D).
  - **Alirocumab and Coronary Atherosclerosis in Asymptomatic Patients with Familial Hypercholesterolemia: the ARCHITECT Study.** de Isla LP, Diaz JL, Romero MJ, Muniz O, Mediavilla JD, Argueso R, Munoz JS, Rubio P, Alvarez P, Ponte P, Manas D, Gutierrez LS, Cepeda JM, Casanas M, Fuentes F, Guijarro C, Barba MA, Cerezo AS, Padro T, Mata P, SAFEHEART GRP. *CIRCULATION*. 2023; 147(19)DOI:10.1161/CIRCULATIONAHA.122.062557. PMID:37009731. IF:37,800 (Q1/1D).
  - **BID Expression Determines the Apoptotic Fate of Cancer Cells after Abrogation of the Spindle Assembly Checkpoint by AURKB or TTK Inhibitors.** Bertran J, Giménez A, Román R, Talbot S, Whiteley R, Floc'h N, Martínez E, Martin MJ, Smith PD, Sullivan I, Terp MG, Saeh J, Marino C, Fabbri G, Guo G, Xu M, Tornador C, Aguilar A, Reguart N, Ditzel HJ, Martínez A, Nabau N, Gascó A, Rosell R, Pease JE, Polanska UM, Travers J, Urošević J, Molina MA. *MOLECULAR CANCER*. 2023; 22(1):110. DOI:10.1186/s12943-023-01815-w. PMID:37443114. IF:37,300 (Q1/1D).
  - **Genome-Wide Association Meta-Analysis Identifies Risk Loci for Abdominal Aortic Aneurysm and Highlights PCSK9 as a Therapeutic Target.** Roychowdhury T, Klarin D, Levin MG, Spin JM, Rhee YH, Deng A, Headley CA, Tsao NL, Gellatly C, Zuber V, Shen F, Hornsby WE, Laursen IH, Verma SS, Locke AE, Einarsson G, Thorleifsson G, Graham SE, Dikilitas O, Pattee JW, Judy RL, Pauls F, Nielsen JB, Wolford BN, Brumpton BM, Dilmé J, Peypoch O, Juscafresa LC, Edwards TL, Li D, Banasik K, Brunak S, Jacobsen RL, García MT, et al. *NATURE GENETICS*. 2023; 55(7)DOI:10.1038/s41588-023-01422-x. PMID:37337107. IF:30,800 (Q1/1D).
  - **Effect of Bypassing the Closest Stroke Center in Patients with Intracerebral Hemorrhage: a Secondary Analysis of the RACECAT Randomized.** Ramos A, Rodríguez D, Martí J, Millán M, Bustamante A, Martínez M, Serena J, Terceño M, Vera C, Camps P, Prats L, Rodríguez N, Cardona P, Urrea X, Solà S, Del Mar M, Salvat M, Ribó M, Abilleira S, Pérez de la Ossa N, Silva Y, RACECAT I. Clinical Trial. *JAMA NEUROLOGY*. 2023; 80(10)DOI:10.1001/jamaneurol.2023.2754. PMID:37603325. IF:29,000 (Q1/1D).
  - **SUCNR1 Signaling in Adipocytes Controls Energy Metabolism by Modulating Circadian Clock and Leptin Expression.** Villanueva T, Cedo L, Madeira A, Ceperuelo V, Rodríguez MM, Nunez C, Maymo E, Repolles M, Badia J, Keiran N, Mirasieira M, Pimenta C, Sabadell J, Bosch R, Caubet L, Escola JC, Fernández JM, Vilarrasa N, Ventura F, Vallejo M, Vendrell J, Fernández S. *CELL METABOLISM*. 2023; 35(4):601-619.e10. DOI:10.1016/j.cmet.2023.03.004. PMID:36977414. IF:29,000 (Q1/1D).
  - **Prevalence, Timing, and Network Localization of Emergent Visual Creativity in Frontotemporal Dementia.** Friedberg A, Pasquini L, Diggs R, Glaubitz EA, López L, Illán I, Iaccarino L, La Joie R, Mundada N, Knudtson M, Neylan K, Brown J, Allen IE, Rankin KP, Bonham LW, Yokoyama JS, Ramos EM, Geschwind DH, Spina S, Grinberg LT, Miller ZA, Kramer JH, Rosen H, Gorno ML, Rabinovici G, Seeley WW, Miller BL. *JAMA NEUROLOGY*.





2023; 80(4)DOI:10.1001/jamaneurol.2023.0001. PMID:36848111. IF:29,000 (Q1/1D).

- Intravenous Thrombolysis in Patients with Ischemic Stroke and Recent Ingestion of Direct Oral Anticoagulants.** Meinel TR, Wilson D, Gensicke H, Scheitz JF, Ringleb P, Goganau I, Kaesmacher J, Bae H-J, Kim DY, Kermer P, Suzuki K, Kimura K, Macha K, Koga M, Wada S, Altersberger V, Salerno A, Palanikumar L, Zini A, Forlivesi S, Kellert L, Wischmann J, Kristoffersen ES, Beharry J, Barber PA, Hong JB, et al. *JAMA NEUROLOGY*. 2023; 80(3)DOI:10.1001/jamaneurol.2022.4782. PMID:36807495. IF:29,000 (Q1/1D).
- Effectiveness and Safety of Trabectedin and Radiotherapy for Patients with Myxoid Liposarcoma a Nonrandomized Clinical Trial.** Sanfilippo R, Hindi N, Jurado JC, Blay JY, López A, Italiano A, Alvarez R, Gutierrez A, Rincon I, Sangalli C, Aguiar JLP, Romero J, Morosi C, Sunyach MP, Fabbroni C, Romagosa C, Ranchere D, Dei AP, Casali PG, Martin J, Gronchi A. *JAMA ONCOLOGY*. 2023; 9(5)DOI:10.1001/jamaoncol.2023.0056. PMID:36995731. IF:28,400 (Q1/1D).
- Atezolizumab Plus Bevacizumab as First-Line Treatment for Patients with Metastatic Nonsquamous Non-Small Cell Lung Cancer with High Tumor Mutation Burden: a Nonrandomized Controlled Trial.** Provencio M, Ortega AL, Coves J, Calvo V, Marsé R, Dómine M, Guirado M, Carcereny E, Fernández N, Álvarez R, Blanco R, León L, Sánchez JM, Sullivan IG, Cobo M, Sánchez A, Massuti B, Sierra B, Martínez C, Serna R, Romero A, Cruz A. *JAMA ONCOLOGY*. 2023; 9(3)DOI:10.1001/jamaoncol.2022.5959. PMID:36520426. IF:28,400 (Q1/1D).
- Novel Autologous CAR-T Therapy, YTB323, with Preserved T-cell Stemness Shows Enhanced CAR T-cell Efficacy in Preclinical and Early Clinical Development.** Dickinson MJ, Barba P, Jäger U, Shah NN, Blaise D, Briones J, Shune L, Boissel N, Bondanza A, Mariconti L, Marchal A-L, Quinn DS, Yang J, Price A, Sohoni A, Treanor LM, Orlando EJ, Mataraza J, Davis J, Lu D, Zhu X, Engels B, Moutouh L, Brogdon JL, Moschetta M, Flinn IW. *A CANCER DISCOVERY*. 2023; 13(9)DOI:10.1158/2159-8290.CD-22-1276. PMID:37249512. IF:28,200 (Q1/1D).
- EULAR Points to Consider for the Definition of Clinical and Imaging Features Suspicious for Progression from Psoriasis to Psoriatic Arthritis.** Zabotti A, De Marco G, Gosset L, Baraliakos X, Aletaha D, Iagnocco A, Gisondi P, Balint PV, Bertheussen H, Boehncke WH, Damjanov NS, de Wit M, Errichetti E, Marzo H, Protopopov M, Puig L, Queiro R, Ruscitti P, Savage L, Schett G, Siebert S, Stamm TA, Studenic P, Tinazzi I, Van den Bosch FE, van der Helm A, Watad A, Smolen JS, McGonagle DG. *ANNALS OF THE RHEUMATIC DISEASES*. 2023; 82(9)DOI:10.1136/ard-2023-224148. PMID:37295926. IF:27,400 (Q1/1D).
- Associations Between Polygenic Risk Score Loading, Psychosis Liability, and Clozapine Use among Individuals with Schizophrenia.** Lin BD, Pinzon J, Blouzard E, van der Horst MZ, Okhuijsen C, van KR, Guloksuz S, Peyrot WJ, Luykx JJ, Genetic Risk Outcome Psychosis GRP, Clozapine Int Consortium CLOZIN IN. *JAMA PSYCHIATRY*. 2023; 80(2)DOI:10.1001/jamapsychiatry.2022.4234. PMID:36542388. IF:25,800 (Q1/1D).
- Assessment of Portal Hypertension Severity Using Machine Learning Models in Patients with Compensated Cirrhosis.** Reiniš J, Petrenko O, Simbrunner B, Hofer BS, Schepis F, Scoppettuolo M, Saltini D, Indulti F, Guasconi T, Albillos A, Téllez L, Villanueva C, Brujats A, García JC, Perez V, Hernández V, Rautou P-E, Moga L, Vanwohlegem T, Kwanten WJ, Francque S, Trebicka J, Gu W, Ferstl PG, Glud LL, Bendtsen F, Møller S, Kubicek S, Mandorfer M, Reiberger T. *JOURNAL OF HEPATOLOGY*. 2023; 78(2)DOI:10.1016/j.jhep.2022.09.012. PMID:36152767. IF:25,700 (Q1/1D).
- Regional, Circuit and Network Heterogeneity of Brain Abnormalities in Psychiatric Disorders.** Segal A, Parkes L, Aquino K, Kia SM, Wolfers T, Franke B, Hoogman M, Beckmann CF, Westlye LT, Andreassen OA, Zalesky A, Harrison BJ, Davey CG, Soriano C, Cardoner N, Tiego J, Yücel M, Braganza L, Suo C, Berk M, Cotton S, Bellgrove MA, Marquand AF, Fornito A. *NATURE NEUROSCIENCE*. 2023; 26(9)DOI:10.1038/s41593-023-01404-6. PMID:37580620. IF:25,000 (Q1/1D).
- Novel Prognostic Biomarkers in Decompensated Cirrhosis: a Systematic.** Juanola A, Ma AT, de Wit K, Gananandan K, Roux O, Zaccherini G,



Jiménez C, Tonon M, Solé C, Villaseca C, Uschner FE, Graupera I, Pose E, Moreta MJ, Campion D, Beuers U, Mookerjee RP, Francoz C, Durand F, Vargas V, Piano S, Alonso S, Trebicka J, Laleman W, Asrani SK, Soriano G, Alessandria C, Serra M, Morales M, Torres F, Allegretti AS, Krag A, Caraceni P, Watson H, Abraldes JG, Sola E, Kamath PS, Hernaez R, Ginès P, LiverHope I. **REVIEW AND META-ANALYSIS**. GUT. 2023; DOI:10.1136/gutjnl-2023-329923. PMID:37884354. IF:24,500 (Q1/1D).

- **Hepatic Encephalopathy Is Not a Contraindication to Pre-Emptive Tips in High-Risk Patients with Cirrhosis with Variceal Bleeding.**

Rudler M, Hernandez V, Procopet BD, Giraldez A, Amitrano L, Villanueva C, Ibanez L, Silva G, Genesca J, Bureau C, Trebicka J, Banares R, Krag A, Llop E, Laleman W, Palazon JM, Castellote J, Rodrigues S, Gluud LL, Ferreira CN, Canete N, Rodríguez M, Ferlitsch A, Mundi JL, Gronbaek H, Hernandez M, Sassatelli R, Dell'era A, Senzolo M, Abraldes JG, Romero M, Zipprich A, Casas M, Masnou H, Larrue H, Primignani M, Nevens F, Calleja JL, Schwarzer R, Jansen C, Robic MA, Conejo I, Gonzalez JM, Catalina MV, Albillos A, Alvarado E, Guardascione MA, Mallet M, Tripon S, Casanovas G, Bosch J, García JC, Thabut D, Int Variceal Bleeding O. GUT. 2023; 72(4):326975. DOI:10.1136/gutjnl-2022-326975. PMID:36328772. IF:24,500 (Q1/1D).

- **ERS/ESICM/ESCMID/ALAT Guidelines for the Management of Severe Community-Acquired Pneumonia.**

Martin I, Torres A, Nagavci B, Aliberti S, Antonelli M, Bassetti M, Bos L, Chalmers J, Derde L, de Waele J, Garnacho J, Kollef M, Luna C, Menéndez R, Niederman M, Ponomarev D, Restrepo M, Rigau D, Schultz M, Weiss E, Welte T, Wunderink R. **EUROPEAN RESPIRATORY JOURNAL**. 2023; 61(4):2200735. DOI:10.1183/13993003.00735-2022. PMID:37012080. IF:24,300 (Q1/1D).

- **Obstructive Sleep Apnoea Is Related to Melanoma Aggressiveness through Paraspckle Protein-1 Upregulation.**

Cubillos C, Martínez MÁ, Díaz E, García S, Campos F, Sánchez M, Nagore E, Martorell A, Blasco LH, Pastor E, Abad J, Montserrat JM, Cabriada V, Cano I, Corral J, Arias E, Mediano O, Somoza M, Dalmau J, Al-

mendros I, Farré R, Gozal D, García F, Spanish N. **EUROPEAN RESPIRATORY JOURNAL**. 2023; 61(2):2200707. DOI:10.1183/13993003.00707-2022. PMID:36265878. IF:24,300 (Q1/1D).

- **Hypoxic Burden to Guide CPAP Treatment Allocation in Patients with Obstructive Sleep Apnoea: a Post-Hoc Study of the ISAACC Trial.**

Pinilla L, Esmaeili N, Labarca G, Martínez MÁ, Torres G, Gracia E, Mínguez O, Martínez D, Abad J, José M, Mediano O, Muñoz C, Cabriada V, Duran J, Mayos M, Coloma R, Montserrat JM, de la Peña M, Hu WH, Messineo L, MohammadReza S, Wellman A, Redline S, Sands S, Barbé F, Sánchez M, Azarbarzin A. **EUROPEAN RESPIRATORY JOURNAL**. 2023; 62(6):2300828. DOI:10.1183/13993003.00828-2023. PMID:37734857. IF:24,300 (Q1/1D).

- **European Respiratory Society Guideline on Various Aspects of Quality in Lung Cancer Care.**

Blum TG, Morgan RL, Durieux V, Chorostowska J, Baldwin DR, Boyd J, Faivre C, Galateau F, Gamarra F, Grigoriu B, Hardavella G, Hauptmann M, Jakobsen E, Jovanovic D, Knaut P, Massard G, McPhelim J, Meert A-P, Milroy R, Muhr R, Mutti L, Paesmans M, Powell P, Putora PM, Rawlinson J, Rich AL, Rigau D, de Ruyscher D, Sculier J-P, Schepereel A, Subotic D, Van P, Tonia T, Williams C, Berghmans T. **EUROPEAN RESPIRATORY JOURNAL**. 2023; 61(2):2103201. DOI:10.1183/13993003.03201-2021. PMID:36396145. IF:24,300 (Q1/1D).

- **Prevalence, Characteristics, and Prognostic Relevance of Donor-Transmitted Coronary Artery Disease in Heart Transplant Recipients.**

Couto D, Almenar L, Barge E, Hernández FJ, López JC, Valero MJ, Castel MÁ, Mirabet S, Garrido IP, Díez C, López A, Manrique R, Fernández CN, Muñoz J, Crespo MG. **JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY**. 2023; 82(9) DOI:10.1016/j.jacc.2023.06.016. PMID:37612006. IF:24,000 (Q1/1D).

- **Three-Year Safety, Tolerability, and Health-Related Quality of Life Outcomes of Adjuvant Osimertinib in Patients with Resected Stage IB to IIIA EGFR-Mutated NSCLC: Updated Analysis from the Phase 3 ADAURA Trial.**

John T, Grohé C, Goldman JW, Shepherd FA, de Marinis F, Kato T, Wang Q, Su W-C, Choi JH, Sriuranpong V,

Melotti B, Fidler MJ, Chen J, Albayaty M, Stachowiak M, Taggart S, Wu Y-L, Tsuboi M, Herbst RS, Majem M. *JOURNAL OF THORACIC ONCOLOGY*. 2023; 18(9)DOI:10.1016/j.jtho.2023.05.015. PMID:37236398. IF:20,400 (Q1/1D).

- RyR2 Serine-2030 PKA Site Governs Ca<sup>2+</sup> Release Termination and Ca<sup>2+</sup> Alternans.** Wei JH, Guo WT, Wang RW, Estillore JP, Belke D, Chen YX, Vallmitjana A, Benitez R, Hove L, Chen SRW. *CIRCULATION RESEARCH*. 2023; 132(2):e59-e77. DOI:10.1161/CIRCRESAHA.122.321177. PMID:36583384. IF:20,100 (Q1/1D).
- Increased Ca<sup>2+</sup> Transient Underlies RyR2-Related Left Ventricular Noncompaction.** Ni MK, Li YH, Wei JH, Song ZP, Wang H, Yao JJ, Chen YX, Belke D, Estillore JP, Wang RW, Vallmitjana A, Benitez R, Hove L, Feng W, Chen J, Roston TM, Sanatani S, Lehman A, Chen SRW. *CIRCULATION RESEARCH*. 2023; 133(2)DOI:10.1161/CIRCRESAHA.123.322504. PMID:37325910. IF:20,100 (Q1/1D).
- On the Relevance of Thrombomodulin Variants in Atypical Hemolytic Uremic Syndrome.** Huerta A, Arjona E, Portoles J, López P, Cavero T, Fernández J, Blasco M, Cabello V, Calvo N, Diaz M, Herrero M, Aguirre M, Elías S, Alcaide MP, Ramos N, Sellares J, Rodríguez de Córdoba S. *KIDNEY INTERNATIONAL*. 2023; 104(4)DOI:10.1016/j.kint.2023.07.020. PMID:37567446. IF:19,600 (Q1/1D).
- Glomerular Diseases in Pregnancy: Pragmatic Recommendations for Clinical Management.** Fakhouri F, Schwotzer N, Cabiddu G, Barratt J, Legardeur H, Garovic V, Orozco A, Wetzels J, Daugas E, Moroni G, Noris M, Audard V, Praga M, Llorba E, Wuerzner G, Attini R, Desseauve D, Zakharova E, Luders C, Wiles K, Leone F, Jesudason S, Costedoat N, Kattah A, Soto V, Karras A, Prakash J, Lightstone L, Ronco P, Ponticelli C, Appel G, Remuzzi G, Tsatsaris V, Piccoli GB. *KIDNEY INTERNATIONAL*. 2023; 103(2) DOI:10.1016/j.kint.2022.10.029. PMID:36481180. IF:19,600 (Q1/1D).
- Interaction of Heart Failure and Stroke: a Clinical Consensus Statement of the ESC Council on Stroke, the Heart Failure Association (HFA) and the ESC Working Group on Thrombosis.** Doehner W, Böhm M, Boriani G, Christersson C, Coats A, Haeusler KG, Jones ID, Lip GYH, Metra M, Ntaios G, Savarese G, Shantsila E, Vilahur G, Rosano G. *EUROPEAN JOURNAL OF HEART FAILURE*. 2023; 25(12)DOI:10.1002/ejhf.3071. PMID:37905380. IF:18,200 (Q1/1D).
- Comprehensive Vasodilatation in Women with Acute Heart Failure: Novel Insights from the GALACTIC Randomized Controlled Trial.** Wussler D, Belkin M, Maeder MT, Walter J, Shrestha S, Kupska K, Stierli M, Flores D, Kozhuharov N, Gualandro DM, de Oliveira MTJR, Sabti Z, Noveanu M, Socrates T, Bayés A, Sionis A, Simon P, Michou E, Gujer S, Gori T, Wenzel P, Pfister O, Arenja N, Kobza R, Rickli H, Breidthardt T, Münzel T, Mueller C, GALACTIC Investigators. *EUROPEAN JOURNAL OF HEART FAILURE*. 2023; 25(12)DOI:10.1002/ejhf.3065. PMID:37871997. IF:18,200 (Q1/1D).
- Essential Protein P116 Extracts Cholesterol and other Indispensable Lipids for Mycoplasmas.** Sprankel L, Vizarraga D, Martín J, Manger S, Meier J, Marcos M, Julve J, Rotllan N, Scheffer MP, Escolà JC, Langer JD, Piñol J, Fita I, Frangakis AS. *NATURE STRUCTURAL & MOLECULAR BIOLOGY*. 2023; 30(3)DOI:10.1038/s41594-023-00922-y. PMID:36782049. IF:16,800 (Q1/1D).
- Candidate Mechanisms of Acquired Resistance to First-Line Osimertinib in EGFR-Mutated Advanced Non-Small Cell Lung Cancer.** Chmielecki J, Gray JE, Cheng Y, Ohe Y, Imamura F, Cho BC, Lin MC, Majem M, Shah R, Rukazenkov Y, Todd A, Markovets A, Barrett JC, Hartmaier RJ, Ramalingam SS. *NATURE COMMUNICATIONS*. 2023; 14(1):1070. DOI:10.1038/s41467-023-35961-y. PMID:36849494. IF:16,600 (Q1/1D).
- CSF Proteome Profiling Reveals Biomarkers to Discriminate Dementia with Lewy Bodies from Alzheimer's Disease.** Del Campo M, Vermunt L, Peeters CFW, Sieben A, Hok YS, Lleó A, Alcolea D, van M, Engelborghs S, van JL, Arezoumandan S, Chen A, Irwin DJ, van der Flier WM, Lemstra AW, Teunissen CE. *NATURE COMMUNICATIONS*. 2023; 14(1):5635. DOI:10.1038/s41467-023-41122-y. PMID:37704597. IF:16,600 (Q1/1D).
- Atherosclerotic Plaque Development in Mice Is Enhanced by Myeloid ZEB1 Downregulation.** Martinez MC, Cortés M, Moreno A, Han L, Ninfali C, Domínguez V, Andrés MJ, Farràs M,



Esteve A, Enrich C, Diaz FJ, Pintado B, Escolà JC, de Frutos PG, Andrés V, Melgar P, Postigo A. *NATURE COMMUNICATIONS*. 2023; 14(1):8316. DOI:10.1038/s41467-023-43896-7. PMID:38097578. IF:16,600 (Q1/1D).

- Non-Invasive Electromechanical Assessment During Atrial Fibrillation Identifies Underlying Atrial Myopathy Alterations with Early Prognostic Value.** Enríquez D, Quintanilla JG, García A, Couselo M, Simón A, Lee P, Alfonso JM, Mahía P, Redondo A, Modrego J, Ortega A, Marcos P, Magani R, Calvo E, Gómez R, Yan P, La Rosa G, Bustamante J, Pérez CN, Martín FJ, Calvo D, de la Hera JM, García MJ, García Á, Ordonez J, Vázquez J, Pérez J, Pérez N, Loew LM, Sánchez J, Gómez D, Filgueiras D. *NATURE COMMUNICATIONS*. 2023; 14(1):4613. DOI:10.1038/s41467-023-40196-y. PMID:37542075. IF:16,600 (Q1/1D).
- Elevated Plasma Complement Factor H Related 5 Protein Is Associated with Venous Thromboembolism.** Iglesias MJ, Sánchez L, Ibrahim M, Naudin C, Munsch G, Goumidi L, Farm M, Smith PM, Thibord F, Kral JB, Hong M-G, Suchon P, Germain M, Schottmaier W, Dusart P, Boland A, Kotol D, Edfors F, Koprulu M, Pietzner M, Langenberg C, Damrauer SM, Johnson AD, Klarin DM, Smith NL, Smadja DM, et al. *NATURE COMMUNICATIONS*. 2023; 14(1):3280. DOI:10.1038/s41467-023-38383-y. PMID:37286573. IF:16,600 (Q1/1D).
- Circulating Small Noncoding RNA Profiling as a Potential Biomarker of Atherosclerotic Plaque Composition in Type 1 Diabetes.** Giannella A, Castelblanco E, Zambon CF, Basso D, Hernandez M, Ortega E, Alonso N, Mauricio D, Avogaro A, Ceolotto G, Vigili de Kreutzenberg S. *DIABETES CARE*. 2023; 46(3)DOI:10.2337/dc22-1441. PMID:36577032. IF:16,200 (Q1/1D).
- Rapid Reduction of HbA1c and Early Worsening of Diabetic Retinopathy: a Real-world Population-Based Study in Subjects with Type 2 Diabetes.** Simo R, Franch J, Vlachos B, Real J, Amado E, Flores J, Mata M, Ortega E, Rigla M, Valles J-A, Hernandez C, Mauricio D. *DIABETES CARE*. 2023;46(9)DOI:10.2337/dc22-2521. PMID:37428631. IF:16,200 (Q1/1D).
- Synaptic Oligomeric Tau in Alzheimer's Disease — a Potential Culprit in the Spread of Tau Pathology through the Brain.** Colom M, Davies C, Sirisi S, Lee J-E, Simzer EM, Tzioras M, Querol M, Sánchez É, Chang YY, Holt K, McGeachan RI, Rose J, Tulloch J, Wilkins L, Smith C, Andrian T, Belbin O, Pujals S, Horrocks MH, Lleó A, Spiers TL. *NEURON*. 2023; 111(14):2170-2183.e6. DOI:10.1016/j.neuron.2023.04.020. PMID:37192625. IF:16,200 (Q1/1D).
- Endosomal Escape for Cell-Targeted Proteins. Going out after Going in.** Voltà E, Parladé E, Serena N, Villaverde A, Vazquez E, Unzueta U. *BIO-TECHNOLOGY ADVANCES*. 2023; 63:108103. DOI:10.1016/j.biotechadv.2023.108103. PMID:36702197. IF:16,000 (Q1/1D).
- Proteomic Comparison Between Non-Purified Cerebrospinal Fluid and Cerebrospinal Fluid-Derived Extracellular Vesicles from Patients with Alzheimer's, Parkinson's and Lewy Body Dementia.** Hirschberg Y, Valle N, Dols O, Engelborghs S, Buelens B, Vandembroucke RE, Vermeiren Y, Boonen K, Mertens I. *JOURNAL OF EXTRACELLULAR VESICLES*. 2023; 12(12):e12383. DOI:10.1002/jev2.12383. PMID:38082559. IF:16,000 (Q1/1D).
- Improved Phenotypic Classification of Male Infertility to Promote Discovery of Genetic Causes.** Wyrwoll MJ, van der Heijden GW, Krausz C, Aston KI, Kliesch S, McLachlan R, Ramos L, Conrad DF, O'Bryan MK, Veltman JA, Tüttelmann F. *NATURE REVIEWS UROLOGY*. 2023; DOI:10.1038/s41585-023-00816-0. PMID:37723288. IF:15,300 (Q1/1D).
- Clinical Application of Bladder Mri and the Vesical Imaging-Reporting and Data System.** Panebianco V, Briganti A, Boellaard TN, Catto J, Comperat E, Efstathiou J, van der Heijden AG, Giannarini G, Girometti R, Mertens L, Takeuchi M, Muglia VF, Narumi Y, Novara G, Pecoraro M, Roupret M, Sanguedolce F, Santini D, Shariat SF, Simone G, Vargas HA, Woo S, Barentsz J, Witjes JA. *NATURE REVIEWS UROLOGY*. 2023; DOI:10.1038/s41585-023-00830-2. PMID:38036666. IF:15,300 (Q1/1D).

# Facts and Figures

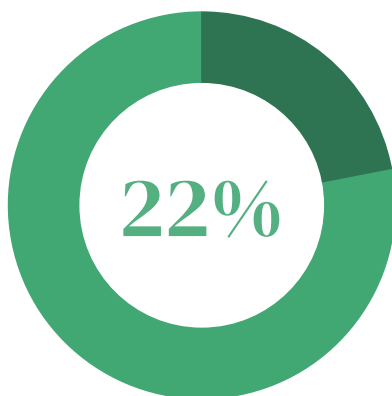


# Facts and Figures

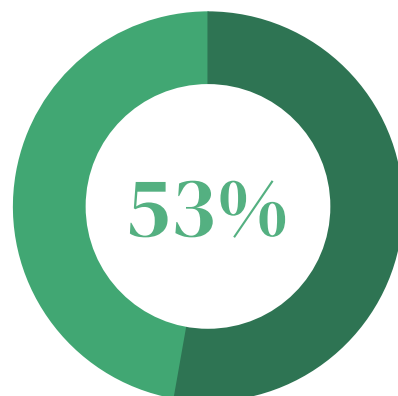
## 4.1 PUBLICATIONS

# 1,171

Articles & Reviews with JCR



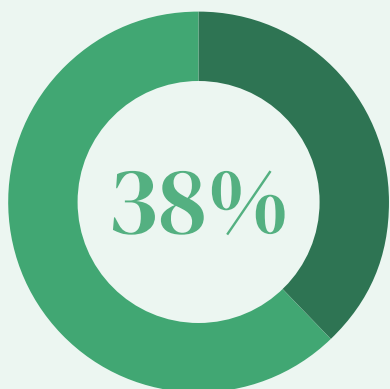
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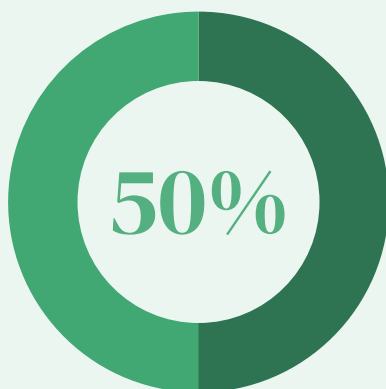
Q1

# 1,311

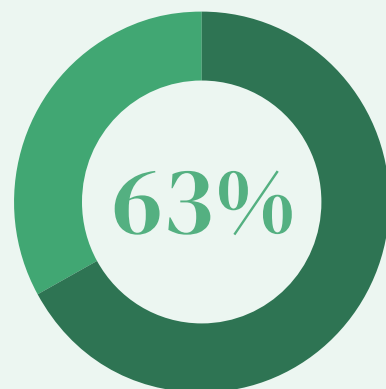
Articles & Reviews



Led by IR Sant Pau



International Collaboration



Open Access

# 48%

Led by Women



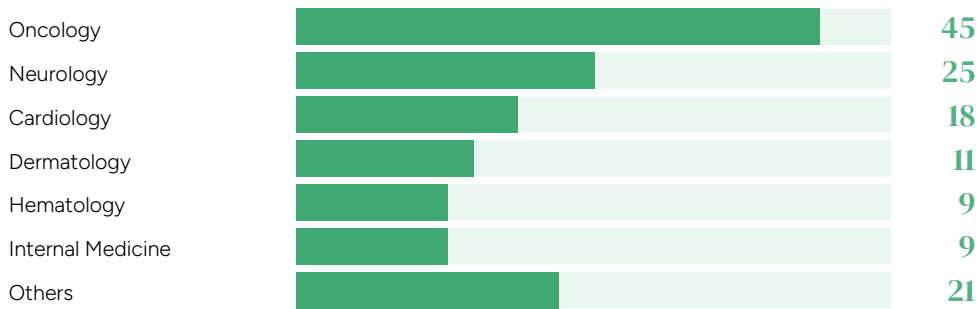
## 4.2 CLINICAL TRIALS

**138**  
Clinical Trials Initiated in 2023

**4**  
Independent Clinical Trials

**134**  
Industry led Clinical Trials

### BY FIELD

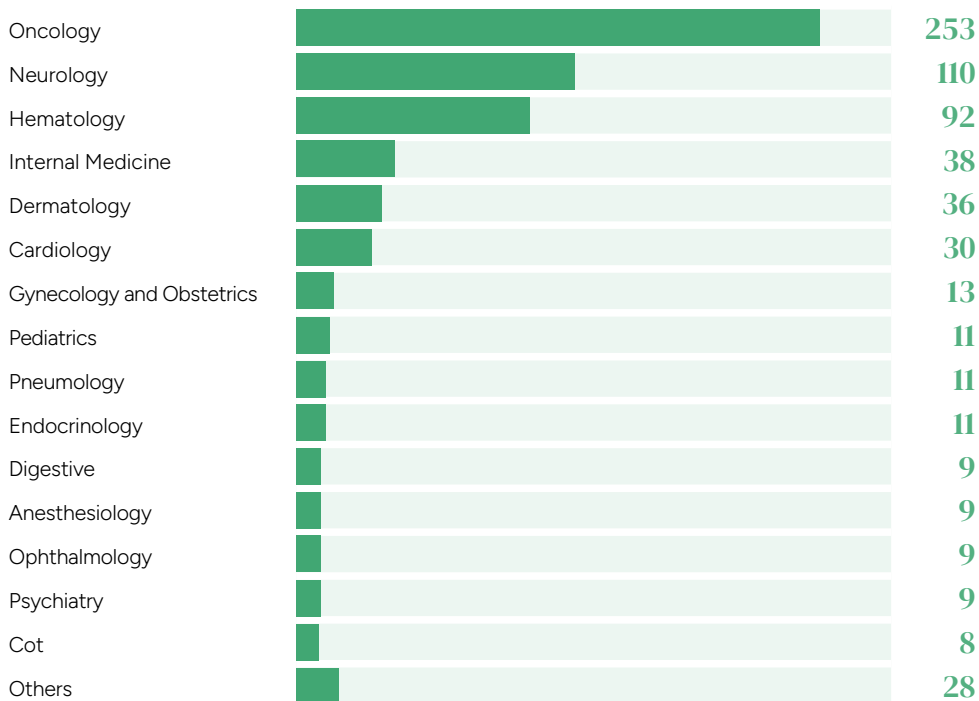


**677**  
Active Clinical Trials in 2023

**49**  
Independent Clinical Trials

**628**  
Industry led Clinical Trials

### BY FIELD



### 4.3 INNOVATION AND TECHNOLOGY TRANSFER



### 4.4 EDUCATION

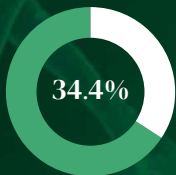
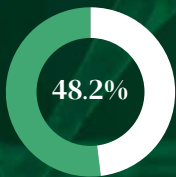
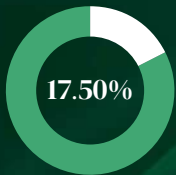
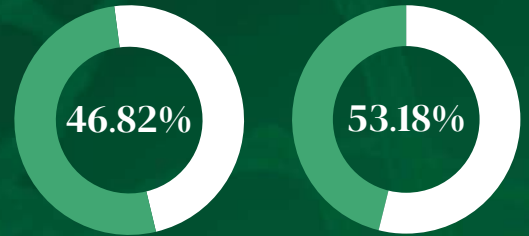


### 4.5 FUNDING

**30.03M€**  
Income

Public Funds

Private Funds



#### CORE FUNDING

Generalitat de Catalunya	14.39%	4,322,519
Fundació Privada Hospital Santa Creu i Sant Pau	3.11%	933,700

#### NON COMPETITIVE FUNDING

Clinical Trials	27.22%	8,173,396
Teaching	5.74%	1,722,347
Others	12.25%	4,578,263

#### COMPETITIVE FUNDING

National and International Grants and Projects	34.3%	10,300,831
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**TOTAL 30,031,088**



### 4.6 COMPETITIVE PROJECTS

# 126

New Projects

# 350

Active Projects

# 15.49M€

Total Amount Granted

# 10.41M€

National Grants

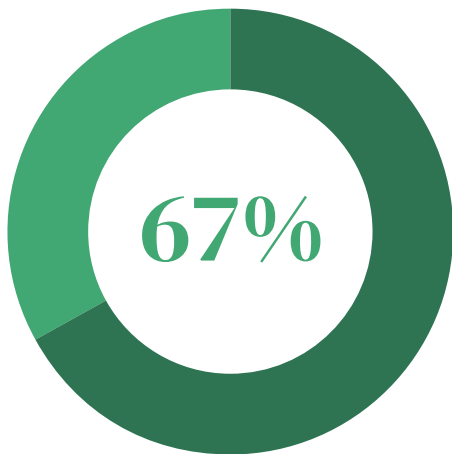
# 5.08M€

International Grants

### 4.7 PEOPLE

# 1,399

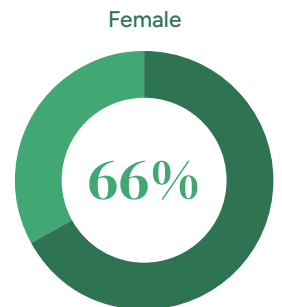
People



Female

# 1,274

Research Staff

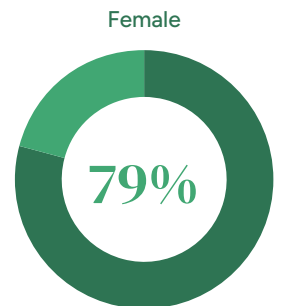


Female

		% Female
Group Leaders	69	41%
Researchers (R2, R3)	852	63%
First Stage Researchers (R1)	56	64%
Technicians	297	79%

# 125

Administration and Scientific Support Staff



Female

		% Female
Management Staff	102	78%
Core Facilities Staff	23	83%

## 4.8 SCIENCE AND SOCIETY

96

News

32

Press Release

1,990

Print and Online Media Appearances

3,230M

Impacted Audience

PUBLIC ENGAGEMENT AND OUTREACH ACTIVITIES  
DAILY ACTIVITY

53

Activities

19

Schools

7

Secondary Schools

14

Community Centers

13

Others

1,852

Participants

412

School Audiences

1,440

General Audiences

## EVENTS AND COLLABORATIONS

+25,000

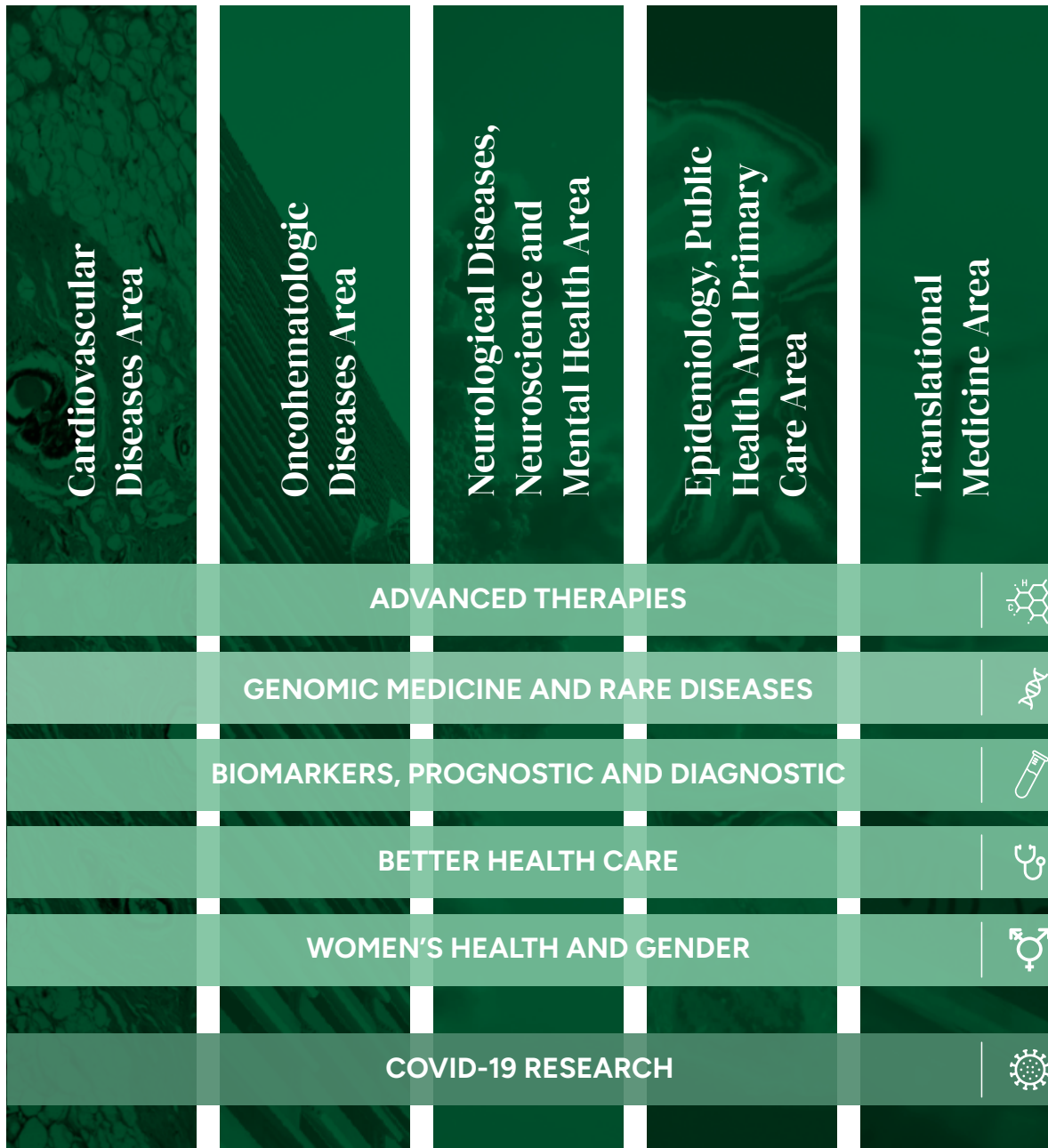
Impacted Audience

- 48h Open House
- Future Music Forum
- La Marató Visits
- Brain's Week
- La Caixa Research
- Festa de la Ciència
- Sónar+D
- Exporecerca

# Our Research



# 5.1 Strategic Scientific Research Areas



TRANSVERSAL PROGRAMMES

TEMPORARY TRANSVERSAL PROGRAMME

**ASSOCIATED GROUPS**

# 5.1.1 Cardiovascular Diseases Area



**Lina Badimon**  
Area Director

The incorporation of new technologies that facilitate molecular profiling and gene regulation has led to innovative research into heart and other cardiovascular diseases including arrhythmias, aorta aneurysm, vascular diseases, thrombosis, etc. The great diversity of groups in this area gives varied perspectives to ongoing research, whether in developing or testing the effectiveness of new biomarkers (as in the investigation of the metabolic and genetic bases of cardiovascular diseases) or therapeutic applications in the short term. Before final translation to humans, many of the advances in this area can be validated in animal models including small and large mammals including pigs.

## RESEARCH GROUPS

### Clinical and Translational Cardiology

Guerra Ramos, José Maria

### Thrombosis and Haemostasis

Souto Andrés, J. Carles

### Cardiovascular Biochemistry

Sánchez Quesada, José Luis

### Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases

Badimon Maestro, Lina

### Biomarkers for Cardiovascular Disease

Padro Capmany, Teresa

### Regulation of Cardiac Rhythm and Contraction

Hove-Madsen, Leif

### Lipids and Cardiovascular Pathology

Llorente Cortés, Concepción Vicenta

### Genomics of Complex Diseases

Soria Fernández, José Manuel

### Regulatory Mechanisms of Cardiovascular Remodelling

Rodríguez Sinovas, Cristina

### Pathophysiology of lipid-related disease

Blanco Vaca, Francisco (until January 2023)

Escola Gil, Joan Carles (from February 2023)

## Clinical and Translational Cardiology

### Group leader

Guerra Ramos, José Maria (FGS)

### Researchers

Acebes Pinilla, César (FGS)  
 Alonso Martin, Concepción (FGS)  
 Amoros Figueras, Gerard (CIBER)  
 Arzamendi Aizpurua, Dabit (FGS)  
 Asmarats Serra, Lluís (FGS)  
 Barros Membrilla, Antonio Jose (FGS)  
 Bonet Basiero, Ana (FGS)  
 Bos Real, Lidia (FGS)  
 Bosch Rue, Èlia (UAB)  
 Bragagnini, Walter (FGS)  
 Brossa Loidi, Vicente (FGS)  
 Campos García, Bieito (FGS)  
 Camprecios Crespo, Marta (FGS)  
 De Antonio Ferrer, Marta (FGS)  
 Descalzo Buey, Martin Luis (FGS)  
 Doñate Rodríguez, Maria Teresa (FGS)  
 Duran Cambra, Alberto (FGS)  
 Fernández Martinez, Juan (FGS)  
 Fernández Peregrina, Estefania (FGS)  
 García-Moll Marimon, Francesc Xavier (FGS)  
 Gual Santandreu, Miquel (FGS)  
 Jimenez Kockar, Marcelo Fabian (FGS)  
 Leta Petracca, Ruben (FGS)  
 Li Li, Chi Hion (FGS)  
 López López, Laura (FGS)  
 Maestro Benedicto, Alba (FGS)  
 Mendez Zurita, Francisco Javier (FGS)  
 Menduiña Gallego, Irene (FGS)  
 Millan Alvarez, Xavier (FGS)  
 Mirabet Perez, Sónia (FGS)  
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 Peña Ortega, Pedro (FGS)  
 Pomares Varo, Antonia (FGS)  
 Pujadas Olano, Sandra (FGS)  
 Rodríguez Font, Enrique (FGS)  
 Rodríguez Perez, Álvaro (IR)  
 Rodríguez Sotelo, Laura (FGS)  
 Ruiz López, Adrian (FGS)  
 Salido Iniesta, Mario (FGS)  
 Simon Ramon, Clara (IR)  
 Sionis, Alessandro (FGS)  
 Vila Perales, Montserrat (FGS)  
 Vilades Medel, David (FGS)  
 Viñolas Prat, Xavier (FGS)  
 Zegri Reiriz, Isabel (FGS)

### Research Technicians

Angli Ferrandiz, Laia (IR)  
 Herraiz Nieto, Silvia (IR)  
 Jimenez Xarrie, Elena (IR)



### DESCRIPTION

The Clinical and Translational Cardiology research group is a multidisciplinary research group focused on cardiovascular research. Our lines of work include basic and clinical electrophysiology, heart failure and heart transplantation, ischemic heart disease, valvular heart disease, diseases of the aorta, cardiac imaging, cardiac modeling, 3D printing, bioengineering, and innovation in health care management. The research group has access to all patient and clinical facilities of Hospital de la Santa Creu i Sant Pau and the research facilities of the research institute. The group keeps multiple research collaborations at the national and international levels.

### MAIN LINES OF RESEARCH

- Basic and clinical electrophysiology: JM Guerra.
- Biomarkers of cardiovascular disease: S Mirabet, A Sionis.
- Heart failure and heart transplantation: S Mirabet.
- Ischemic heart disease: Dr. Arzamendi, A Sionis.
- Valvular heart disease: Chi Hio Li.
- Diseases of the Aorta: A Barros.
- Cardiac Imaging: Dr. Vilades.
- Cardiovascular genetics: JM Guerra.
- Cardiac modelling and 3D printing: Abdel Hakim Moustafa.
- Bioengineering applied to cardiovascular disease: G Amoros.
- Innovation in health care management: X Viñolas.



## 05.1.1 Cardiovascular Diseases Area

## SCIENTIFIC CHALLENGES

## Electrophysiology

- Mechanisms of tachycardia-induced cardiomyopathy.
- Mechanisms of lesion formation in Pulsed Field Ablation. New applications.
- Use of bioimpedance for tissue characterization in arrhythmia procedures.

## Heart failure

- Mechanisms of vascular disease in heart transplant patients.
- New treatments for the management of heart failure patients.
- Biomarkers of disease prognosis in heart failure patients.
- Markers for early detection of cardiac graft rejection in transplanted patients.
- Palliative care programs for patients with advanced heart failure.

## Ischemic heart disease

- Multidisciplinary treatment of cardiac sudden death.
- Takotsubo syndrome.
- Cardiogenic shock.

## Valvular heart disease

- Implement new percutaneous techniques for the treatment of mitral and tricuspid valve regurgitation and degenerative aortic stenosis.
- Implement novel devices for the treatment of prosthetic valve leaks.

## Cardiac imaging

- Implement new imaging software analysis to detect structural abnormalities of the myocardium (fibrosis, necrosis).

## ACTIVE GRANTS

- Guerra Ramos, José Maria. Estudio traslacional para caracterizar las alteraciones estructurales y moleculares subyacentes a la reversibilidad de la miocardiopatía inducida por taquicardia. PI20/01702. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 187.550,00 €.

- Jiménez Sábado, Verónica. Functional impact of the 1q21 risk variant rs13376333 on calcium homeostasis and electrical stability in human stem cell-derived atrial myocytes. Fundación Privada Daniel Bravo Andreu. Duration: 2022-2023. 36.000,00€ (CIBERCV).
- Mirabet Perez, Sónia. Safety and immunogenicity of sars-cov-2 vaccine in solid organ transplant recipients: a multi-center study. 202102-32. Fundació La Marató de TV3. Duration: 2021-2023. 20.950,00 €.
- Viñolas Prat, Xavier. TIQUE - 965356 - InnovaTlve care services, enhanced with technology, to deliver quick responses for individuals with advanced heart failure and complex care needs through integrated care. Horizon 2020. European Commission. Duration: 2020 - 2026. 4.548.678,70 € (FGS).

## GRANTS AWARDED

- Guerra Ramos, José Maria. Optimización del tratamiento con amiodarona de la fibrilación auricular persistente mediante una estrategia terapéutica personalizada. Ensayo clínico aleatorizado. PI23/ 01768. Instituto de Salud Carlos III. Duration: 2024-2026. 152.500,00 €.
- Guerra Ramos, José Maria. Electroporation in cardiac tissue: from safe and efficient cardiac arrhythmias ablation to new therapeutic indications. MARATO 202320-30 Fundació La Marató de TV3. Duration: 2024-2027. 199.995,00 €.
- Guerra Ramos, José Maria. Efectos de la contaminación atmosférica sobre el desarrollo de arritmias, e impacto de estrategias poblacionales destinadas a disminuir la exposición a contaminantes. PR(AG)15/2022. Ajuntament de Barcelona. Duration: 2023-2024. 15.340,00 €.

## DOCTORAL THESES DEFENDED

- Viladés Medel, David. Calculation of FFR-CT in human epicardial coronary arteries. 16/05/2023. Universitat Autònoma de Barcelona. Supervisor: Carreras Costa, Francesc; Cinca Cuscullola, Juan.

## SCIENTIFIC PRODUCTION

- Adelino R, Malaczynska K, Perrotta L, Manninger M, Vanduyhoven P, Nesti M, Goanta EV, Waldmann V, Pavlovic N, Farkowski MM, Guerra JM,



## 05.1.1 Cardiovascular Diseases Area

- Penela D, Boveda S, Chun JKR. Occupational radiation exposure of electrophysiology staff with reproductive potential and during pregnancy: an EHRA survey. *EUROPACE*. 2023; 25(9):euad216. DOI:10.1093/europace/euad216. PMID:37498147. IF:6,100 (Q1/3D). Document type: Review.
- Álvarez J, Popova E, Vives M, de Nadal M, Ordonez J, Rivas M, Moustafa A-H, Solé E, Paniagua P, García X, Viladés D, Leta R, Oristrell G, Zamora J, Ferreira I, Alonso P, Carreras F. Myocardial injury after major non-cardiac surgery evaluated with advanced cardiac imaging: a pilot study. *BMC Cardiovascular Disorders*. 2023; 23(1):78. DOI:10.1186/s12872-023-03065-6. PMID:36765313. IF:2,100 (Q3/8D). Document type: Article.
  - Amat IJ, Delgado JR, Cruz I, Gutiérrez H, García I, Millán X, Tirado G, Ruiz JM, Mohandes M, Palazuelos J, Torres F, Del Valle R, Valero E, Núñez JC, Gómez I, Albarrán R, Arzamendi D, Nombela L, Korniiiko L, Barrero A, Santos S, Serrador A, San Román JA. Cardiac amyloidosis and left atrial appendage closure. The CAMYLAAC study. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(7)DOI:10.1016/j.rec.2022.08.001. PMID:35934294. IF:5,900 (Q1/3D). Document type: Article.
  - Amorós G, Casabella S, Company G, Arzamendi D, Jorge E, García A, Macías Y, Sánchez D, Rosell J, Guerra JM, Cinca J. Electrophysiological and histological characterization of atrial scarring in a model of isolated atrial myocardial infarction. *Frontiers in Physiology*. 2023; 13:1104327. DOI:10.3389/fphys.2022.1104327. PMID:36714312. IF:4,000 (Q2/3D). Document type: Article.
  - Amorós G, Casabella S, Moreno Z, Ivorra A, Guerra JM, García T. Dynamics of High-Density Unipolar Epicardial Electrograms During PFA. *Circulation-Arrhythmia and Electrophysiology*. 2023; 16(9):e011914. DOI:10.1161/CIRCEP.123.011914. PMID:37577822. IF:8,400 (Q1/2D). Document type: Article.
  - Andrés JF, Vilalta V, Millán X, Moustafa AH, Fernández E, Julià I, Carrillo X, Delgado V. Complex Mitral Paravalvular Leak Closure: 3D Printing to the Rescue. *JACC-Cardiovascular Interventions*. 2023; 16(17)DOI:10.1016/j.jcin.2023.05.027. PMID:37354165. IF:11,300 (Q1/1D). Document type: Note.
  - Asmarats L, Gutiérrez L, Nombela L, Regueiro A, Millán X, Tirado G, Cepas P, Li CHP, Fernández E, Jiménez P, Freixa X, Arzamendi D. Cusp-overlap technique during TAVI using the self-expanding Portico FlexNav system. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(10)DOI:10.1016/j.recresp.2023.02.006. PMID:36804557. IF:7,050 (Q1/3D). Document type: Article.
  - Avvedimento M, Campelo F, Munoz E, Nombela L, Fischer Q, Donaint P, Serra V, Veiga G, Gutiérrez E, Esposito G, Vilalta V, Alperi A, Regueiro A, Asmarats L, Ribeiro HB, Matta A, Munoz A, Tirado G, Urena M, Metz D, Rodenas E, de la Torre JM, Fernández E, Pascual I, Vidal P, Arzamendi D, Campanha DC, Trinh KH, Côté M, Faroux L, Rodés J. Late Bleeding Events in Patients Undergoing Percutaneous Coronary Intervention in the Wokup Pre-TAVR. *JACC-Cardiovascular Interventions*. 2023; 16(17)DOI:10.1016/j.jcin.2023.06.037. PMID:37704301. IF:11,300 (Q1/1D). Document type: Article.
  - Ayala B, Escobedo M, Egri N, Herrera S, Crespo M, Mirabet S, Arias C, Vilella A, Palou E, Mosquera MM, Pascal M, Colmenero J, Farrero M, Bodro M. Impact of SARS-CoV-2 Infection on Humoral and Cellular Immunity in a Cohort of Vaccinated Solid Organ Transplant Recipients. *Vaccines*. 2023; 11(12):1845. DOI:10.3390/vaccines11121845. PMID:38140248. IF:7,800 (Q1/2D). Document type: Article.
  - Baldi E, Conte G, Zeppenfeld K, Lenarczyk R, Guerra JM, Farkowski MM, de Asmundis C, Boveda S. Contemporary management of ventricular electrical storm in Europe: results of a European Heart Rhythm Association Survey. *EUROPEAN HEART JOURNAL*. 2023; 44(12):e6611. DOI:10.1093/eurheartj/ehad661. PMID:36196613. IF:6,100 (Q1/3D). Document type: Article.
  - Banning AS, Sabaté M, Orban M, Gracey J, López T, Massberg S, Kastrati A, Bogaerts K, Adriaenssens T, Berry C, Erglis A, Haine S, Myrmet T, Patel S, Buera I, Sionis A, Vilalta V, Yusuff H, Vrints C, Adlam D, Flather M, Gershlick AH. Venoarterial extracorporeal membrane oxygenation or standard





## 05.1.1 Cardiovascular Diseases Area

- care in patients with cardiogenic shock complicating acute myocardial infarction: the multicentre, randomized EURO SHOCK trial. *EuroIntervention*. 2023; 19(6)DOI:10.4244/EIJ-D-23-00204. PMID:37334659. IF:6,200 (Q1/3D). Document type: Article.
- Barge E, González F, Almenar L, Carmena MDG-C, González J, Gómez M, Castel MÁ, Lambert JL, Martínez M, Mirabet S, la Fuente LD, Hervás D, Rangel D, Garrido IP, Blasco T, Juan GR, Muñiz J, Crespo MG. Temporal trends in the use and outcomes of temporary mechanical circulatory support as a bridge to cardiac transplantation in Spain. Final report of the ASIS-TC study. *JOURNAL OF HEART AND LUNG TRANSPLANTATION*. 2023; 42(4)DOI:10.1016/j.healun.2022.10.020. PMID:36470772. IF:8,900 (Q1/1D). Document type: Article.
  - Baseer I, Valverde I, Moustafa AH, Blat J, Camara O, I. Evaluation of cinematic volume rendering open-source and commercial solutions for the exploration of cozMelbourne. 10662 LOS VAQUEROS CIRCLE, PO BOX 3014, LOS ALAMITOS, CA 90720-1264 USA: IEEE COMPUTER SOC. 2023. P.p. 76-80. Document type: Proceedings Paper.
  - Bertaina M, Morici N, Frea S, Garatti L, Briani M, Sorini C, Villanova L, Corrada E, Sacco A, Moltrasio M, Ravera A, Tedeschi M, Bertoldi L, Lettino M, Saia F, Corsini A, Camporotondo R, Colombo CNJ, Bertolin S, Rota M, Oliva F, Iannaccone M, Valente S, Pagnesi M, Metra M, Sionis A, Marini M, De Ferrari GM, Kapur NK, Pappalardo F, Tavazzi G. Differences between cardiogenic shock related to acute decompensated heart-failure and acute myocardial infarction. *ESC Heart Failure*. 2023; DOI:10.1002/ehf2.14510. PMID:37723131. IF:3,800 (Q2/4D). Document type: Article.
  - Bouzas A, Viladés D, Muñiz J. Coronary computed tomography angiography in asymptomatic patients with diabetes. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(9)DOI:10.1016/j.recesp.2023.03.018. PMID:37201713. IF:7,050 (Q1/3D). Document type: Article.
  - Campos B, Alonso C, Guerra JM, Moreno Z, Méndez F, Montiel R, Betancur A, Vinolas X, Rodríguez E. Reassessment of the electrical connection between the pulmonary veins and the left atrium: A study to determine the different contributions of myocardial fibers along the standard ablation circumference. *Frontiers in Cardiovascular Medicine*. 2023; 10:1162197. DOI:10.3389/fcvm.2023.1162197. PMID:37346283. IF:3,600 (Q2/5D). Document type: Article.
  - Campos B, Alonso C, Moreno Z, Rodríguez E, Méndez FJ, Vinolas X. Impact on early patient mobilization of the use of a single vascular closure device in patients undergoing leadless pacemaker implantation. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(4)DOI:10.1016/j.recesp.2022.09. PMID:36572098. IF:5,900 (Q1/3D). Document type: Letter.
  - Campos B, Alonso C, Moreno Z, Rodríguez E, Méndez FJ, Viñolas X. Impact on early patient mobilization of the use of a single vascular closure device in patients undergoing leadless pacemaker implantation. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(4)DOI:10.1016/j.recesp.2022.09.011. IF:7,050 (Q1/3D). Document type: Letter.
  - Carreras J, Simón C, Vidal M, Rodríguez L, Sionis A, Giralt T, Izquierdo A, Rodríguez C, Farré N, Cainzos M, Tizón H, García J, Milà L, Vaquerizo B, Rivas M, Ribas N. Subclinical congestion assessed by lung ultrasound in ST-segment elevation myocardial infarction. *HEART*. 2023; 109(21):heartjnl-2023-322690. DOI:10.1136/heartjnl-2023-322690. PMID:37268410. IF:5,700 (Q2/3D). Document type: Article.
  - Catapano AL, De Caterina R, Jukema JW, Klempfner R, Landmesser U, Schiele F, Sionis A. Addressing current challenges in optimization of lipid management following an ACS event: Outcomes of the ACS EuroPath III initiative. *CLINICAL CARDIOLOGY*. 2023; 46(4)DOI:10.1002/clc.23988. PMID:36799113. IF:2,700 (Q3/6D). Document type: Article.
  - Cecconi A, Li C-HP, Pombar M, Cruz I, Martínez A. Radiation protection in interventional echocardiography. Recommendations of the SEC-Cardiovascular Imaging Association/ SEC-Interventional Cardiology Association. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(12)DOI:10.1016/j.recesp.2023.05.010.



## 05.1.1 Cardiovascular Diseases Area

- IF:7,050 (Q1/3D). Document type: Editorial Material.
- Cecconi A, Li CP, Pombar M, Cruz I, Martínez A. Radiation protection in interventional echocardiography. Recommendations of the SEC-Cardiovascular Imaging Association/SEC-Interventional Cardiology Association. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(12)DOI:10.1016/j.rec.2023.05.010. PMID:37572774. IF:5,900 (Q1/3D). Document type: Editorial Material.
  - Cepas P, Flores E, Leduc N, Bajoras V, Perrin N, Farjat J, McInerney A, Lafond A, Millán X, Zenzjebil S, O'Hara G, Ibrahim R, de Backer O, Cruz I, Arzamendi D, Sanchis L, Garot P, Nielsen JE, Nombela L, Aminian A, Rodés J, Freixa X. Impact of Device Implant Depth After Left Atrial Appendage Occlusion. *JACC-Cardiovascular Interventions*. 2023; 16(17)DOI:10.1016/j.jcin.2023.05.045. PMID:37565966. IF:11,300 (Q1/1D). Document type: Article.
  - Cervantes CE, Fernández AE, Mayoral AR, Mirabet S, Costello JG, Gracia JR, Nunez JV, Franco AG, Palomas JLB. Identifying the patient with heart failure to be treated with vericiguat. *CURRENT MEDICAL RESEARCH AND OPINION*. 2023; 39(5)DOI:10.1080/03007995.2023.2189857. PMID:36897009. IF:2,300 (Q3/6D). Document type: Review.
  - Conde AC, Martin DM, Ruiz RC, Olmo MRF, Arino CM, Doblas JJG, Teruel JLG, Ramos PM, Marimon XGM, Romeo MJS, Jimenez DL, Esteban VA, Rebollar J, Cervantes CE, Martinez JJG. Comprehensive Cardiovascular and Renal Protection in Patients with Type 2 Diabetes. *Journal of Clinical Medicine*. 2023; 12(12):3925. DOI:10.3390/jcm12123925. PMID:37373620. IF:3,900 (Q2/4D). Document type: Review.
  - Couto D, Almenar L, Barge E, Hernández FJ, López JC, Valero MJ, Castel MÁ, Mirabet S, Garrido IP, Díez C, López A, Manrique R, Fernández CN, Muñoz J, Crespo MG. Prevalence, Characteristics, and Prognostic Relevance of Donor-Transmitted Coronary Artery Disease in Heart Transplant Recipients. *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY*. 2023; 82(9)DOI:10.1016/j.jacc.2023.06.016. PMID:37612006. IF:24,000 (Q1/1D). Document type: Article.
  - Creta A, Venier S, Tampakis K, Providencia R, Sunny J, Defaye P, Earley MJ, Finlay M, Hunter RJ, Lambiase PD, Papageorgiou N, Schilling RJ, Sporton S, Andrikopoulos G, Deschamps E, Albenque JP, Cardin C, Combes N, Combes S, Vinolas X, Moreno Z, Huang T, Eichenlaub M, Müller B, Arentz T, Jadidi AS, Boveda S. Amplified sinus-P-wave analysis predicts outcomes of cryoballoon ablation in patients with persistent and long-standing persistent atrial fibrillation: A multicentre study. *Frontiers in Cardiovascular Medicine*. 2023; 10DOI:10.3389/fcvm.2023.1110165. PMID:37051067. IF:3,600 (Q2/5D). Document type: Article.
  - Czerwinska K, Wood A, Bohm A, Kwasiborski P, Oleksiak A, Ryczek R, Grand J, Tavazzi G, Sionis A, Stepinska J. Association between dose of catecholamines and markers of organ injury early after out-of-hospital cardiac arrest. *Cardiology Journal*. 2023; 30(6)DOI:10.5603/CJ.a2021.0173. PMID:34967939. IF:2,900 (Q3/6D). Document type: Article.
  - de Juan J, Rodríguez A, Caravaca P, Aguilar F, García MD, Mirabet S, López ML, de la Cruz J, Guerra JM, Segura J, Arribas F, Ruilope LM, Delgado JF. Twenty-four-hour ambulatory blood pressure monitoring in patients with stable heart failure. Prevalence and associated factors. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(11)DOI:10.1016/j.rec.2023.02.018. PMID:37182724. IF:5,900 (Q1/3D). Document type: Article.
  - Delgado V, Marsan N, de Waha S, Bonaros N, Brida M, Burri H, Caselli S, Doenst T, Ederhy S, Erba PA, Foldager D, Fosbol EL, Kovac J, Mestres CA, Miller O, Miro JM, Pazdernik M, Pizzi MN, Quintana E, Rasmussen TB, Ristic AD, Rodés J, Sionis A, Zühlke LJ, Borger MA, ESC Sci Document GRP. 2023 ESC Guidelines for the management of endocarditis. *EUROPEAN HEART JOURNAL*. 2023; 44(39)DOI:10.1093/eurheartj/ehad193. PMID:37622656. IF:39,300 (Q1/1D). Document type: Article.
  - Escobar C, Freire RB, Marimón XGM, González C, Morillas M, Muñoz AV, Doblas JJG. A Delphi consensus on the management of anticoagulation in the COVID-19 pandemic: the MONACO study. *Cardiovascular Diagnosis and Therapy*. 2023; 13(5)DOI:10.21037/cdt-23-76. PMID:37941839. IF:2,400 (Q3/7D). Document type: Article.



## 05.1.1 Cardiovascular Diseases Area

- Esteban A, Gomez I, López S, Santamarta MR, Pastor FJ, Fluvia P, Perez JA, López AL, García JM, Palomas JLB, Bonet LA, Cobo M, Mateo VM, Llergo JT, Fernández VA, Vives CG, Baguda JD, Benedicto AM, de Polavieja J, Solla I, Sole E, Cardona M, Olaetxea JR, Cortés CO, Dosantos VM, López AG, Amao E, Sánchez BC, Torres EA, Carrillo VG, García D, Ridocci F, TIDY I. Influence of the medical treatment schedule in new diagnoses patients with heart failure and reduced ejection fraction. *Clinical Research in Cardiology*. 2023; DOI:10.1007/s00392-023-02241-0. PMID:37341769. IF:5,000 (Q2/4D). Document type: Article.
- Fernández AE, Mayoral AR, Franco AG, Villota JN, Mirabet S, Gracia JR, Costello JG, Palomas JLB, Cervantes CE. Optimizing the management of patients with worsening heart failure: beyond heart failure hospitalization. *EXPERT OPINION ON PHARMACOTHERAPY*. 2023; 24(6)DOI:10.1080/14656566.2023.2195540. PMID:36961877. IF:3,200 (Q3/6D). Document type: Review.
- Fernández E, Asmarats L, Estevez R, Pascual I, Bastidas D, Benito T, Caneiro B, Avanzas P, De Agustin JA, Fernández F, Barreiro M, Leon V, Nombela L, Garrote C, Li CH, Baz JA, Adeba A, Sans J, Gualis J, Arzamendi D. Global Longitudinal Strain Predicts Outcomes in Patients with Reduced Left Ventricular Function Undergoing Transcatheter Edge-to-Edge Mitral Repair. *Journal of Clinical Medicine*. 2023; 12(12):4116. DOI:10.3390/jcm12124116. PMID:37373808. IF:3,900 (Q2/4D). Document type: Article.
- Flores-Umanzor E, Nagic J, Cepas-Guillén P, Hascoet S, Pysz P, Baz JA, Cruz-González I, Amat-Santos IJ, Antúnez-Muiños P, González JC, Ruíz-Quevedo V, Estevez-Loureiro R, Gerardin B, Millan X, Santaló-Corcoy M, Regueiro A, Ibrahim R, Arzamendi D, Onorato EM, Rodés-Cabau J, Horlick E, Calvert PA, Freixa X. Percutaneous paravalvular leak closure after transcatheter aortic valve implantation: the international PLUGinTAVI Registry. *EuroIntervention*. 2023; 19(5):e442-e449. DOI:10.4244/EIJ-D-22-01110. PMID: 37128805; IF:6,200 (Q1/3D). Document type: Article.
- García E, Camps P, Puig N, Fernández A, Aguilera A, Benitez A, Solé A, Vilades D, Sánchez JL, Martí J, Jiménez E, Benitez S, Llorente V. Soluble low-density lipoprotein receptor-related protein 1 as a surrogate marker of carotid plaque inflammation assessed by 18F-FDG PET in patients with a recent ischemic stroke. *Journal of Translational Medicine*. 2023; 21(1):131. DOI:10.1186/s12967-022-03867-w. PMID:36805772. IF:7,400 (Q1/3D). Document type: Article.
- García E, Gil P, Miñambres I, Benitez A, Rodríguez C, Claudi L, Julve J, Benitez S, Sánchez JL, Rives J, García X, Vilades D, Perez A, Llorente V. Increased sLRP1 and decreased atrial natriuretic peptide plasma levels in newly diagnosed T2DM patients are normalized after optimization of glycemic control. *Frontiers in Endocrinology*. 2023; 14:1236487. DOI:10.3389/fendo.2023.1236487. PMID:37635956. IF:5,200 (Q1/3D). Document type: Article.
- García X. Where there is smoke there is risk: is there an irreversible threshold?. *EUROPEAN HEART JOURNAL*. 2023; 44(42)DOI:10.1093/eurheartj/ehad685. PMID:37850511. IF:39,300 (Q1/1D). Document type: Editorial Material.
- García-Álvarez A, Blanco I, García-Lunar I, Jordà P, Rodríguez-Arias JJ, Fernández-Friera L, Zegri I, Nuche J, Gomez-Bueno M, Prat S, Pujadas S, Sole-Gonzalez E, García-Cossio MD, Rivas M, Torrecilla E, Pereda D, Sánchez J, García-Pavía P, Segovia-Cubero J, Delgado JF, Mirabet S, Fuster V, Barberá JA, Ibañez B; SPHERE-HF Investigators.  $\beta$ 3 adrenergic agonist treatment in chronic pulmonary hypertension associated with heart failure (SPHERE-HF): a double blind, placebo-controlled, randomized clinical trial. *Eur J Heart Fail*. 2023 Mar;25(3):373-385. doi: 10.1002/ejhf.2745. PMID: 36404400. IF: 18,200 (Q1/D1). Document type: Article.
- Gomis M, Perez SM, López AD, Loidi VB, López LL, Cruz RP, Bafalluy M. Does an eHealth Intervention Reduce Complications and Healthcare Resources? A mHeart Single-Center Randomized-Controlled Trial. *Journal of Cardiovascular Development and Disease*. 2023; 10(2):77. DOI:10.3390/jcdd10020077. PMID:36826572. IF:2,400 (Q3/7D). Document type: Article.
- González C, Anguita M, Barrios V, Núñez I, Gómez JJ, García X, Lafuente C, Rollán MJ, Peral V,



## 05.1.1 Cardiovascular Diseases Area

- Martínez L, Rodríguez M, Viñolas X, Soriano T, Muñoz R, Plaza I, Curcio A, Orts E, Segovia J, Fanjul V, Marín J, Cequier Á, SAVANA G. Impact of Advanced Age on the Incidence of Major Adverse Cardiovascular Events in Patients with Type 2 Diabetes Mellitus and Stable Coronary Artery Disease in a Real-World Setting in Spain. *Journal of Clinical Medicine*. 2023; 12(16):5218. DOI:10.3390/jcm12165218. PMID:37629262. IF:3,900 (Q2/4D). Document type: Article.
- González F, Hernández F, Almenar L, Crespo MG, López A, Ortiz C, Delgado JF, de Antonio M, Sobrino JM, García E, en representacion C. Spanish heart transplant registry. 34th official report of the Heart Failure Association of the Spanish Society of Cardiology. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(11)DOI:10.1016/j.recesp.2023.06.006. IF:7,050 (Q1/3D). Document type: Article.
  - González F, Hernández F, Almenar L, Crespo MG, López A, Ortiz C, Delgado JF, de Antonio M, Sobrino JM, García E, Spanish Heart Transplant T. Spanish heart transplant registry. 34th official report of the Heart Failure Association of the Spanish Society of Cardiology. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(11) DOI:10.1016/j.rec.2023.06.013. PMID:37683823. IF:5,900 (Q1/3D). Document type: Article.
  - Grand J, Schiele F, Hassager C, Nolan JP, Khoury A, Sionis A, Nikolaou N, Donadello K, Behringer W, Böttiger BW, Combes A, Quinn T, Price S, Jorge P. Quality indicators for post-resuscitation care after out-of-hospital cardiac arrest: A Joint statement from the Association for Acute Cardiovascular Care (ACVC) of the European Society of Cardiology, the European Resuscitation Council (ERC), the European Society of Intensive Care Medicine (ESICM), and the European Society for Emergency Medicine (EUSEM). *European Heart Journal-Acute Cardiovascular Care*. 2023; 12(3) DOI:10.1093/ehjacc/zuad006. PMID:36738295. IF:4,100 (Q2/4D). Document type: Article.
  - Huang F, Ammirati E, Ponnaiah M, Montero S, Raimbault V, Abrams D, Lebreton G, Pellegrino V, Ihle J, Bottiroli M, Persichini R, Barrionuevo MI, Ariza A, Ng PY, SWC, Ayer R, Buscher H, Belaid S, Delmas C, Ferreira R, Albuquerque RRJR, López T, Bunge JJH, Fisser C, Franchineau G, Mccanny J, Ohshimo S, Sionis A, Hernández FJ, Barge E, Balik M, Muglia H, Park S, Donker DW, Porral B, Aïssaoui N, Dessap AM, Burgos V, Lesouhaitier M, Fried J, Jung JS, Rosillo S, Scherrer V, Nseir S, Winszewski H, Jorge P, Kimmoun A, Diaz R, Combes A, Schmidt M, FULLMOON GRP. Fulminant myocarditis proven by early biopsy and outcomes. *EUROPEAN HEART JOURNAL*. 2023; DOI:10.1093/eurheartj/ehad707. PMID:37941449. IF:39,300 (Q1/1D). Document type: Article.
  - Januszkiewicz L, Barra S, Providencia R, Chun JKR, Conte G, Farkowski MM, Guerra JM, Marijon E, de Asmundis C, Boveda S. Regional disparity on patient characteristics and perceptions after implantable cardioverter-defibrillator implantation: results from an EHRA patient survey. *EUROPACE*. 2023; 25(5):euad110. DOI:10.1093/europace/euad110. PMID:37140046. IF:6,100 (Q1/3D). Document type: Review.
  - Januszkiewicz L, Grabowski M, Farkowski MM, Zycinski P, Jedrychowski T, Pytkowski M, Chun JKR, Guerra JM, Conte G, Barra S, Boveda S, Kempa M. Implantable Cardioverter-Defibrillators in Poland Compared with other European Countries from the Patient's Perspective: Insights from the EHRA Patient Survey. *International Journal of Environmental Research and Public Health*. 2023; 20(6):5045. DOI:10.3390/ijerph20065045. PMID:36981953. IF:4,614 (Q1/3D). Document type: Article.
  - Jiménez E, Asmarats L, Roqué M, Millán X, Li CHP, Fernández E, Sánchez J, Massó van Roessel A, Maestre ML, Paniagua P, Arzamendi D. Impact of Baseline Anemia in Patients Undergoing Transcatheter Aortic Valve Replacement: A Prognostic Systematic Review and Meta-Analysis. *Journal of Clinical Medicine*. 2023; 12(18):6025. DOI:10.3390/jcm12186025. PMID:37762965. IF:3,900 (Q2/4D). Document type: Review.
  - Jiménez P, Alonso C, Ruiz RC, Guzmán G, Perez MP, Sambola A. Cardiovascular disease in women: Do we need new diagnostic and therapeutic strategies?. *Kardiologia Polska*. 2023; 81(4) DOI:10.33963/KP.a2023.0051. PMID:36871309. IF:3,300 (Q2/5D). Document type: Review.
  - Jimenez V, Casabella S, Llach A, Gich I, Casellas S, Ciruela F, Chen SRW, Guerra JM, Ginel A,



## 05.1.1 Cardiovascular Diseases Area

- Benitez R, Cinca J, Tarifa C, Hove L. Beta-blocker treatment of patients with atrial fibrillation attenuates spontaneous calcium release-induced electrical activity. *BIOMEDICINE & PHARMACOTHERAPY*. 2023; 158:114169. DOI:10.1016/j.biopha.2022.114169. PMID:36592495. IF:7,500 (Q1/1D). Document type: Article.
- Jorge P, Nikolaou N, Donadello K, Khoury A, Behringer W, Hassager C, Boettiger B, Sionis A, Nolan J, Combes A, Quinn T, Price S, Grand J. Management of comatose survivors of out-of-hospital cardiac arrest in Europe: current treatment practice and adherence to guidelines. A joint survey by the Association for Acute Cardiovascular Care (ACVC) of the ESC, the European Resuscitation Council (ERC), the European Society for Emergency Medicine (EUSEM), and the European Society of Intensive Care Medicine (ESICM). *European Heart Journal-Acute Cardiovascular Care*. 2023; 12(2)DOI:10.1093/ehjacc/zuac153. PMID:36454812. IF:4,100 (Q2/4D). Document type: Article.
  - Jurado A, Freixa X, Cid B, Cruz I, Cebada FS, Baz JA, Lozano Í, Sabaté M, Jiménez J, García LAÍ, Elorriaga AS, Jofresa AB, García EN, Vizcayno MJP, Suárez XC, Bermúdez EP, Santos RC, Antón SÁ, Nouche RT, Arroyo JRR, Ciscal AF, Amat IJ, Valero MJ, Merchán JCR, Vaquerizo B, Ponce DT, Nodar JMR, Pérez IS, Tejedor P, Elizaga J, Cabrera FMJ, Ramírez JAB, Aquino RS, Pérez MPP, Roura G, Mohandes M, Moreno RS, Avanzas P, Caballero J, Bosco AMT, Herrera AM, Alonso JR, Ojeda FB, Román KGS, Agudelo VH, Lorenzo PM, Fernández JC, Prado APD, Quevedo VR, González IC, Burgos JM, García JR, Burguillos FJS, Pernas DN, Monge PB, Marrupe LH, Peláez JAF, Román AJ, Domingo FP, Ferre GF, González RP, Ponce FJM, Recalde ÁS, Pineda SO, García AF, Segovia RM, Molina RF, Gil JLD, Rasco AG, Menchero AEG, Bosch E, Domínguez JFO, Gutiérrez A, Pérez JDC, Sandoval JMC, Portales JF, Crespo FR, Caballero EG, Sánchez RO, Zueco J, Blanco BGD, Briales JHA, Gila JS, Arellano MV, Garrido JC, Andraha L, Jaime AG, Otermin ÁM, Urdaci MA, Serrano CA, García E, Unzué L, Arzamendi D, Mainar V, Usón M, Molinero JP, Palop RL, Bethencourt A, Barrero EA, Freire SJC, Peña G, Álvarez MEV, Camacho JFM, Moreno AR, Tellechea ML, de la Borbolla RG, en representacion A. Spanish cardiac catheterization and coronary intervention registry. 32nd official report of the Interventional Cardiology Association of the Spanish Society of Cardiology (1990-2022). *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(12)DOI:10.1016/j.recesp.2023.07.014. IF:7,050 (Q1/3D). Document type: Article.
  - Kaski JC, Lluch N, López JL, Gorog DA, Antorrena I, Avanzas P, Herrero P, Sionis A, González JR, Íñiguez A, Cordero A, Ako E, Fernández F, Atienza F, Recio A, Wu A, Crea F, Storey R, Badimon L, Cubedo J. Changes in circulating ApoJ-Glyc levels in patients with suspected acute coronary syndrome: The EDICA trial. *INTERNATIONAL JOURNAL OF CARDIOLOGY*. 2023; 391:131291. DOI:10.1016/j.ijcard.2023.131291. PMID:37619880. IF:3,500 (Q2/5D). Document type: Article.
  - Laufs U, Catapano AL, De Caterina R, Schiele F, Sionis A, Zaman A, Jukema JW. The effect of the 2019 ESC/EAS dyslipidaemia guidelines on low-density lipoprotein cholesterol goal achievement in patients with acute coronary syndromes: The ACS EuroPath IV project. *VASCULAR PHARMACOLOGY*. 2023; 148:107141. DOI:10.1016/j.vph.2023.107141. PMID:36626974. IF:4,000 (Q2/4D). Document type: Article.
  - Li CP, Estévez-Loureiro R, Freixa X, Teles R, Molina-Ramos AI, Pan M, Nombela-Franco L, Melica B, Amat-Santos IJ, Cruz-González I, Asmarats L, Alarcón R, Sanchis L, Fernández-Peregrina E, Baz JA, Millán X, Menduiña I, Arzamendi D. Iberian experience with PASCAL transcatheter edge-to-edge repair for mitral valve regurgitation. *Rev Esp Cardiol (Engl Ed)*. 2023; 76(1):25-31. DOI:10.1016/j.rec.2022.05.003. PMID: 35691867. IF:5,900 (Q1/3D). Document type: Article.
  - Ligeró C, Bazan V, Guerra JM, Rodríguez M, Viñolas X, Alegret JM. Influence of body mass index on recurrence of atrial fibrillation after electrical cardioversion. *PLoS One*. 2023; 18(9):e0291938. DOI:10.1371/journal.pone.0291938. PMID:37738256. IF:3,700 (Q2/4D). Document type: Article.
  - Marcos MC, de la Espriella R, Ordás JG, Zegrí I, Pomares A, Llácer P, Fort A, Chavarri AR, Méndez A, Blázquez Z, Pérez PC, Gracia JR, Recio A, Pinilla JMG, Soler MJ, González RG, Górriz JL, Rico MG, Castro A, Núñez J. Sex differences in



## 05.1.1 Cardiovascular Diseases Area

- Cardiorenal Syndrome: Insights from CARDIO-REN Registry. *Current Heart Failure Reports*. 2023; 20(3)DOI:10.1007/s11897-023-00598-x. PMID:37222949. Document type: Article.
- Martínez J, Ortiz C, Gutiérrez E, García MD, Sarnago F, Díaz B, Pascual I, Gómez M, Calviño R, Gómez JA, García J, de la Fuente L, Mirabet S, Martínez M. Optical coherence tomography assessment of pulmonary vascular remodeling in advanced heart failure. The OCTOPUS-CHF study. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(5)DOI:10.1016/j.recesp.2022.09.001. PMID:36155847. IF:7,050 (Q1/3D). Document type: Article.
  - Mesnier J, Ternacle J, Cheema AN, Campelo F, Urena M, Veiga G, Nombela L, Munoz AJ, Vilalta V, Regueiro A, Del Val D, Asmarats L, Del Trigo M, Serra V, Bonnet G, Jonveaux M, Rezaei E, Matta A, Himbert D, de la Torre JM, Tirado G, Fernández E, Vidal P, Alfonso F, Gutierrez L, Oteo JF, Belanech Y, Mohammadi S, Philippon F, Modine T, Rodés J. Cardiac Death After Transcatheter Aortic Valve Replacement With Contemporary Devices. *JACC-Cardiovascular Interventions*. 2023; 16(18) DOI:10.1016/j.jcin.2023.07.015. PMID:37758382. IF:11,300 (Q1/1D). Document type: Article.
  - Moral S, Abulí M, Méndez I, González A, García A, Menduiña I, Payá R, Esteban E, Sánchez PL, Díaz E, de la Morena G, Calvo F, Gallego P, Ballesteros E, Brugada R, Evangelista A. Invasive management of significant tricuspid regurgitation in clinical practice. *INTERNATIONAL JOURNAL OF CARDIOLOGY*. 2023; 375DOI:10.1016/j.ijcard.2023.01.005. PMID:36642332. IF:3,500 (Q2/5D). Document type: Article.
  - Morici N, Frea S, Bertaina M, Sacco A, Corrada E, Dini CS, Briani M, Tedeschi M, Saia F, Colombo C, Rota M, Oliva F, Iannaccone M, De Ferrari GM, Sionis A, Kapur NK, Tavazzi G, Pappalardo F. SCAI stage reclassification at 24 h predicts outcome of cardiogenic shock: Insights from the Altshock-2 registry. *CATHERIZATION AND CARDIOVASCULAR INTERVENTIONS*. 2023; 101(1)DOI:10.1002/ccd.30484. PMID:36378673. IF:2,300 (Q3/7D). Document type: Article.
  - Munafò AR, Scotti A, Estévez R, Adamo M, Hernández AP, Peregrina EF, Gutierrez L, Taramasso M, Fam NP, Ho EC, Asgar A, Vitrella G, Raineri C, Chizzola G, Pezzola E, Le R, Montalto C, Oreglia JA, Fraccaro C, Giannini C, Fiorelli F, Rubbio AP, Ooms JF, Compagnone M, Marcelli C, Maffeo D, Bettari L, Fürholz M, Arzamendi D, Guerin P, Tamburino C, Petronio AS, Grasso C, Agricola E, Van NM, Tarantini G, Praz F, Pascual I, Potena L, Colombo A, Maisano F, Metra M, Margonato A, Crimi G, Saia F, Godino C. 2-year outcomes of MitraClip as a bridge to heart transplantation: The international MitraBridge registry. *INTERNATIONAL JOURNAL OF CARDIOLOGY*. 2023; 390:131139. DOI:10.1016/j.ijcard.2023.131139. PMID:37355239. IF:3,500 (Q2/5D). Document type: Article.
  - Nielsen JE, Berti S, Caprioglio F, Ronco F, Arzamendi D, Betts T, Tondo C, Christen T, Allocco DJ. Intracardiac Echocardiography to Guide Watchman FLX Implantation: The ICE LAA Study. *JACC-Cardiovascular Interventions*. 2023; 16(6) DOI:10.1016/j.jcin.2022.10.024. PMID:36764917. IF:11,300 (Q1/1D). Document type: Article.
  - Ojeda S, Gonzalez R, Jimenez P, Pinon P, Asmarats L, Amat I, Fernández E, del Valle R, Munoz E, Ferrer MC, de la Torre JM, Ruiz V, Regueiro A, Sanmiguel D, García S, Elizaga J, Baz JA, Romaguera R, Cruz I, Moreu J, Gheorghe LL, Salido L, Moreno R, Urbano C, Serra V, Pan MN. Coronary Obstruction After Transcatheter Aortic Valve Replacement. *JACC-Cardiovascular Interventions*. 2023; 16(10)DOI:10.1016/j.jcin.2023.03.024. PMID:37225292. IF:11,300 (Q1/1D). Document type: Article.
  - Padilla-López M, Duran-Cambra A, Belmar-Cliville D, Soriano-Amores M, Arakama-Goikoetxea S, Vila-Perales M, Bragagnini W, Rodríguez-Sotelo L, Peña-Ortega P, Sánchez-Vega J, Carreras-Mora J, Sionis A. Comparative electrocardiographic analysis of midventricular and typical takotsubo syndrome. *Front Cardiovasc Med*. 2023; 10:1286975. DOI:10.3389/fcvm.2023.1286975. PMID: 38111891. IF:3,600 (Q2/5D). Document type: Article.
  - Panagides V, Cheema AN, Urena M, Nombela L, Veiga G, Vilalta V, Regueiro A, Del Val D, Asmarats L, del Trigo M, Serra V, Munoz A, Rezaei E, Himbert D, Tirado G, Hernandez JMD, Fernández E, Cepas PL, Alfonso F, Gutierrez L, Dominguez J, Belanech Y, Paradis JM, Mesnier J, Rodes J. Opti-



## 05.1.1 Cardiovascular Diseases Area

- mal Degree of Balloon-Expandable Transcatheter Valve Oversizing in Patients With Borderline Aortic Annulus Measurements: Insights From a Multicenter Real-World Experience. *Circulation-Cardiovascular Interventions*. 2023; 16(3):e012554. DOI:10.1161/CIRCINTERVENTIONS.122.012554. PMID:36943930. IF:5,600 (Q2/3D). Document type: Article.
- Petras A, Leoni M, Guerra JM, Gerardo L. Calibration of a three-state cell death model for cardiomyocytes and its application in radiofrequency ablation. *PHYSIOLOGICAL MEASUREMENT*. 2023; 44(6):065003. DOI:10.1088/1361-6579/acdcdd. PMID:37290447. IF:3,200 (Q2/4D). Document type: Article.
  - Popova E, Paniagua P, Álvarez J, Vives M, González A, García Á, Rivas M, Hermenegildo G, Diaz R, Azparren G, Barceló M, Moustafa A-H, Aguilar R, Ordonez J, Alonso P. The Relevance of Implementing the Systematic Screening of Perioperative Myocardial Injury in Noncardiac Surgery Patients. *Journal of Clinical Medicine*. 2023; 12(16):5371. DOI:10.3390/jcm12165371. PMID:37629413. IF:3,900 (Q2/4D). Document type: Article.
  - Pueyo PP, Ruberte EG, Ordas JG, Blanco LM, Figal DP, Moreira JML, Barrado JJG, Calle DG, Bonet LA, Salinas G, Pascual MJC, Martin MP, Llinares JP, López AD, Perez MB, Ocana FC, García JB, Ortega GM, Rodríguez FD, Mateo VM, Crespo MC, Guzman MQ, Martinez LJ, Vinas JA, López JR, Santos SF, Marti PR, Roy LA, Polo JCG, Pinilla JMG, Vallverdu MF, Bueno L, Colome TS, Diz FW. Vaccine-carditis study: Spanish multicenter registry of inflammatory heart disease after COVID-19 vaccination. *Clinical Research in Cardiology*. 2023; 113(2)DOI:10.1007/s00392-023-02225-0. PMID:37368015. IF:5,000 (Q2/4D). Document type: Article.
  - Puig N, Camps P, Sole A, Aguilera A, Jimenez E, Fernández A, Camacho M, Guasch M, Marin R, Marti J, Martinez A, Prats L, Casoni F, Perez B, Jimenez F, Sánchez JL, Benitez S. Electronegative LDL Is Associated with Plaque Vulnerability in Patients with Ischemic Stroke and Carotid Atherosclerosis. *Antioxidants*. 2023; 12(2):438. DOI:10.3390/antiox12020438. PMID:36829998. IF:7,000 (Q1/1D). Document type: Article.
  - Raposeiras S, Nunez IJ, Jamhour K, Abu E, Conty DA, Vedia O, Almendro M, Sionis A, Martin AC, Corbi M, Martinez M, Uribarri A, Guillen M, Acuna JMG, Pais JL, Blanco E, Vicente J, Flecha A, Andrés M, Perez A, Alonso J, Rossello X, Romo AI, Feltes G, RETAKO I. Long-term prognostic impact of beta-blockers in patients with Takotsubo syndrome: Results from the RETAKO Registry. *Revista Portuguesa de Cardiologia*. 2023; 42(3) DOI:10.1016/j.repc.2022.02.010. PMID:36634757. IF:1,800 (Q4/8D). Document type: Article.
  - Regueiro A, Alperi A, Vilalta V, Asmarats L, Baz JA, Nombela L, Calabuig A, Muñoz A, Sabaté M, Moris C, Picard M, Pelletier E, Rodés J. Safety and Efficacy of TAVR With a Pressure Sensor and Pacing Guidewire SAFE-TAVI Trial. *JACC-Cardiovascular Interventions*. 2023; 16(24)DOI:10.1016/j.jcin.2023.10.035. PMID:37902144. IF:11,300 (Q1/1D). Document type: Article.
  - Rodríguez A, Tello C, Vergara AC, Fernández C, Moustafa AH, Pinilla CA, Ginel A, Barros AJ, Dilme JF. Case Report: Kommerell's diverticulum and left aberrant subclavian artery stenosis hybrid treatment with branched aortic stent-graft. *Frontiers in Cardiovascular Medicine*. 2023; 10:1309839. DOI:10.3389/fcvm.2023.1309839. PMID:38155991. IF:3,600 (Q2/5D). Document type: Article.
  - Ronco D, Ariza A, Kowalewski M, Matteucci M, Di M, López E, Ranucci M, Sionis A, Bonaros N, De Bonis M, Russo CF, Uribarri A, Montero S, Fischlein T, Kowalówka A, Naito S, Obadia J-F, Martín R, Aboal J, Thielmann M, Simon C, Andrea R, Parra C, Folliguet T, Martínez M, Fernández MS, Al N, Tejedor AV, Serraino GF, Palacios VB, Boeken U, Roubin SR, Buceta MAS, Fernández PLS, Scrofani R, Báez GP, Pérez PJ, Dato GA, García JC, De Gea JH, Massimi G, Musazzi A, Lorusso R. The current clinical practice for management of post-infarction ventricular septal rupture: a European survey. *European Heart Journal Open*. 2023; 3(5):oead091. DOI:10.1093/ehjopen/oead091. Document type: Article.
  - Sagastagoitia M, Morán L, Blázquez Z, Díaz B, Gómez M, Almenar L, López A, González F, Mirabet S, García E, Jose MSM, Juan GR, Castel MA, Blasco T, Garrido I, De La Fuente L, Muniz J, Crespo MG. Incidence and Prognosis of Colorectal Can-



## 05.1.1 Cardiovascular Diseases Area

- cer After Heart Transplantation: Data From the Spanish Post-Heart Transplant Tumor Registry. *TRANSPLANT INTERNATIONAL*. 2023; 36:11042. DOI:10.3389/ti.2023.11042. PMID:37275465. IF:3,100 (Q1/3D). Document type: Article.
- Samouillan V, García E, Benitez A, Lhoest MTLC, Dandurand J, Dato VA, Guerra JM, Escola JC, Chiabrando G, Enrich C, Llorente V. Inhibitory Effects of LRP1-Based Immunotherapy on Cardiac Extracellular Matrix Biophysical Alterations Induced by Hypercholesterolemia. *JOURNAL OF MEDICINAL CHEMISTRY*. 2023; 66(9)DOI:10.1021/acs.jmedchem.2c02103. PMID:37116069. IF:7,300 (Q1/1D). Document type: Article.
  - Sánchez J, Asmarats L, Li CHP, Millán X, Fernández E, Mendiña I, Massó van Roessel A, Arzamendi D. Redo transcatheter aortic valve replacement in degenerated transcatheter bioprosthesis (TAV-in-TAV). *Expert Review Of Cardiovascular Therapy*. 2023; 21(10)DOI:10.1080/14779072.2023.2266368. PMID:37815845. Document type: Review.
  - Sanchis J, Bueno H, Miñana G, Guerrero C, Martí D, Martínez M, Domínguez L, Díez P, Barribés JA, Marín F, Villa A, Sanmartín M, Llibre C, Sionís A, Carol A, García S, Calvo E, Morales MJ, Elízaga J, Gómez I, Alfonso F, García Del Blanco B, Núñez J, Formiga F, Ariza A. Effect of Routine Invasive vs Conservative Strategy in Older Adults With Frailty and Non-ST-Segment Elevation Acute Myocardial Infarction: A Randomized Clinical Trial. *JAMA Internal Medicine*. 2023; 183(5)DOI:10.1001/jamainternmed.2023.0047. PMID:36877502. IF:39,000 (Q1/1D). Document type: Article.
  - Sans J, Fernández E, Duran A, Carreras J, Sionis A, Alvarez J, García HM. Incremental prognostic value of global longitudinal strain to the coronary microvascular resistances in Takotsubo patients. *INTERNATIONAL JOURNAL OF CARDIOVASCULAR IMAGING*. 2023; 39(4)DOI:10.1007/s10554-022-02767-w. PMID:36471105. IF:2,100 (Q3/7D). Document type: Article.
  - Santoro F, Núñez IJ, Stiermaier T, El I, Moeller C, Guerra F, Novo G, Arcari L, Musumeci B, Cacciotti L, Mariano E, Romeo F, Cannone M, Caldarola P, Giannini I, Mallardi A, Leopizzi A, Vitale E, Montisci R, Meloni L, Raimondo P, Di M, Almendro M, Sionis A, Uribarri A, Akin I, Thiele H, Eitel I, Brunetti ND. Impact of intra-Aortic balloon counterpulsation on all-cause mortality among patients with Takotsubo syndrome complicated by cardiogenic shock: Results from the German-Italian-Spanish (GEIST) registry. *European Heart Journal Open*. 2023; 3(1):oead003. DOI:10.1093/ehjopen/oead003. PMID:36789137. Document type: Article.
  - Schiele F, Catapano AL, De Caterina R, Laufs U, Jukema JW, Zaman A, Sionis A. Quality control to improve LDL-cholesterol management in patients with acute coronary syndromes based on the ACS EuroPath IV project. *European Heart Journal-Acute Cardiovascular Care*. 2023; DOI:10.1093/ehjacc/zuad119. PMID:37832522. IF:4,100 (Q2/4D). Document type: Article.
  - Schwab AC, Anic A, Farkowski MM, Guerra J, Iliodromitis KE, Jubele K, Providencia R, Chun JKR, Boveda S. Rhythm monitoring, success definition, recurrence, and anticoagulation after atrial fibrillation ablation: results from an EHRA survey. *EUROPACE*. 2023; 25(2)DOI:10.1093/europace/euac194. PMID:36372986. IF:6,100 (Q1/3D). Document type: Article.
  - Sievert K, Asmarats L, Arzamendi D. Left Atrial Appendage Occlusion Strengths and Weaknesses of the Lobe-Only Occluder Concept in Theory and in Practice. *Cardiac Electrophysiology Clinics*. 2023; 15(2)DOI:10.1016/j.ccep.2023.01.007. PMID:37076231. Document type: Review.
  - Suades R, Vilella A, Padro T, Mirabet S, Badimon L. Red Blood Cells and Endothelium Derived Circulating Extracellular Vesicles in Health and Chronic Heart Failure: A Focus on Phosphatidylserine Dynamics in Vesiculation. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(14):11824. DOI:10.3390/ijms241411824. PMID:37511585. IF:5,600 (Q1/3D). Document type: Article.
  - Tarifa C, Jimenez V, Franco R, Montiel J, Guerra J, Ciruela F, Hove L. Expression and Impact of Adenosine A(3) Receptors on Calcium Homeostasis in Human Right Atrium. *INTERNATIONAL*





## 05.1.1 Cardiovascular Diseases Area

- JOURNAL OF MOLECULAR SCIENCES. 2023; 24(5):4404. DOI:10.3390/ijms24054404. PMID:36901835. IF:5,600 (Q1/3D). Document type: Article.
- Tarifa C, Vallmitjana A, Jiménez V, Marchena M, Llach A, Herraiz A, Godoy H, Nolla C, Ginel A, Viñolas X, Montiel J, Ciruela F, Echebarria B, Benítez R, Cinca J, Hove L. Spatial Distribution of Calcium Sparks Determines Their Ability to Induce Afterdepolarizations in Human Atrial Myocytes. *Jacc-Basic To Translational Science*. 2023; 8(1) DOI:10.1016/j.jacbts.2022.07.013. PMID:36777175. IF:9,700 (Q1/1D). Document type: Article.
  - Tirado G, Rodés J, Oteo JF, Pan M, Muñoz E, Witberg G, Cheema A, Alpieri A, López D, Amat I, Akodad M, Ojeda S, Serra V, García S, Alfonso F, De Backer O, Asmarats L, Muñoz A, Hamdan A, Toggweiler S, del Valle R, Salido L, Cruz I, Estevez R, Alfaro LEM, Gheorghe L, Dabrowski M, Berenguer A, Arzamendi D, Saia F, Webb J, Søndergaard L, Nombela L. Transcatheter aortic valve implantation in patients with extra-small aortic annuli. *EuroIntervention*. 2023; 19(4):e340-e351. DOI:10.4244/EIJ-D-23-00011. PMID:37334654. IF:6,200 (Q1/3D). Document type: Article.
  - Tizon H, Toloba A, Cachinero IS, Elosua R, Sionis A, Fernández F, Bueno H, Carrillo A, Bayes A, Sánchez PL, Roque M, Mila L, Elorriaga A, Vaquero J, Fernández D, Bosch D, Alameda J, Almor JM, Jimenez M, Martinez L, Sanchis J, Sánchez E, Rubert C, Ruiz L, Rodríguez M, Lozano I, Abu E, Gonzalez VB, Marrugat J. Long-term outcomes of extended DAPT in a real-life cohort of consecutive STEMI patients. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(7)DOI:10.1016/j.recesp.2022.11.016. PMID:36539185. IF:5,900 (Q1/3D). Document type: Article.
  - Valverde J, Martínez F, Berga G, Martínez J, Asmarats L, Moreno C. Impact of a PROgram of Cardiovascular nurse interventionS in a VALVular haEmodynamic Unit (PROCESS-VALVE) on Quality Indicators: A Quasi-Experimental Ambispective Study. *International Journal of General Medicine*. 2023; 16DOI:10.2147/IJGM.S412369. PMID:37750105. IF:2,300 (Q3/6D). Document type: Article.
  - van AM, Asmarats L, Li CHP, Millan X, Fernández E, Menduiña I, Sánchez J, Arzamendi D. Mitral transcatheter edge-to-edge repair: patient selection, current devices, and clinical outcomes. *Expert Review of Medical Devices*. 2023; DOI:10.1080/17434440.2023.2298713. PMID:38155555. IF:3,100 (Q3/7D). Document type: Review.
  - Vazirani R, Martínez E, Uribarri A, Blanco E, Martínez M, Corbí M, Sionis A, Salamanca J, Vedia O, Núñez IJ, RETAKO R. Repolarization parameters and ventricular arrhythmias in Takotsubo syndrome: A substudy from the RETAKO national registry. *Heart Rhythm O2*. 2023; 4(8)DOI:10.1016/j.hroo.2023.06.008. PMID:37645263. Document type: Letter.
  - Velleca A, Shullo MA, Dhital K, Azeka E, Colvin M, DePasquale E, Farrero M, García L, Jamero G, Khush K, Lavee J, Pouch S, Patel J, Michaud CJ, Schubert S, Angelini A, Carlos L, Mirabet S, Pham M, Urschel S, Kim KH, Miyamoto S, Chih SR, Daly K, Grossi P, Jennings DL, Kim IC, Lim HS, Miller T, Potena L, Eisen H, Bellumkonda L, Danziger L, Dobbels F, Harkess M, Kim D, Lyster H, Peled Y, Reinhardt Z. The International Society for Heart and Lung Transplantation (ISHLT) guidelines for the care of heart transplant recipients. *JOURNAL OF HEART AND LUNG TRANSPLANTATION*. 2023; 42(5):e1-e141. DOI:10.1016/j.healun.2022.10.015. PMID:37080658. IF:8,900 (Q1/1D). Document type: Article.
  - Vij V, Cruz I, Galea R, Piayda K, Nelles D, Vogt L, Gloekler S, Fürholz M, Meier B, Raber L, O'Hara G, Arzamendi D, Agudelo V, Asmarats L, Freixa X, Flores E, De Backer O, Sondergaard L, Nombela L, McInerney A, Salinas P, Korsholm K, Nielsen JE, Afzal S, Zeus T, Operhalski F, Schmidt B, Montalescot G, Guedeney P, Iriart X, Miton N, Saw J, Gilhofer T, Fauchier L, Veliqi E, Meincke F, Petri N, Nordbeck P, Gonzalez R, Bhatt DL, Laricchia A, Mangieri A, Omran H, Schrickel JW, Rodes J, Nickenig G, Sievert H, Sedaghat A. Symptomatic vs. non-symptomatic device-related thrombus after LAAC: a sub-analysis from the multicenter EUROCC-DRT registry. *Clinical Research in Cardiology*. 2023; 112(12)DOI:10.1007/s00392-023-02237-w. PMID:37294311. IF:5,000 (Q2/4D). Document type: Article.
  - Vilella A, Cordero A, Mirabet S, Munoz N, Suares R, Padro T, Badimon L. Platelet-Released Extracellular Vesicle Characteristics Differ in



### 05.1.1 Cardiovascular Diseases Area

Chronic and in Acute Heart Disease. THROMBOSIS AND HAEMOSTASIS. 2023; 123(9)  
DOI:10.1055/s-0043-57017. PMID:37075787.  
IF:6,700 (Q1/2D). Document type: Article.

- Wussler D, Belkin M, Maeder MT, Walter J, Shrestha S, Kupka K, Stierli M, Flores D, Kozhuharov N, Gualandro DM, de Oliveira MTJR, Sabti Z, Noveanu M, Socrates T, Bayés A, Sionis A, Simon P, Michou E, Gujer S, Gori T, Wenzel P, Pfister O, Arenja N, Kobza R, Rickli H, Breidhardt T, Münzel T, Mueller C, GALACTIC I. Comprehensive vasodilatation in women with acute heart failure: Novel insights from the GALACTIC randomized controlled trial. EUROPEAN JOURNAL OF HEART FAILURE. 2023; DOI:10.1002/ejhf.3065. PMID:37871997. IF:18,200 (Q1/1D). Document type: Article.

## Thrombosis and Haemostasis

### Group leader

Souto Andrés, J. Carles (FGS)

### Researchers

Carrasco Exposito, Marina (FGS)

Mateo Arranz, Jose (FGS)

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### Research Technicians

Acosta Isaac, Francisco Rene (FGS)

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Mojal García, Sergio (IR)

Romero Roman, Lidia (FGS)

Tirado García, Isabel (FGS)



### DESCRIPTION

Our group is dedicated to clinical and basic research of hemostasis diseases, both thromboembolic and hemorrhagic, and to the clinical development of antithrombotic and antihemorrhagic therapies. We apply modern epidemiological methods for the study of complex diseases, such as venous thrombosis. Currently, we are working in the development of predictive mathematical models of the individual thrombosis risk, using IA. We also perform scientific translational research on new anticoagulants, anti IIa, anti Xa, and anti XI, and a self-management model of anticoagulant treatment with VKA drug.

### MAIN LINES OF RESEARCH

- Biomarkers of venous thromboembolism, Dr. JC Souto.
- Genetics of thrombosis, Dr. JC Souto.
- New models of management of antithrombotic therapies, Dr. JC Souto.
- New antihemophilic treatments, Dr. J Mateo.

### SCIENTIFIC CHALLENGES

- Risk assessment models for the individual risk of venous thromboembolism.
- Clinical management of direct oral anticoagulants to decrease the incidence of severe thrombotic and hemorrhagic complications.

### ACTIVE GRANTS

- R. Souto Andrés, J. Carles. Perfil individual de Riesgo de Enfermedad TROMboembólica VENosa (RETROVE 4). PI21/01772. Instituto de Salud Carlos III



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(ISCIII). Duration: 2022-2024. 205.700,00 €.

- Souto Andrés, J. Carles. Modelo de Aplicación Clínica de los AntiCoagulantes Orales de acción Directa MACACOD Register. Daiichi-Sankyo España, SA. Duration: 2019-2024. Non-competitive. 818.000,00 €.

## SCIENTIFIC PRODUCTION

- Iglesias MJ, Sánchez L, Ibrahim M, Naudin C, Munsch G, Goumidi L, Farm M, Smith PM, Thibord F, Kral JB, Hong M-G, Suchon P, Germain M, Schottmaier W, Dusart P, Boland A, Kotol D, Edfors F, Koprulu M, Pietzner M, Langenberg C, Damrauer SM, Johnson AD, Klarin DM, Smith NL, Smadja DM, Holmström M, Magnusson M, Silveira A, Uhlén M, Renné T, Martínez A, Emmerich J, Deleuze J-F, Antovic J, Soria JM, Assinger A, Schwenk JM, Souto JC, Morange P-E, Butler LM, Trégouët D-A, Odeberg J. Elevated plasma complement factor H related 5 protein is associated with venous thromboembolism. *Nature Communications*. 2023; 14(1):3280. DOI:10.1038/s41467-023-38383-y. PMID:37286573. IF:16,600 (Q1/1D). Document type: Article.
- Ji YK, Temprano G, Holle LA, Bebo A, Brody JA, Le NQ, Kangro K, Brown MR, Martínez A, Sitlani CM, Suchon P, Kleber ME, Emmert DB, Ozel AB, Dobson DA, Tang WH, Llobet D, Tracy RP, Deleuze JF, Delgado GE, Gogele M, Wiggins KL, Souto JC, Pankow JS, Taylor KD, Tregouet DA, Moissl AP, Fuchsberger C, Rosendaal FR, Morrison AC, Soria JM, Cushman M, Morange PE, Marz W, Hicks AA, Desch KC, Johnson AD, de Vries PS, Wolberg AS, Smith NL, Sabater M, INVENT C, CHARGE Consortium Hemostasis W, INVENT C. Anti-thrombin, Protein C, and Protein S: Genome and Transcriptome-Wide Association Studies Identify 7 Novel Loci Regulating Plasma Levels. *ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY*. 2023; 43(7):e254-e269. DOI:10.1161/ATVBAHA.122.318213. PMID:37128921. IF:8,700 (Q1/1D). Document type: Article.
- Martín L, García I, López S, Martínez A, Vilalta N, Plaza M, Moret C, Vinuela A, Brown AA, Panousis NI, Buil A, Dermitzakis ET, Corrales I, Souto JC, Vidal F, Soria JM. Multiallelic Copy Number Variation in ORM1 is Associated with Plasma Cell-Free DNA Levels as an Intermediate Phenotype for Venous Thromboembolism. *THROMBOSIS AND HAEMOSTASIS*. 2023; 123(04)DOI:10.1055/s-0043-1760844. PMID:36696913. IF:6,700 (Q1/2D). Document type: Article.
- Martínez N, Vilarino N, Alameda F, Mojal S, Arumi M, Carrato C, Aldecoa I, Ribalta T, Vidal N, Bellosillo B, Menéndez S, Del Barco S, Gallego O, Pineda E, López R, Hernández A, Mesia C, Esteve A, de la Iglesia N, Balana C, Martínez M, Navarro P. Gal-1 Expression Analysis in the GLIOCAT Multicenter Study: Role as a Prognostic Factor and an Immune-Suppressive Biomarker. *Cells*. 2023; 12(6):843. DOI:10.3390/cells12060843. PMID:36980184. IF:6,000 (Q2/4D). Document type: Article.
- Moret C, Acosta R, Mojal S, Corrochano M, Jiménez B, Plaza M, Souto JC. Clinical outcomes in patients with atrial fibrillation treated with DOACs in a specialized anticoagulation center: Critical appraisal of real-world data. *PLoS One*. 2023; 18(2):e0279297. DOI:10.1371/journal.pone.0279297. PMID:36827286. IF:3,700 (Q2/4D). Document type: Article.
- Mulet M, Osuna R, Zamora C, Artesero I, Arús M, Vera P, Cordón A, Vilalta N, San P, Abril A, Moliné A, Morán I, López J, Vidal S. Dysregulated neutrophil extracellular traps formation in sepsis. *IMMUNOLOGY*. 2023; 170(3)DOI:10.1111/imm.13676. PMID:37381594. IF:6,400 (Q2/3D). Document type: Article.
- Muñoz AJ, Souto JC, Lecumberri R, Obispo B, Sánchez A, Aparicio J, Aguayo C, Gutierrez D, Palomo AG, Fanjul V, del Rio C, Viñuela MC, Hernández MÁ. Development of a predictive model of venous thromboembolism recurrence in anticoagulated cancer patients using machine learning. *THROMBOSIS RESEARCH*. 2023; 228DOI:10.1016/j.thromres.2023.06.015. PMID:37348318. IF:7,500 (Q1/2D). Document type: Article.
- Pardos J, Martín L, Closa L, Ferrero A, Marzo C, Rubio M, Mitjavila F, González JR, Bastida JM, Mateo J, Carrasco M, Bernardo A, Astigarraga I, Aguinaco R, Corrales I, García I, Vidal F. Key Genes of the Immune System and Predisposition to Acquired Hemophilia A: Evidence from a Spanish Cohort of 49 Patients Using Next-Generation



## 05.1.1 Cardiovascular Diseases Area

Sequencing. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(22):16372. DOI:10.3390/ijms242216372. PMID:38003562. IF:5,600 (Q1/3D). Document type: Article.

- Pujol N, Muniz E, Español I, Mojal S, Soler A, Souto JC. Pseudothrombocytopenia, beyond a laboratory phenomenon: a study of 192 cases. ANNALS OF HEMATOLOGY. 2023; 102(6)DOI:10.1007/s00277-023-05192-8. PMID:37002444. IF:3,500 (Q2/5D). Document type: Article.
- Ward J, Le NQ, Suryakant S, Brody JA, Amouyel P, Boland A, Bown R, Cullen B, Debette S, Deleuze JF, Emmerich J, Graham N, Germain M, Anderson JJ, Pell JP, Lyall DM, Lyall LM, Smith DJ, Wiggins KL, Soria JM, Souto JC, Morange PE, Smith NL, Trégouët DA, Sabater M, Strawbridge RJ. Polygenic risk of major depressive disorder as a risk factor for venous thromboembolism. Blood Advances. 2023; 7(18)DOI:10.1182/bloodadvances.2023010562. PMID:37399490. IF:7,500 (Q1/2D). Document type: Article.
- COVID-19 Host Genetics Initiative. A second update on mapping the human genetic architecture of COVID-19. Nature. 2023; 621(7977):E7-E26. DOI:10.1038/s41586-023-06355-3. PMID:37674002; IF: 64,800 (Q1/1D). Document type: Letter.

## Cardiovascular Biochemistry

### Group leader

Sánchez Quesada, Jose Luis (IR)

### Researchers

Benitez Gonzalez, Sónia (IR)

Freixa Martin, Julia (FGS)

García Osuna, Álvaro (FGS)

Grau Agramunt, Margarita (FGS)

Puig Grifol, Nuria (IR)

### Research Technicians

Porcel Jabalera, Inmaculada (FGS)



### DESCRIPTION

The group is made up of personnel from the Research Institute of the Hospital de Sant Pau (IR-HSP) and the Biochemistry Department of the Hospital de la Santa Creu and Sant Pau (HSCSP). The group's main lines of research focus on the study of the molecular mechanisms underlying the development of cardiovascular diseases, specifically those derived from alterations in lipoprotein metabolism or inflammatory processes. Our objective is to transfer the knowledge obtained from the lines of translational research to clinical application in a Clinical Biochemistry Laboratory of a University Hospital.

### MAIN LINES OF RESEARCH

#### Atherosclerosis Mechanisms

- Mechanisms leading to lipoprotein aggregation and cholesterol accumulation in the arterial wall.
- Mimetic peptides derived from apoJ as therapeutic tools.
- Inflammatory, apoptotic, and lipid accumulation-related pathways induced by modified LDL in monocytes, endothelial cells, and cardiomyocytes, in the context of diabetes, obesity, heart failure, and ischemic stroke.
- Analysis of the secretome of the adipose tissue from cardiac surgery patients with diabetes or obesity.

#### Diagnosis and Biomarkers

- Analysis of apolipoprotein J (apoJ) as a marker of CVR.



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- Assessment of new biomarkers of acute and chronic cardiovascular disease.
- Biomarkers of epicardial fat accumulation.
- Development of algorithms for ruling out acute coronary disease.
- Development of methods for point-of-care biomarker measurement.
- Vulnerability markers to assess carotid plaque inflammation in ischemic stroke.
- Puig Grifol, Nuria. Contractes Predoctorals PFIS 2020. FI20/00252. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 82.400,00 €.
- Rives Jiménez, José. Tejido adiposo epicárdico en obesidad y diabetes. Mecanismos moleculares de riesgo cardiovascular y búsqueda de nuevos biomarcadores. Beca post-residencia a proyectos de investigación 2022. Fundación J.L.Castaño y Sociedad Española de Medicina de Laboratorio (SEQCML). Duration: 2022-2023. 15.000,00 € (FGS).
- Sánchez Quesada, Jose Luis. Tejido adiposo epicárdico en obesidad y diabetes. Mecanismos moleculares de riesgo cardiovascular y búsqueda de nuevos biomarcadores. PI20/00334. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 147.620,00 €.

### SCIENTIFIC CHALLENGES

- Determine the intracellular mechanisms involved in the inflammatory response induced by LDL(-) and the components of the particle that entail atherogenicity.
- Analyze the therapeutic potential of mimetic peptides derived from apoJ to delay the development of atherosclerosis in animal models.
- Find new markers of cardiovascular risk in diseases such as diabetes, obesity, HIV, or cardiac failure.
- Strengthen international collaborations to set up future applications for International funding and participation in multidisciplinary international research projects. Investigate if PCSK9 antibodies correct HDL dysfunction in familial hypercholesterolemia.

### ACTIVE GRANTS

- Almendra Pegueros, Rafael Antonio. Contractes predoctorals PFIS 2021. FI21/00125. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024.
- Benitez Gonzalez, Sónia. Lipoproteínas modificadas y marcadores inflamatorios asociados con vulnerabilidad de placa carotídea e ictus isquémico. PI19/00421. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 130.680,00 €.
- Benitez Gonzalez, Sónia. LRP1 como mediador de los efectos proinflamatorios de la LDL modificada electronegativa en la arteriosclerosis. Sociedad Española de Arteriosclerosis (SEA). Duration: 2021-2023. 15.000,00 €.
- Genua Trullós, Idoia. Nuevos biomarcadores de insuficiencia cardíaca y perfil de microRNAs. SED 2021. Sociedad Española de Diabetes (SED). Duration: 2021-2023. 20.000,00 €.

### GRANTS AWARDED

- Sánchez Quesada, Jose Luis. Papel de las glicofomas de clusterina/apolipoproteína J en la dislipemia diabética. PI23/00888. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 127.500,00 €.
- García Osuna, Álvaro. Performance Evaluation cobas click for HbA1c and Lipid panel. RD006511. Non-Competitive. Roche Diagnostics Intern LTD. Duration: 2023-2024. 90.000,00 €.

### DOCTORAL THESES DEFENDED

- Puig Grifol, Nuria. Lipoprotein-related biomarkers and carotid plaque inflammation in ischemic ictus. 30/11/2023. Universitat Autònoma de Barcelona. Supervisors: Benítez González, Sónia; Sánchez Quesada, José Luis; Camps Renom, Pol.

### SCIENTIFIC PRODUCTION

- Amorós G, Casabella S, Company G, Arzamendi D, Jorge E, García A, Macías Y, Sánchez D, Rosell J, Guerra JM, Cinca J. Electrophysiological and histological characterization of atrial scarring in a model of isolated atrial myocardial infarction. *Frontiers in Physiology*. 2023; 13:1104327. DOI:10.3389/fphys.2022.1104327. PMID:36714312. IF:4,000 (Q2/3D). Document type: Article.
- Benitez S, Puig N, Rives J, Sole A, Sánchez JL. Can Electronegative LDL Act as a Multi Enzy-



## 05.1.1 Cardiovascular Diseases Area

- matic Complex?. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(8):7074. DOI:10.3390/ijms24087074. PMID:37108253. IF:5,600 (Q1/3D). Document type: Review.
- Benitez S, Puig N, Sánchez JL. Chapter 14: Role of platelet-activating factor acetylhydrolase on the inflammatory and apoptotic processes in atherosclerosis. *Phospholipases in Physiology and Pathology*. 2023; (4)231-251. DOI: 10.1016/B978-0-323-95698-7.00013-9. Document type: Book chapter.
  - Benitez S, Sánchez JL. Special Issue: New Insight into the Molecular Role of Lipids and Lipoproteins in Vascular Diseases. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(13):10659. DOI:10.3390/ijms241310659. PMID:37445837. IF:5,600 (Q1/3D). Document type: Editorial Material.
  - Bonaterra A, Benítez S, Pancorbo O, Rodríguez D, Vert C, Rovira A, Freijo MM, Tur S, Martínez M, Portela PC, Vera R, Lebrato L, Arenillas JF, Pérez S, Domínguez A, Fabregas JM, Mauri G, Montaner J, Sánchez JL, Hernández M. Association of candidate genetic variants and circulating levels of ApoE/ApoJ with common neuroimaging features of cerebral amyloid angiopathy. *Frontiers in Aging Neuroscience*. 2023; 15:1134399. DOI:10.3389/fnagi.2023.1134399. PMID:37113571. IF:4,800 (Q2/3D). Document type: Article.
  - Enríquez D, Quintanilla JG, García A, Couselo M, Simón A, Lee P, Alfonso JM, Mahía P, Redondo A, Modrego J, Ortega A, Marcos P, Magni R, Calvo E, Gómez R, Yan P, La Rosa G, Bustamante J, Pérez CN, Martín FJ, Calvo D, de la Hera JM, García MJ, García Á, Ordonez J, Vázquez J, Pérez J, Pérez N, Loew LM, Sánchez J, Gómez D, Filgueiras D. Non-invasive electromechanical assessment during atrial fibrillation identifies underlying atrial myopathy alterations with early prognostic value. *Nature Communications*. 2023; 14(1):4613. DOI:10.1038/s41467-023-40196-y. PMID:37542075. IF:16,600 (Q1/1D). Document type: Article.
  - García A, Muñoz LG, Pallaruelo MC, Usero AM, Eduardo BC, Ramos JL, Canyelles M, Brú CM, Cámara F. Characterization of add-on testing before and after automation at a core laboratory. *Heliyon*. 2023; 9(11):e22096. DOI:10.1016/j.heliyon.2023.e22096. PMID:38034602. IF:4,000 (Q2/4D). Document type: Article.
  - García E, Camps P, Puig N, Fernández A, Aguilera A, Benitez A, Solé A, Vilades D, Sánchez JL, Martí J, Jiménez E, Benitez S, Llorente V. Soluble low-density lipoprotein receptor-related protein 1 as a surrogate marker of carotid plaque inflammation assessed by 18F-FDG PET in patients with a recent ischemic stroke. *Journal of Translational Medicine*. 2023; 21(1):131. DOI:10.1186/s12967-022-03867-w. PMID:36805772. IF:7,400 (Q1/3D). Document type: Article.
  - García E, Gil P, Miñambres I, Benitez A, Rodríguez C, Claudi L, Julve J, Benitez S, Sánchez JL, Rives J, García X, Vilades D, Perez A, Llorente V. Increased sLRP1 and decreased atrial natriuretic peptide plasma levels in newly diagnosed T2DM patients are normalized after optimization of glycemic control. *Frontiers in Endocrinology*. 2023; 14:1236487. DOI:10.3389/fendo.2023.1236487. PMID:37635956. IF:5,200 (Q1/3D). Document type: Article.
  - Garrido C, Cruz M, Álvarez FV, Nan MN, Carretero F, Fernández A, Mora J, Sánchez O, García Á, Alijotas J, Llurba E, on behalf of the EuroPE Working G. Predictive Model for Preeclampsia Combining sFlt-1, PlGF, NT-proBNP, and Uric Acid as Biomarkers. *Journal of Clinical Medicine*. 2023; 12(2):431. DOI:10.3390/jcm12020431. PMID:36675361. IF:3,900 (Q2/4D). Document type: Article.
  - Guiñón L, Illana FJ, Cuevas B, Canyelles M, Martínez C, García Á. Periodic verification of results' comparability between several analyzers: Experience in the application of the EP31-A-IR guideline. *CLINICAL CHEMISTRY AND LABORATORY MEDICINE*. 2023; 62(3)DOI:10.1515/cclm-2023-0994. PMID:37819627. IF:6,800 (Q1/2D). Document type: Article.
  - Jayaraman S, Pérez A, Miñambres I, Sánchez JL, Gursky O. LDL binding to cell receptors and extracellular matrix is proatherogenic in obesity but improves after bariatric surgery. *JOURNAL OF LIPID RESEARCH*. 2023; 64(11):100451. DOI:10.1016/j.jlr.2023.100451. PMID:37777014. IF:6,500 (Q1/2D). Document type: Article.
  - Nan MN, García A, Mora J, Trilla C, Antonijuan A, Orantes V, Cruz M, Blanco F, Llurba E. Impact of





## 05.1.1 Cardiovascular Diseases Area

- Angiogenic and Cardiovascular Biomarkers for Prediction of Placental Dysfunction in the First Trimester of Pregnancy. *Biomedicines*. 2023; 11(5):1327. DOI:10.3390/biomedicines11051327. PMID:37238997. IF:4,700 (Q1/3D). Document type: Article.
- Popova E, Paniagua P, Álvarez J, Vives M, González A, García Á, Rivas M, Hermenegildo G, Diaz R, Azparrén G, Barceló M, Moustafa A-H, Aguilar R, Ordoñez J, Alonso P. The Relevance of Implementing the Systematic Screening of Perioperative Myocardial Injury in Noncardiac Surgery Patients. *Journal of Clinical Medicine*. 2023; 12(16):5371. DOI:10.3390/jcm12165371. PMID:37629413. IF:3,900 (Q2/4D). Document type: Article.
  - Puig N, Camps P, Sole A, Aguilera A, Jimenez E, Fernández A, Camacho M, Guasch M, Marin R, Marti J, Martinez A, Prats L, Casoni F, Perez B, Jimenez F, Sánchez JL, Benitez S. Electronegative LDL Is Associated with Plaque Vulnerability in Patients with Ischemic Stroke and Carotid Atherosclerosis. *Antioxidants*. 2023; 12(2):438. DOI:10.3390/antiox12020438. PMID:36829998. IF:7,000 (Q1/1D). Document type: Article.
  - Puig N, Casaldaliga B, Camps P, Jimenez F, Jimenez E, Sánchez JL, Benitez S. Chapter 10: Atherogenic Role of LDL(-) on Macrophages.. *Advanced Research in Biological Science*. 2023; (6). DOI:10.9734/bpi/arbs/v6/2520G. Document type: Book chapter.
  - Puig N, Rives J, Estruch M, Aguilera A, Rotllan N, Camacho M, Colomé N, Canals F, Sánchez JL, Benitez S. Presence of Ceramidase Activity in Electronegative LDL. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(1):165. DOI:10.3390/ijms24010165. PMID:36613609. IF:5,600 (Q1/3D). Document type: Article.
  - Puig N, Solé A, Aguilera A, Griñán R, Rotllan N, Camps P, Benitez S. Novel Therapeutic Approaches to Prevent Atherothrombotic Ischemic Stroke in Patients with Carotid Atherosclerosis. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(18):14325. DOI:10.3390/ijms241814325. PMID:37762627. IF:5,600 (Q1/3D). Document type: Review.
  - Reis A, Rocha S, Dias IH, Costa R, Soares R, Sánchez JL, Perez A, de Freitas V. Type 2 Diabetes mellitus alters the cargo of (poly)phenol metabolome and the oxidative status in circulating lipoproteins. *Redox Biology*. 2023; 59:102572. DOI:10.1016/j.redox.2022.102572. PMID:36516720. IF:11,400 (Q1/1D). Document type: Article.
  - Rossi G, Belmonte T, Rivas A, Benitez S, Rotllan N, Crespo J, Llorente V, Sánchez JL, de Gonzalo D. Circulating lipoprotein-carried miRNome analysis reveals novel VLDL-enriched microRNAs that strongly correlate with the HDL-microRNA profile. *BIOMEDICINE & PHARMACOTHERAPY*. 2023; 162:114623. DOI:10.1016/j.biopha.2023.114623. PMID:37023624. IF:7,500 (Q1/1D). Document type: Article.
  - Roth L, Dogan S, Tuna BG, Aranyi T, Benitez S, Borrell M, Bozaykut P, De Meyer GRY, Duca L, Durmus N, Fonseca D, Fraenkel E, Gillery P, Giudici A, Jaisson S, Johansson M, Julve J, Lucas AK, Martinet W, Maurice P, McDonnell BJ, Ozbek EN, Pucci G, Pugh C, Rochfort KD, Roks A, Rotllan N, Shadiow J, Sohrabi Y, Spronck B, Szeri F, Terentes D, Aydin ET, Tura O, Ucar E, Yetik G. Pharmacological modulation of vascular aging: A review from VascAgeNet. *AGEING RESEARCH REVIEWS*. 2023; 92:102122. DOI:10.1016/j.arr.2023.102122. PMID:37956927. IF:13,100 (Q1/1D). Document type: Review.

## Molecular Pathology and Therapeutic Of Ischaemic and Atherothrombotic Diseases

### Group leader

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### Researchers

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Morato Simo, Silvia (IR)

Pescador Romero, Monica (IR)

Pimentel Mayordomo, Noelia (IR)

Ramos Regalado, Lisaidy (IR)



### DESCRIPTION

The Group led by Lina Badimon has proven expertise in cardiovascular research, with molecular/genetics to translational and clinical approaches, and focus on atherosclerosis/ thrombosis, ischemic heart disease, aging, and the axis heart-brain. The investigators in the group have positions of trust in International and National Scientific Societies and Networks of Excellence; they are international key opinion leaders; they have a powerful dissemination capacity in academic and social circuits; and, they are consultants and reviewers for National and International Funding Agencies.

### MAIN LINES OF RESEARCH

- Search of novel therapies against atherothrombosis and ischemic heart disease: From nutritional interventions to -omics and precision medicine. IP: Lina Badimon.
- Advanced therapies to promote tissue microvascular perfusion in ischemic diseases. IP: Lina Badimon.
- Extracellular microvesicles as vehicles of crosstalk messages in health and disease. IP: L. Badimon.
- Teràpia cel·lular: inducció dels processos angiogènics en les malalties cardiovasculars. IP: Gemma Arderiu.
- Pathophysiological role of LRP6 in chronic diseases. IP: Maria Borrell.
- Role of lipids and inflammation in atherosclerosis and ischemic heart disease. IP: Maria Borrell.
- Cardioprotection and adverse left ventricular remodeling in ischemic heart disease. IP: Gemma Vilahur.



## 05.1.1 Cardiovascular Diseases Area

- Role of HDL and triglycerides in cardiac ischemic heart disease. IP: Gemma Vilahur.

## ACTIVE GRANTS

- Arderiu Marques, Gemma. Reprogramación directa de las ASCs a células endoteliales mediante factores de transcripción para inducir la regeneración vascular en la enfermedad arterial periférica. PI20/01517. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 147.620,00 €.
- Badimon Maestro, Lina. Medicina de Precisión en Hipercolesterolemia Familiar y enfermedad cardiovascular prematura mediante la integración de tecnologías ómicas y de imagen (MedPreHF). PMP22/00108. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 1.469.930,00 €.
- Badimon Maestro, Lina. Prevención del deterioro cognitivo de origen vascular (VCI) mediante la activación del tráfico de colesterol y la reducción de la oxidación celular. AC20/00054. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 174.978,10 €.
- Badimon Maestro, Lina. Nuevas terapias avanzadas para mejorar la disfunción microvascular y regenerar tejido isquémico. PID2019-107160RB-I00. Ministerio de Ciencia e Innovación (MICINN). Duration: 2020-2024. 484.000,00 €.
- Badimon Maestro, Lina. RICORS TERAV. RD21/0017/0013. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 90.000,90 €.
- Badimon Maestro, Lina. TRANSBIOLINE: Translational Safety Biomarker Pipeline (TransBioLine): Enabling development and implementation of novel safety biomarkers in clinical trials and diagnosis of disease. TRANSBIOLINE 821283. H2020-JTI-IMI2-2017-13-two-stage. Unión Europea. Duration: 2019-2024. 182.600,00 €.
- Badimon Maestro, Lina. COVIRNA: Medical technologies, digital tools and artificial intelligence analytics to improve surveillance and care at high technology readlines. COVIRNA 101016072. H2020-SC1-PHE-CORONAVIRUS-2020-2-CNECT. Unión Europea. Duration: 2020-2023. 273.943,00 €.
- Badimon Maestro, Lina. Network of excellence for the development of advanced therapies from the treatment of myocardial infarctions based on regenerative medicine amb 3d printing. CARDIO-PATCH SOE4/P1/E1063. Unión Europea. Duration: 2020-2023. 123.748,76 €.
- Badimon Maestro, Lina. CARDIATEAM: Cardiomyopathy in type 2 diabetes mellitus. CARDIATEAM AMD-821508-11. H2020-JTI-IMI2-2017-13-two-stage. Unión Europea. Duration: 2019-2026. 50.000,00 €.
- Badimon Maestro, Lina. PROTAIS: Protection of heart and brain against ischemia. GINJOL 2022-11-012. iCERCA. Duration: 2022-2023. 10.000,00 €.
- Badimon Maestro, Lina. Patologia Molecular i Terapeutica de les Malalties Aterotrombòtiques. INV-1 00048. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 66.217,84 €.
- Badimon Maestro, Lina. Antiplatelet effects of APT102. Non-competitive. ASTRAZENECA. Duration: 2018-2023. 500.000,00 €.
- Badimon Maestro, Lina. Efectos del probiótico "AB-Life" sobre la cantidad y perfil de ácidos biliares, y el perfil lipídico y metabólico en sujetos sanos con sobrepeso moderado. Non-competitive. AB-BIOTICS. Duration: 2020-2023. 277.052,00 €.
- Borrell Pages, Maria. Progresión de la aterosclerosis: nuevas funciones del PCSK9 y los LRP. PI20/01282. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 135.520,00 €.
- Borrell Pages, Maria. Rol del PCSK9 en la enfermedad vascular: impacto del PCSK9 de la pared vascular. SEC 2019. Sociedad Española de Cardiología (SEC). Duration: 2019-2023. 15.000,00 €.
- Vilahur García, Gemma. Mejora de la función cardíaca mediante el conocimiento del eje metabólico triglicéridos/HDL: Impacto en las células de la médula ósea y el corazón. PID2021-128891OB-I00. Ministerio de Ciencia e Innovación (MICINN). Duration: 2022-2025. 302.500,00 €.
- Vilahur García, Gemma. Noves estratègies de protecció de l'eix cor-cervell després d'una parada cardíaca. CCR 2021. Fundació Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears. Duration: 2021-2024. 6.000,00 €.



### 05.1.1 Cardiovascular Diseases Area

- Vilahur García, Gemma. Avances en el diagnóstico y pronóstico de Aterosclerosis en pacientes diabéticos. PLEC2021-007664. Ministerio de Ciencia e Innovación (MICINN). Duration: 2021-2024. 271.697,00 €.
- Vilahur García, Gemma. Nueva aproximación terapéutica para prevenir el desarrollo de cardiomiopatía diabética a través de la inhibición funcional de la HMGCoA-reductasa y la activación de la vía de señalización de la AMPK. SEC 2020. SEC/FEC-INV-TRL 20/01.Sociedad Española de Cardiología (SEC). Duration: 2020-2024. 15.000,00 €.
- Vilahur García, Gemma. Nanotechnology-based therapeutics to protect the infarcted heart: deciphering the role of innovative HDL bioengineered nanoconstructs. MARATO 202337-30. Fundacio La Marato de TV3. Duration: 2024-2027. 187.248,75 €.

### GRANTS AWARDED

- Arderiu Marques, Gemma. Nueva estrategia terapéutica mediante vesículas extracelulares derivadas de células madre derivadas de tejido adiposo como medicina regenerativa en enfermedades vasculares periféricas. PI23/01136. Instituto de Salud Carlos III. Duration: 2024-2026. 152.500,00 €.
- Arderiu Marques, Gemma. Repairing early endothelial cell damage to promote cardiovascular health: interplay between endothelial cells and monocytes as a primary strategy in ischemic diseases. MARATO 202303-30. Fundacio La Marato de TV3. Duration: 2024-2027. 149.785,00 €.
- Badimon Maestro, Lina. Patologia Molecular i Terapèutica de les Malalties Isquèmiques i Aterotrombòtiques. 2021 SGR 01006. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 60.000 €.
- Borrell Pages, Maria. LDLR family and PCSK9's role in cerebral lipid homeostasis in ischemic stroke. PI23/00589. Instituto de Salud Carlos III. Duration: 2024-2026. 140.000,00 €.
- Borrell Pages, Maria. Cerebral lipid homeostasis in ischemic stroke: role of lipoprotein receptors and pharmacological interventions. MARATO 202304-10. Fundacio La Marato de TV3. Duration: 2024-2027. 197.937,50 €.
- Vilahur García, Gemma. Targeted nanomedicine to reverse fibrosis in ischemic cardiomyopathies. PCI2023-143431. Ministerio de Ciencia e Innovación (MICINN). Duration: 2023-2026. 157.300,00 €.
- Gallinat O'Callaghan, Alex. Molecular basis of ischemic post-conditioning: DJ-1 in cardioprotection. 30/01/2023. Universitat Autònoma de Barcelona. Supervisors: Badimon Maestro, Lina; Blanco Vaca, Francisco. <http://hdl.handle.net/10803/688588>.
- Radiké, Monika. High resolution cardiovascular magnetic resonance as a tool for evaluating the efficacy of P2Y12 receptor antagonists to preserve cardiac microcirculation and limit adverse left ventricular remodelling post-myocardial infarction. 28/04/2023. Universitat Autònoma de Barcelona. Supervisors: Hidalgo Pérez, José Alberto; Vilahur García, Gemma; Badimon Maestro, Lina; Cinca Cusculola, Juan María. <http://hdl.handle.net/10803/690535>.
- Schoch, Leonie. Nuevas estrategias para restaurar la protección de las HDLs. 09/03/2023. Universitat de Barcelona. Supervisors: Vilahur García, Gemma; Badimon Maestro, Lina.
- Sutelman, Pablo. Nuevas estrategias de condicionamiento miocárdico: cardioprotección por nutraceuticos en cardiopatía isquèmica. 15/09/2023. Universitat de Barcelona. Supervisors: Vilahur García, Gemma; Badimon Maestro, Lina.
- Vilella Figuerola, Alba. Circulating cell-derived extracellular vesicles and epigenetic small non-coding ribonucleic acids in chronic heart failure. 28/03/2023. Universitat Autònoma de Barcelona. Supervisors: Badimon Maestro, Lina; Padró Capmany, Teresa; Blanco Vaca, Francisco. <http://hdl.handle.net/10803/689764>.
- Andreotti F, Geisler T, Collet JP, Gigante B, Gorog DA, Halvorsen S, Lip GYH, Morais J, Navarese EP, Patrono C, Rocca B, Rubboli A, Sibbing D, Storey RF, Verheugt F, Vilahur G. Acute, periprocedural and longterm antithrombotic therapy in older adults 2022 Update by the ESC Working Group

### DOCTORAL THESES DEFENDED

- Gallinat O'Callaghan, Alex. Molecular basis of ischemic post-conditioning: DJ-1 in cardioprotection. 30/01/2023. Universitat Autònoma de Barcelona. Supervisors: Badimon Maestro, Lina; Blanco Vaca, Francisco. <http://hdl.handle.net/10803/688588>.
- Radiké, Monika. High resolution cardiovascular magnetic resonance as a tool for evaluating the efficacy of P2Y12 receptor antagonists to preserve cardiac microcirculation and limit adverse left ventricular remodelling post-myocardial infarction. 28/04/2023. Universitat Autònoma de Barcelona. Supervisors: Hidalgo Pérez, José Alberto; Vilahur García, Gemma; Badimon Maestro, Lina; Cinca Cusculola, Juan María. <http://hdl.handle.net/10803/690535>.
- Schoch, Leonie. Nuevas estrategias para restaurar la protección de las HDLs. 09/03/2023. Universitat de Barcelona. Supervisors: Vilahur García, Gemma; Badimon Maestro, Lina.
- Sutelman, Pablo. Nuevas estrategias de condicionamiento miocárdico: cardioprotección por nutraceuticos en cardiopatía isquèmica. 15/09/2023. Universitat de Barcelona. Supervisors: Vilahur García, Gemma; Badimon Maestro, Lina.
- Vilella Figuerola, Alba. Circulating cell-derived extracellular vesicles and epigenetic small non-coding ribonucleic acids in chronic heart failure. 28/03/2023. Universitat Autònoma de Barcelona. Supervisors: Badimon Maestro, Lina; Padró Capmany, Teresa; Blanco Vaca, Francisco. <http://hdl.handle.net/10803/689764>.

### SCIENTIFIC PRODUCTION

- Andreotti F, Geisler T, Collet JP, Gigante B, Gorog DA, Halvorsen S, Lip GYH, Morais J, Navarese EP, Patrono C, Rocca B, Rubboli A, Sibbing D, Storey RF, Verheugt F, Vilahur G. Acute, periprocedural and longterm antithrombotic therapy in older adults 2022 Update by the ESC Working Group



## 05.1.1 Cardiovascular Diseases Area

- on Thrombosis. EUROPEAN HEART JOURNAL. 2023; 44(4)DOI:10.1093/eurheartj/ehac515. PMID:36477po865. IF:39,300 (Q1/1D). Document type: Review.
- Arderiu G, Civit A, Badimon L. Adipose-Derived Stem Cells to Treat Ischemic Diseases: The Case of Peripheral Artery Disease. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(23):16752. DOI:10.3390/ijms242316752. PMID:38069074. IF:5,600 (Q1/3D). Document type: Review.
  - Arderiu G, Mendieta G, Gallinat A, Lambert C, Díez A, Ballesta C, Badimon L. Type 2 Diabetes in Obesity: A Systems Biology Study on Serum and Adipose Tissue Proteomic Profiles. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(1):827. DOI:10.3390/ijms24010827. PMID:36614270. IF:5,600 (Q1/3D). Document type: Article.
  - Badimon L, Arderiu G. Atherosclerotic Plaque VASA Vasorum in Diabetic Macroangiopathy: WHEN IS Important, but also HOW IS Needed. THROMBOSIS AND HAEMOSTASIS. 2023; 123(10) DOI:10.1055/a-2116-7261. PMID:37353212. IF:6,700 (Q1/2D). Document type: Editorial Material.
  - Badimon L, Mendieta G, Vilahur G. Statins revisited: therapeutic applications beyond lipid lowering?. EUROPEAN HEART JOURNAL. 2023; 44(25)DOI:10.1093/eurheartj/ehad324. PMID:37316965. IF:39,300 (Q1/1D). Document type: Editorial Material.
  - Badimon L, Vilahur G, Padro T, Mendieta G. Cardiovascular residual risk: etiology, lipids, and inflammation. Revista Española De Cardiología Suplementos. 2023; 23DOI:10.1016/S1131-3587(23)00008-0. Document type: Article.
  - Badimon L, Padro T, Vilahur G. Chapter 27: Moving from reactive to preventive medicine. Aging. 2023; 663-681. DOI: 10.1016/B978-0-12-823761-8.00003-3. Document type: Book Chapter.
  - Badimon L, Vilahur G. Chapter 1: Arterial thrombosis: pathophysiological background. The ESC Textbook of Thrombosis. The European Society of Cardiology Series. Oxford Academic. 2023; C1-C1P114. DOI:10.1093/med/9780192869227.003.0001. Document type: Book Chapter.
  - Benincasa G, Suades R, Padrò T, Badimon L, Napoli C. Bioinformatic platforms for clinical stratification of natural history of atherosclerotic cardiovascular diseases. European Heart Journal-Cardiovascular Pharmacotherapy. 2023; 9(8) DOI:10.1093/ehjcvp/pvad059. PMID:37562936. IF:7,100 (Q1/1D). Document type: Article.
  - Bergami M, Manfrini O, Nava S, Caramori G, Yoon J, Badimon L, Cenko E, David A, Demiri I, Dorobantu M, Fabin N, Gheorghe O, Jankovic R, Kedev S, Ladjevic N, Lasica R, Loncar G, Mancuso G, Mendieta G, Milicic D, Mjehovic P, Pasalic M, Petrovic M, Poposka L, Scarpone M, Stefanovic M, van der Schaar M, Vasiljevic Z, Vavlukis M, Pittao MLV, Vukomanovic V, Zdravkovic M, Bugiardini R. Relationship Between Azithromycin and Cardiovascular Outcomes in Unvaccinated Patients With COVID-19 and Preexisting Cardiovascular Disease. Journal of the American Heart Association. 2023; 12(14):e028939. DOI:10.1161/JAHA.122.028939. PMID:37449568. IF:5,400 (Q2/3D). Document type: Article.
  - Bonfrate L, Di A, Khalil M, Farella I, Chirico R, Vilahur G, Portincasa P. Gender-dependent impact of COVID-19 lockdown on metabolic and psychological aspects. Internal and Emergency Medicine. 2023; 18(2)DOI:10.1007/s11739-022-03173-9. PMID:36703077. IF:4,600 (Q2/3D). Document type: Article.
  - Borrell M, Luquero A, Vilahur G, Padró T, Badimon L. Canonical Wnt pathway and the LDL receptor superfamily in neuronal cholesterol homeostasis and function. CARDIOVASCULAR RESEARCH. 2023; DOI:10.1093/cvr/cvad159. PMID:37882606. IF:10,800 (Q1/1D). Document type: Article.
  - Bugiardini R, Nava S, Caramori G, Yoon J, Badimon L, Bergami M, Cenko E, David A, Demiri I, Dorobantu M, Fronea O, Jankovic R, Kedev S, Ladjevic N, Lasica R, Loncar G, Mancuso G, Mendieta G, Milicic D, Mjehovic P, Pasalic M, Petrovic M, Poposka L, Scarpone M, Stefanovic M, van der Schaar M, Vasiljevic Z, Vavlukis M, Pittao MLV, Vukomanovic V, Zdravkovic M, Manfrini O. Sex differences and disparities in cardiovascular outcomes of COVID-19. CARDIOVASCULAR RESEARCH. 2023; 119(5)DOI:10.1093/cvr/cvad011. PMID:36651866. IF:10,800 (Q1/1D). Document type: Article.



## 05.1.1 Cardiovascular Diseases Area

- Charalampous P, Haagsma JA, Jakobsen LS, Gorasso V, Noguer I, Padron A, Sarmiento R, Santos JV, McDonald SA, Plass D, Wyper GMA, Assunção R, Von Der Lippe E, Ádám B, Alkerwi A, Arabloo J, Baltazar AL, Bikbov B, Borrell M, Brus I, Burazeri G, Chaintoutis SC, Chen J, Chkhaberidze N, Cilovic S, Corso B, Cuschieri S, Di C, Dopelt K, Economou M, Emeto TI, Fantke P, Fischer F, Freitas A, García JM, Gazzelloni F, Gissler M, Gkitakou A, Gulmez H, Gunes S, Haller S, Haneef R, Hincapié CA, Hynds P, Idavain J, Ilic M, Ilic I, Isola G, Kabir Z, Kamusheva M, Kolkhir P, Konar NM, Kostoulas P, Kulimbet M, La Vecchia C, Lauriola P, Levi M, Majer M, Mechili EA, Monasta L, Mondello S, Muñoz J, Nena E, Ng ESW, Nguewa P, Niranjana V, Nola IA, O'caomh R, Obradovic M, Pallari E, Peyroteo M, Pinheiro V, Pranjic N, Reina M, Riva S, Santoso CMA, Santric M, Schmitt T, Speybroeck N, Sprügel M, Steiropoulos P, Stevanovic A, Thygesen LC, Tozija F, Unim B, Bektas H, Varga O, Vasic M, Vieira RJ, Yigit V, Devleeschauwer B, Pires SM. Burden of infectious disease studies in Europe and the United Kingdom: a review of methodological design choices. *EPIDEMIOLOGY AND INFECTION*. 2023; 151:e19. DOI:10.1017/S0950268823000031. PMID:36621004. IF:4,200 (Q2/4D). Document type: Review.
- Cordero A, Fernández R, Badimon L, Santos CG, Castellano JM, Fácila L, Rodríguez M, Bonanad C, Vilahur G, Escribano D, Badimon JJ, González JR. The efficacy of intensive lipid-lowering therapies on the reduction of LDLc and of major cardiovascular events. *Journal of Clinical Lipidology*. 2023; 17(5):DOI:10.1016/j.jacl.2023.08.006. PMID:37775463. IF:4,400 (Q2/3D). Document type: Article.
- Cordero A, Munoz N, Padro T, Vilahur G, Bertomeu V, Escribano D, Flores E, Zuazola P, Badimon L. HDL Function and Size in Patients with On-Target LDL Plasma Levels and a First-Onset ACS. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(6):5391. DOI:10.3390/ijms24065391. PMID:36982465. IF:5,600 (Q1/3D). Document type: Article.
- Davidson SM, Boulanger CM, Aikawa E, Badimon L, Barile L, Binder CJ, Brisson A, Buzas E, Emanueli C, Jansen F, Katsur M, Lacroix R, Lim SK, Mackman N, Mayr M, Menasché P, Nieuwland R, Sahoo S, Takov K, Thum T, Vader P, Wauben MHM, Witwer K, Sluijter JPG. Methods for the identification and characterization of extracellular vesicles in cardiovascular studies: from exosomes to microvesicles. *CARDIOVASCULAR RESEARCH*. 2023; 119(1)DOI:10.1093/cvr/cvac031. PMID:35325061. IF:10,800 (Q1/1D). Document type: Review.
- Doehner W, Böhm M, Boriani G, Christersson C, Coats A, Haeusler KG, Jones ID, Lip GYH, Metra M, Ntaios G, Savarese G, Shantsila E, Vilahur G, Rosano G. Interaction of heart failure and stroke: A clinical consensus statement of the ESC Council on Stroke, the Heart Failure Association (HFA) and the ESC Working Group on Thrombosis. *EUROPEAN JOURNAL OF HEART FAILURE*. 2023; 25(12)DOI:10.1002/ejhf.3071. PMID:37905380. IF:18,200 (Q1/1D). Document type: Article.
- Encinas LF, Lluch N, Wu A, Kaski JC, Badimon L, Cubedo J. A Novel ELISA for the Quantification of Serum Levels of 2 Glycosylated Variants of Apolipoprotein J: Biomarkers for Myocardial Ischemia. *Journal Of Applied Laboratory Medicine*. 2023; 8(5)DOI:10.1093/jalm/jfad034. PMID:37473435. Document type: Article.
- Gallinat A, Vilahur G, Padro T, Badimon L. Effects of Antioxidants in Fermented Beverages in Tissue Transcriptomics: Effect of Beer Intake on Myocardial Tissue after Oxidative Injury. *Antioxidants*. 2023; 12(5):1096. DOI:10.3390/antiox12051096. PMID:37237963. IF:7,000 (Q1/1D). Document type: Article.
- García MC, Padro T, Munoz N, Bianchi M, Alvarez L, Badimon L, Corbella E, Pinto X. Dysfunctional antioxidant capacity of high-density lipoprotein in rheumatoid arthritis. *EUROPEAN JOURNAL OF CLINICAL INVESTIGATION*. 2023; 53(8):e13999. DOI:10.1111/eci.13999. PMID:36994808. IF:5,500 (Q1/3D). Document type: Article.
- Gigante B, Levy JH, van E, Bartoloni A, Bochaton ML, Back M, ten H, Christersson C, Ferreiro JL, Geisler T, Lutgens E, Schulman S, Storey RF, Thachil J, Vilahur G, Liaw PC, Rocca B. Management of patients on antithrombotic therapy with severe infections: a joint clinical consensus statement of the ESC Working Group on Thrombosis, the ESC Working Group on Atherosclerosis and Vascular



## 05.1.1 Cardiovascular Diseases Area

- Biology, and the International Society on Thrombosis and Haemostasis. *EUROPEAN HEART JOURNAL*. 2023; 44(32)DOI:10.1093/eurheartj/ehad388. PMID:37439553. IF:39,300 (Q1/1D). Document type: Article.
- Kaski JC, Lluch N, López JL, Gorog DA, Antorrena I, Avanzas P, Herrero P, Sionis A, González JR, Íñiguez A, Cordero A, Ako E, Fernández F, Atienza F, Recio A, Wu A, Crea F, Storey R, Badimon L, Cubedo J. Changes in circulating ApoJ-Glyc levels in patients with suspected acute coronary syndrome: The EDICA trial. *INTERNATIONAL JOURNAL OF CARDIOLOGY*. 2023; 391:131291. DOI:10.1016/j.ijcard.2023.131291. PMID:37619880. IF:3,500 (Q2/5D). Document type: Article.
  - Lezoualc'h F, Badimon L, Baker H, Bernard M, Czibik G, De Boer RA, D'Humieres T, Kergoat M, Kowala M, Rieusset J, Vilahur G, Detrait M, Watson C, Derumeaux GA. Diabetic cardiomyopathy: the need for adjusting experimental models to meet clinical reality. *CARDIOVASCULAR RESEARCH*. 2023; 119(5)DOI:10.1093/cvr/cvac152. PMID:36082907. IF:10,800 (Q1/1D). Document type: Review.
  - López A, Padro T, Villaplana VD, Muñoz N, Pérez A, Vilahur G, Badimon L. Vascular and Platelet Effects of Tomato Soffritto Intake in Overweight and Obese Subjects. *Nutrients*. 2023; 15(24):5084. DOI:10.3390/nu15245084. PMID:38140343. IF:5,900 (Q1/2D). Document type: Article.
  - Padro T, López A, Pérez A, Vilahur G, Badimon L. Dietary ?3 Fatty Acids and Phytosterols in the Modulation of the HDL Lipidome: A Longitudinal Crossover Clinical Study. *Nutrients*. 2023; 15(16):3637. DOI:10.3390/nu15163637. PMID:37630826. IF:5,900 (Q1/2D). Document type: Article.
  - Radike M, Ben-Aicha S, Gutiérrez M, Hidalgo A, Badimón L, Vilahur G. Comparison of two cardiac magnetic resonance imaging post processing software tools in a pig model of myocardial infarction. *Rev Esp Cardiol (Engl Ed)*. 2023; 76(2):123-126. DOI: 10.1016/j.rec.2022.06.009. PMID: 35809893. IF:5,900 (Q1/3D). Document type: Editorial Material.
  - Radike M, Sutelman P, Ben S, Gutiérrez M, Mendieta G, Alcover S, Casaní L, Arderiu G, Borrell M, Padró T, Badimon L, Vilahur G. A comprehensive and longitudinal cardiac magnetic resonance imaging study of the impact of coronary ischemia duration on myocardial damage in a highly translatable animal model. *EUROPEAN JOURNAL OF CLINICAL INVESTIGATION*. 2023; 53(1):e13860. DOI:10.1111/eci.13860. PMID:35986736. IF:5,500 (Q1/3D). Document type: Article.
  - Roth L, Dogan S, Tuna BG, Aranyi T, Benitez S, Borrell M, Bozaykut P, De Meyer GRY, Duca L, Durmus N, Fonseca D, Fraenkel E, Gillery P, Giudici A, Jaisson S, Johansson M, Julve J, Lucas AK, Martinet W, Maurice P, McDonnell BJ, Ozbek EN, Pucci G, Pugh C, Rochfort KD, Roks A, Rotllan N, Shadiow J, Sohrabi Y, Spronck B, Szeri F, Terentes D, Aydin ET, Tura O, Ucar E, Yetik G. Pharmacological modulation of vascular ageing: A review from VascAgeNet. *AGEING RESEARCH REVIEWS*. 2023; 92:102122. DOI:10.1016/j.arr.2023.102122. PMID:37956927. IF:13,100 (Q1/1D). Document type: Review.
  - Rubboli A, Gorog DA, Vilahur G. The European Society of Cardiology Working Group on Thrombosis. *EUROPEAN HEART JOURNAL*. 2023; 44(25)DOI:10.1093/eurheartj/ehad063. PMID:36814406. IF:39,300 (Q1/1D). Document type: Article.
  - Sánchez F, Avendano C, Badimon L, Bueren JA, Canals JM, Delgadillo J, Delgado J, Eguizabal C, Fernández ME, García D, Gonzalez G, Juan M, Martin F, Mata R, Montserrat N, Perez A, Perez JA, Prosper F, Urbano A, Zapata AG, Sureda A, Moraleda JM. Role of Hospital Exemption in Europe: position paper from the Spanish Advanced Therapy Network (TERAV). *BONE MARROW TRANSPLANTATION*. 2023; 58(6)DOI:10.1038/s41409-023-01962-0. PMID:36966215. IF:4,800 (Q1/2D). Document type: Letter.
  - Schoch L, Alcover S, Padró T, Ben S, Mendieta G, Badimon L, Vilahur G. Update of HDL in atherosclerotic cardiovascular disease. *Clinica E Investigacion En Arteriosclerosis*. 2023; 35(6) DOI:10.1016/j.arteri.2023.10.002. PMID:37940388. Document type: Review.
  - Schoch L, Sutelman P, Suades R, Badimon L, Moreno I, Vilahur G. The gut microbiome dysbiosis is recovered by restoring a normal diet in hyper-



## 05.1.1 Cardiovascular Diseases Area

cholesterolemic pigs. EUROPEAN JOURNAL OF CLINICAL INVESTIGATION. 2023; 53(4):e13927. DOI:10.1111/eci.13927. PMID:36453873. IF:5,500 (Q1/3D). Document type: Article.

- Suades R, Vilella A, Padro T, Mirabet S, Badimon L. Red Blood Cells and Endothelium Derived Circulating Extracellular Vesicles in Health and Chronic Heart Failure: A Focus on Phosphatidylserine Dynamics in Vesiculation. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(14):11824. DOI:10.3390/ijms241411824. PMID:37511585. IF:5,600 (Q1/3D). Document type: Article.
- van der Vorst E, Badimon L. The unknown functions of a known protein: the case of coagulation factor XI. CARDIOVASCULAR RESEARCH. 2023; 119(7):cvad066. DOI:10.1093/cvr/cvad066. PMID:37141257. IF:10,800 (Q1/1D). Document type: Editorial Material.
- van J, Tokgozoglu LS, Badimon L, Dumanski SM, Gulati M, Hess CN, Holven KB, Kavoussi M, Kayikcioglu M, Lutgens E, Michos ED, Prescott E, Stock JK, Tybjaerg A, Wermer MJH, Benn M. Women, lipids, and atherosclerotic cardiovascular disease: a call to action from the European Atherosclerosis Society. EUROPEAN HEART JOURNAL. 2023; 44(39):ehad472. DOI:10.1093/eurheartj/ehad472. PMID:37611089. IF:39,300 (Q1/1D). Document type: Article.
- Vilahur G. A primordial obstacle in cardioprotection: the answer resides in our genes. CARDIOVASCULAR RESEARCH. 2023; 119(3):e122-e124. DOI:10.1093/cvr/cvad034. PMID:36919864. IF:10,800 (Q1/1D). Document type: Editorial Material.
- Vilella A, Cordero A, Mirabet S, Munoz N, Suades R, Padro T, Badimon L. Platelet-Released Extracellular Vesicle Characteristics Differ in Chronic and Acute Heart Disease. THROMBOSIS AND HAEMOSTASIS. 2023; 123(9) DOI:10.1055/s-0043-57017. PMID:37075787. IF:6,700 (Q1/2D). Document type: Article.



## Biomarkers for Cardiovascular Disease

### Group leader

Padro Capmany, Teresa (IR)

### Researchers

De Santisteban Villaplana, Victoria Marta (IR)

García Arguinzonis, Maisa Ines (IR)

### Research Technicians

Gomez-Pardo Arellano, Montserrat (IR)



### DESCRIPTION

The group's research focuses on the identification and characterization of molecular and cellular biomarkers of atherothrombosis and ischaemic heart disease with potential applications in prevention, diagnosis, risk stratification, and treatment. Research covers a range of cardiovascular diseases at both subclinical and clinical stages. It includes studies on tissue remodeling, inflammation, atherosclerosis, thrombosis, and risk factors. Biomarkers and potential therapeutic targets are investigated in animal models and clinical samples, and mechanistically in cell culture studies.

### MAIN LINES OF RESEARCH

- Biomarkers and molecular targets of vascular remodeling in atherosclerosis progression, thrombosis, and subsequent ischemic events (Proteomic-based studies).
- Extracellular matrix and cardiac remodeling post-myocardial infarction.
- Circulating extracellular vesicles (microvesicles / exosomes) in subclinical and clinical cardiovascular diseases.
- Functional epigenomics (plasma and total blood non-coding RNAs): Novel biomarkers in cardiovascular diseases and special groups at high CVD risk (Familial Hypercholesterolemia).
- Lipidome and metabolome regulation in cardiovascular disease prevention.

### SCIENTIFIC CHALLENGES

- Identify and characterize new biomarkers and molecular targets of tissue remodeling in athe-



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rosclerotic vessels and cardiac tissue post-myocardial infarction.

- Generate new information on circulating non-coding RNAs and extracellular vesicles (microvesicles /exosomes) due to their specific feature as carriers of non-coding RNAs (miRNA, lncRNAs) and proteins derived from the parental cells providing precise bioprints of defined pathophysiological scenarios and consequently being ideal biomarker candidates of disease evolution.
- The use of "omic" approaches and in silico studies to identify and characterize circulating biomarkers associated with cardiovascular disease, both in biological fluids (serum, plasma, urine) and carried by lipoproteins or microvesicles. Studies will include proteomic technologies based on liquid chromatography/bidimensional electrophoresis and mass spectrometry, lipidomic approaches using mass spectrometry coupled to ultra-performance liquid chromatography and nuclear magnetic resonance (NMR), transcriptomic studies (mRNA, non-coding RNA) based on array systems, next-generation sequencing, and real-time PCR.
- To validate novel biomarkers (proteins / non-coding RNAs) for prognosis and risk-stratification of cardiovascular diseases in clinical cohorts.
- Characterisation at the cellular level of molecular and functional mechanisms (gene and protein expression regulation, epigenetic regulation, sub-cellular distribution of proteins, paracrine effects, cell functions) for selected biomarkers/molecular targets in cardiovascular pathology and myocardial remodeling.

## ACTIVE GRANTS

- Padro Capmany, Teresa. Identificación en la matriz extracelular post-infarto de moléculas estimulantes de regeneración cardiaca (MATRI-REG). PI22/01930. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 171.820,00 €.
- Padro Capmany, Teresa. Reparación de la matriz estructural miocárdica en el corazón infartado: Papel regulador de la Adipsina, una proteína de inmunidad innata asociada al matrisoma de la matriz extracelular. PI19/01687. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 177.870,00 €.

- Padro Capmany, Teresa. TRANSBIOLINE: Translational Safety Biomarker Pipeline (TransBioLine): Enabling development and implementation of novel safety biomarkers in clinical trials and diagnosis of disease. TRANSBIOLINE 821283. Unión Europea. Duration: 2019-2024. 182.600,00 €.
- Padro Capmany, Teresa. COVIRNA: Medical technologies, digital tools and artificial intelligence analytics to improve surveillance and care at high technology readlines. COVIRNA 101016072. Unión Europea. Duration: 2020-2023. 273.943,00 €.
- Padro Capmany, Teresa. Efectos del probiótico "AB-Life" sobre la cantidad y perfil de ácidos biliares, y el perfil lipídico y metabólico en sujetos sanos con sobrepeso moderado. Non-competitive. AB-BIOTICS. Duration: 2020-2022. 277.052,00 €.

## GRANTS AWARDED

- Padro Capmany, Teresa. Impact of lipoprotein molecular and functional composition and inflammation on ACVD clinical event presentation in familial hypercholesterolemia (LipoComp). 202329-10. Fundació La Marató de TV3. Duration: 2024-2027. 199.997,50 €

## DOCTORAL THESES DEFENDED

- Vilella Figuerola, Alba. Circulating cell-derived extracellular vesicles and epigenetic small non-coding ribonucleic acids in chronic heart failure. 28/03/2023. Universitat Autònoma de Barcelona. Supervisors: Badimon Maestro, Lina; Padró Capmany, Teresa; Blanco Vaca, Francisco. <http://hdl.handle.net/10803/689764>

## SCIENTIFIC PRODUCTION

- Antoniades C, Tousoulis D, Vavlukis M, Fleming I, Duncker DJ, Eringa E, Manfrini O, Antonopoulos AS, Oikonomou E, Padro T, Trifunovic D, De Luca G, Guzik T, Cenko E, Djordjevic A, Crea F. Perivascular adipose tissue as a source of therapeutic targets and clinical biomarkers A clinical consensus statement from the European Society of Cardiology Working Group on Coronary Pathophysiology and Micro-circulation. EUROPEAN HEART JOURNAL. 2023; 44(38)DOI:10.1093/eurheartj/ehad484. PMID:37599464. IF:39,300 (Q1/1D). Document type: Article.



## 05.1.1 Cardiovascular Diseases Area

- Badimon L, Vilahur G, Padro T, Mendieta G. Cardiovascular residual risk: etiology, lipids and inflammation. *Revista Española De Cardiología Suplementos*. 2023; 23DOI:10.1016/S1131-3587(23)00008-0. Document type: Article.
- Benincasa G, Suades R, Padrò T, Badimon L, Napoli C. Bioinformatic platforms for clinical stratification of natural history of atherosclerotic cardiovascular diseases. *European Heart Journal-Cardiovascular Pharmacotherapy*. 2023; 9(8) DOI:10.1093/ehjcvp/pvad059. PMID:37562936. IF:7,100 (Q1/1D). Document type: Article.
- Borrell M, Luquero A, Vilahur G, Padró T, Badimon L. Canonical Wnt pathway and the LDL receptor superfamily in neuronal cholesterol homeostasis and function. *CARDIOVASCULAR RESEARCH*. 2023; DOI:10.1093/cvr/cvad159. PMID:37882606. IF:10,800 (Q1/1D). Document type: Article.
- Cordero A, Munoz N, Padro T, Vilahur G, Bertomeu V, Escribano D, Flores E, Zuazola P, Badimon L. HDL Function and Size in Patients with On-Target LDL Plasma Levels and a First-Onset ACS. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(6):5391. DOI:10.3390/ijms24065391. PMID:36982465. IF:5,600 (Q1/3D). Document type: Article.
- de Isla LP, Diaz JL, Romero MJ, Muniz O, Mediavilla JD, Argueso R, Munoz JS, Rubio P, Alvarez P, Ponte P, Manas D, Gutierrez LS, Cepeda JM, Casanas M, Fuentes F, Guijarro C, Barba MA, Cerezo AS, Padro T, Mata P, SAFEHEART GRP. Alirocumab and Coronary Atherosclerosis in Asymptomatic Patients with Familial Hypercholesterolemia: The ARCHITECT Study. *CIRCULATION*. 2023; 147(19)DOI:10.1161/CIRCULATIONAHA.122.062557. PMID:37009731. IF:37,800 (Q1/1D). Document type: Article.
- Gallinat A, Vilahur G, Padro T, Badimon L. Effects of Antioxidants in Fermented Beverages in Tissue Transcriptomics: Effect of Beer Intake on Myocardial Tissue after Oxidative Injury. *Antioxidants*. 2023; 12(5):1096. DOI:10.3390/antiox12051096. PMID:37237963. IF:7,000 (Q1/1D). Document type: Article.
- García MC, Padro T, Munoz N, Bianchi M, Alvarez L, Badimon L, Corbella E, Pinto X. Dysfunctional antioxidant capacity of high-density lipoprotein in rheumatoid arthritis. *EUROPEAN JOURNAL OF CLINICAL INVESTIGATION*. 2023; 53(8):e13999. DOI:10.1111/eci.13999. PMID:36994808. IF:5,500 (Q1/3D). Document type: Article.
- Haller PM, Gossling A, Magnussen C, Brenner H, Schottker B, Iacoviello L, Costanzo S, Kee F, Koenig W, Linneberg A, Sujana C, Thorand B, Salomaa V, Niiranen TJ, Soderberg S, Volzke H, Dorr M, Sans S, Padro T, Felix SB, Nauck M, Petersmann A, Palmieri L, Donfrancesco C, De Ponti R, Veronesi G, Ferrario MM, Kuulasmaa K, Zeller T, Ojeda FM, Blankenberg S, Westermann D, BiomarCaRE C. Biomarker-based prediction of fatal and non-fatal cardiovascular outcomes in individuals with diabetes mellitus. *European Journal of Preventive Cardiology*. 2023; 30(12)DOI:10.1093/eurjpc/zwad122. PMID:37079290. IF:8,300 (Q1/2D). Document type: Article.
- López A, Padro T, Villaplana VD, Muñoz N, Pérez A, Vilahur G, Badimon L. Vascular and Platelet Effects of Tomato Soffritto Intake in Overweight and Obese Subjects. *Nutrients*. 2023; 15(24):5084. DOI:10.3390/nu15245084. PMID:38140343. IF:5,900 (Q1/2D). Document type: Article.
- Padro T, Cenko E, Tousoulis D. The ESC Working Group on Coronary Pathophysiology and Microcirculation. *EUROPEAN HEART JOURNAL*. 2023; 44(46)DOI:10.1093/eurheartj/ehad650. PMID:37772387. IF:39,300 (Q1/1D). Document type: News Item.
- Padro T, López A, Pérez A, Vilahur G, Badimon L. Dietary ? Fatty Acids and Phytosterols in the Modulation of the HDL Lipidome: A Longitudinal Crossover Clinical Study. *Nutrients*. 2023; 15(16):3637. DOI:10.3390/nu15163637. PMID:37630826. IF:5,900 (Q1/2D). Document type: Article.
- Radike M, Sutelman P, Ben S, Gutiérrez M, Mendieta G, Alcover S, Casaní L, Arderiu G, Borrell M, Padró T, Badimon L, Vilahur G. A comprehensive and longitudinal cardiac magnetic resonance imaging study of the impact of coronary ischemia duration on myocardial damage in a highly translatable animal model. *EUROPEAN JOURNAL OF CLINICAL INVESTIGATION*. 2023; 53(1):e13860. DOI:10.1111/eci.13860. PMID:35986736. IF:5,500 (Q1/3D). Document type: Article.



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- Schoch L, Alcover S, Padró T, Ben S, Mendietta G, Badimon L, Vilahur G. Update of HDL in atherosclerotic cardiovascular disease. *Clinica E Investigacion En Arteriosclerosis*. 2023; 35(6) DOI:10.1016/j.arteri.2023.10.002. PMID:37940388. IF: 1,600. Document type: Review.
- Suades R, Vilella A, Padro T, Mirabet S, Badimon L. Red Blood Cells and Endothelium Derived Circulating Extracellular Vesicles in Health and Chronic Heart Failure: A Focus on Phosphatidylserine Dynamics in Vesiculation. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(14):11824. DOI:10.3390/ijms241411824. PMID:37511585. IF:5,600 (Q1/3D). Document type: Article.
- Vilella A, Cordero A, Mirabet S, Munoz N, Suades R, Padro T, Badimon L. Platelet-Released Extracellular Vesicle Characteristics Differ in Chronic and Acute Heart Disease. *THROMBOSIS AND HAEMOSTASIS*. 2023; 123(9) DOI:10.1055/s-0043-57017. PMID:37075787. IF:6,700 (Q1/2D). Document type: Article.
- Badimon L, Padro T, Vilahur G. Chapter 27: Moving from reactive to preventive medicine. *Aging*. 2023; 663-681. DOI: 10.1016/B978-0-12-823761-8.00003-3. Document type: Book Chapter.

## Regulation of Cardiac Rhythm and Contraction

### Group leader

Hove-Madsen, Leif (CSIC)

### Researchers

Casabella Ramon, Sergi (CSIC)

### Research Technicians

Aceituno Fernández, Cristina (CSIC)

Izquierdo Castro, Paloma (CSIC)



### DESCRIPTION

The Cardiac Rhythm and Contraction Group has since its creation focused on identifying molecular and cellular electrophysiological mechanisms contributing to the development of cardiac arrhythmia, to improve risk prediction and identify novel disease-specific therapeutic targets. We are one of a few groups that use human atrial myocytes to study pathological alterations in cardiomyocyte function. Our primary goal is to identify key mechanisms underlying the alterations in calcium homeostasis and abnormal electrical activity that occur in atrial myocytes in patients with atrial fibrillation.

### MAIN LINES OF RESEARCH

- Neuro-hormonal regulation of intracellular calcium homeostasis in cardiac myocytes.
- Impact of genetic variants on electrophysiological and contractile function in cardiac myocytes.
- Impact of clinical factors and circulating biomarkers on human atrial myocyte function.
- Development of computational tools for automated analysis of live-cell imaging experiments or protein distribution in large confocal image stacks.
- Development of detailed high-resolution mathematical myocyte models.

### SCIENTIFIC CHALLENGES

The association of more than 140 single nucleotide polymorphisms (SNPs) with increased risk of atrial fibrillation over the past decade affords one of the biggest recent opportunities to make a substantial advance in risk stratification and personalized treatment of atrial fibrillation.



### 05.1.1 Cardiovascular Diseases Area

The challenge is the vast number of SNPs, each associated with a modest increase in risk and unknown impact on function.

Our opportunity is to identify SNP combinations causing synergic derangements in human atrial myocyte function and a corresponding increase in the risk of atrial fibrillation.

#### ACTIVE GRANTS

- Hove-Madsen, Leif. Impact of Genetic and Clinical Risk on Molecular Signaling and Electrophysiological Dysfunction in Atrial Fibrillation (GenRiskAF) (2 sub-project). PID2020-116927RB-C21. Duration: 2021-2024. 181.500,00 € (CSIC).

#### DOCTORAL THESES DEFENDED

- Casabella Ramón, Sergi. Alteraciones en la homeostasis del calcio y la actividad eléctrica que se asocian con la fibrilación auricular en miocitos auriculares humanos y un modelo porcino de infarto auricular. 01/12/2023. Universitat Autònoma de Barcelona. Supervisors: Hove Madsen, Leif; Jiménez Farrerons, Marcel.

#### SCIENTIFIC PRODUCTION

- Amorós G, Casabella S, Company G, Arzamendi D, Jorge E, García A, Macías Y, Sánchez D, Rosell J, Guerra JM, Cinca J. Electrophysiological and histological characterization of atrial scarring in a model of isolated atrial myocardial infarction. *Frontiers in Physiology*. 2023; 13:1104327. DOI:10.3389/fphys.2022.1104327. PMID:36714312. IF:4,000 (Q2/3D). Document type: Article.
- Amorós G, Casabella S, Moreno Z, Ivorra A, Guerra JM, García T. Dynamics of High-Density Unipolar Epicardial Electrograms During PFA. *Circulation-Arrhythmia and Electrophysiology*. 2023; 16(9):e011914. DOI:10.1161/CIRCEP.123.011914. PMID:37577822. IF:8,400 (Q1/2D). Document type: Article.
- Franco D, Hove L, Daimi H. Editorial: Molecular, structural and electrophysiological remodeling in atrial fibrillation. *Frontiers in Physiology*. 2023; 14:1303328. DOI:10.3389/fphys.2023.1303328. PMID:37900957. IF:4,000 (Q2/3D). Document type: Editorial Material.
- Godoy H, Jimenez V, Tarifa C, Ginel A, Dos JL, Bentzen BH, Hove L, Ciruela F. Increased Density of Endogenous Adenosine A(2A) Receptors in Atrial Fibrillation: From Cellular and Porcine Models to Human Patients. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(4):3668. DOI:10.3390/ijms24043668. PMID:36835078. IF:5,600 (Q1/3D). Document type: Article.
- Jimenez V, Casabella S, Llach A, Gich I, Casellas S, Ciruela F, Chen SRW, Guerra JM, Ginel A, Benitez R, Cinca J, Tarifa C, Hove L. Beta-blocker treatment of patients with atrial fibrillation attenuates spontaneous calcium release-induced electrical activity. *BIOMEDICINE & PHARMACOTHERAPY*. 2023; 158:114169. DOI:10.1016/j.biopha.2022.114169. PMID:36592495. IF:7,500 (Q1/1D). Document type: Article.
- Ni MK, Li YH, Wei JH, Song ZP, Wang H, Yao JJ, Chen YX, Belke D, Estillore JP, Wang RW, Vallmitjana A, Benitez R, Hove L, Feng W, Chen J, Roston TM, Sanatani S, Lehman A, Chen SRW. Increased Ca<sup>2+</sup> Transient Underlies RyR2-Related Left Ventricular Noncompaction. *CIRCULATION RESEARCH*. 2023; 133(2)DOI:10.1161/CIRCRESAHA.123.322504. PMID:37325910. IF:20,100 (Q1/1D). Document type: Article.
- Puertas L, Alonso J, Hove L, Martínez J, Rodríguez C. PDE4 Phosphodiesterases in Cardiovascular Diseases: Key Pathophysiological Players and Potential Therapeutic Targets. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(23):17017. DOI:10.3390/ijms242317017. PMID:38069339. IF:5,600 (Q1/3D). Document type: Review.
- Tarifa C, Jimenez V, Franco R, Montiel J, Guerra J, Ciruela F, Hove L. Expression and Impact of Adenosine A(3) Receptors on Calcium Homeostasis in Human Right Atrium. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(5):4404. DOI:10.3390/ijms24054404. PMID:36901835. IF:5,600 (Q1/3D). Document type: Article.
- Tarifa C, Serra SA, Herraiz A, Lozano E, Benitez R, Aranega A, Franco D, Hove L. Pitx2c deficiency confers cellular electrophysiological hallmarks of atrial fibrillation to isolated atrial myocytes.



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BIOMEDICINE & PHARMACOTHERAPY. 2023; 162:114577. DOI:10.1016/j.biopha.2023.114577. PMID:37001181. IF:7,500 (Q1/1D). Document type: Article.

- Tarifa C, Vallmitjana A, Jiménez V, Marchena M, Llach A, Herraiz A, Godoy H, Nolla C, Ginel A, Viñolas X, Montiel J, Ciruela F, Echebarria B, Benítez R, Cinca J, Hove L. Spatial Distribution of Calcium Sparks Determines Their Ability to Induce Afterdepolarizations in Human Atrial Myocytes. *Jacc-Basic To Translational Science*. 2023; 8(1) DOI:10.1016/j.jacbts.2022.07.013. PMID:36777175. IF:9,700 (Q1/1D). Document type: Article.
- Wei JH, Guo WT, Wang RW, Estillore JP, Belke D, Chen YX, Vallmitjana A, Benitez R, Hove L, Chen SRW. RyR2 Serine-2030 PKA Site Governs Ca<sup>2+</sup> Release Termination and Ca<sup>2+</sup> Alternans. *CIRCULATION RESEARCH*. 2023; 132(2):e59-e77. DOI:10.1161/CIRCRESAHA.122.321177. PMID:36583384. IF:20,100 (Q1/1D). Document type: Article.

## Lipids and Cardiovascular Pathology

### Group leader

Llorente Cortés, Concepción Vicenta (CSIC)

### Researchers

Benitez Amaro, Aleyda (CSIC)

Bosch Rue, Èlia (UAB)

García Rodríguez, Jesus Eduardo (IR)

La Chica Lhoest, Maria Teresa (CSIC)

### Research Technicians

Martinez Jimenez, Andrea (IR)



### DESCRIPTION

Our group focuses its activity on the cardiovascular area, and on the study of the mechanisms related to the impact of modified lipoproteins on the functional alterations of vascular and cardiac cells. We have identified new molecular mechanisms underlying the abnormal cholesteryl ester accumulation in intracellular suborganelle, as well as the pathological consequences for cardiac function. We have identified new peptide and omics biomarkers with diagnostic and prognostic value in cardiovascular diseases, and we are currently developing innovative treatments potentially transferable to humans.

### MAIN LINES OF RESEARCH

- Identification of new connecting axes of cardiac and hepatic functionality and their consequences in the regulation of metabolism and body weight.
- Applicability of LRP1-based assets for the treatment of pancreatic cancer.
- Development of innovative LRP1-based peptides against Tau fibrillation.
- Development of humanized anti-LRP1 monoclonal antibodies to comprehensively block atherosclerosis and heart failure.
- Integration of clinical, and experimental data (in vitro and in vivo models) and modeling to improve the prediction of atherosclerotic plaque progression towards clinical events.

### SCIENTIFIC CHALLENGES

- To develop new peptides with efficiency against Tau fibrillation in the brain.





### 05.1.1 Cardiovascular Diseases Area

- To develop a monoclonal antibody with efficacy to block heart failure onset and progression.
- To find new circulating biomarkers with predictive value for atherosclerotic plaque progression towards clinical events.
- To identify new dyslipidemia-related mechanisms involved in pancreatic cancer progression.

### ACTIVE GRANTS

- Llorente Cortés, Concepción Vicenta. The role of ABCB10 posttranslational modifications in cardiovascular disease. Proyectos BBQ-CSIC 2022. Duration: 2022-2023. 10.000,00 € (IIBB-CSIC).
- Llorente Cortés, Concepción Vicenta. Differential LRP1 interactome in Foam Vascular Smooth Muscle cells as a source of coronary risk biomarkers in liquid biopsy. PI21/01523. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 214.170,00 € (IIBB-CSIC).
- Llorente Cortés, Concepción Vicenta. Translational Molecular Imaging for Detection of Cholesterol Entrapment in the Vasculature with <sup>68</sup>Ga-labeled LRP1-derived Peptides (PlaqueCHOL). BBVA 2019. Fundación BBVA. Duration: 2020-2023. 125.000,70 €.

### GRANTS AWARDED

- Llorente Cortés, Concepción Vicenta i Belbin, Olivia. LRP1-based peptides as an anti-Tau therapeutic strategy for neurodegenerative diseases (PepTau). INN00061. Fundació Privada HSCP (INNOPAU). Duration: 2024-2026. 50.000,00 €.

### SCIENTIFIC PRODUCTION

- Dato VA, Paz MC, Rey FE, Sánchez MC, Llorente V, Chiabrando GA, Ceschin DG. Transcriptional analysis reveals that intracellular lipid accumulation impairs gene expression profiles involved in insulin response-associated cardiac functionality. *Scientific Reports*. 2023; 13(1):8761. DOI:10.1038/s41598-023-35951-6. PMID:37253991. IF:4,600 (Q2/4D). Document type: Article.
- García E, Camps P, Puig N, Fernández A, Aguilera A, Benitez A, Solé A, Vilades D, Sánchez JL, Martí J, Jiménez E, Benitez S, Llorente V. Soluble low-density lipoprotein receptor-related protein 1 as a surrogate marker of carotid plaque inflammation assessed by <sup>18</sup>F-FDG PET in patients with

a recent ischemic stroke. *Journal of Translational Medicine*. 2023; 21(1):131. DOI:10.1186/s12967-022-03867-w. PMID:36805772. IF:7,400 (Q1/3D). Document type: Article.

- García E, Gil P, Miñambres I, Benitez A, Rodríguez C, Claudi L, Julve J, Benitez S, Sánchez JL, Rives J, García X, Vilades D, Perez A, Llorente V. Increased sLRP1 and decreased atrial natriuretic peptide plasma levels in newly diagnosed T2DM patients are normalized after optimization of glycemic control. *Frontiers in Endocrinology*. 2023; 14:1236487. DOI:10.3389/fendo.2023.1236487. PMID:37635956. IF:5,200 (Q1/3D). Document type: Article.
- Lee M, Canyelles M, Tondo M, Rotllan N, Kovanen PT, Llorente V, Escola JC. Obesity-induced changes in cancer cells and their microenvironment: Mechanisms and therapeutic perspectives to manage dysregulated lipid metabolism. *SEMINARS IN CANCER BIOLOGY*. 2023; 93DOI:10.1016/j.semcancer.2023.05.002. PMID:37156344. IF:14,500 (Q1/1D). Document type: Article.
- Rossi G, Belmonte T, Rivas A, Benitez S, Rotllan N, Crespo J, Llorente V, Sánchez JL, de Gonzalo D. Circulating lipoprotein-carried miRNome analysis reveals novel VLDL-enriched microRNAs that strongly correlate with the HDL-microRNA profile. *BIOMEDICINE & PHARMACOTHERAPY*. 2023; 162:114623. DOI:10.1016/j.biopha.2023.114623. PMID:37023624. IF:7,500 (Q1/1D). Document type: Article.
- Samouillan V, García E, Benitez A, Lhoest MTL, Dandurand J, Dato VA, Guerra JM, Escola JC, Chiabrando G, Enrich C, Llorente V. Inhibitory Effects of LRP1-Based Immunotherapy on Cardiac Extracellular Matrix Biophysical Alterations Induced by Hypercholesterolemia. *JOURNAL OF MEDICINAL CHEMISTRY*. 2023; 66(9)DOI:10.1021/acs.jmedchem.2c02103. PMID:37116069. IF:7,300 (Q1/1D). Document type: Article.
- Soler MC, Romero MD, Todorovic M, Delgado K, Calatayud C, Benitez A, Lhoest MTL, Mera P, Zagmutt S, Bastias M, Ibeas K, Casals N, Escola JC, Llorente V, Consiglio A, Serra D, Herrero L. Implantation of CPT1AM-expressing adipocytes reduces obesity and glucose intolerance in mice. *METABOLIC ENGINEERING*.



### 05.1.1 Cardiovascular Diseases Area

2023; 77DOI:10.1016/j.ymben.2023.04.010.  
PMID:37088334. IF:8,400 (Q1/1D). Document  
type: Article.

## Genomics of Complex Diseases

### Group leader

Soria Fernández, José Manuel (IR)

### Researchers

Aloy Ortiz, Carme (Hospital Dos de Maig)

Camacho Perez De Madrid, Maria Mercedes (IR)

Diez Ahijado, Laia (IR)

Dilme Muñoz, Jaume Felix (FGS)

Escudero Rodríguez, Jose Roman (FGS)

Fite Matamoros, Joan (FGS)

Herrera Escartin, Daniel (UB)

Lloret Cano, Maria Dolores (Hospital Dos de Maig)

Lobato Delgado, Barbara (IR)

Romero Carro, Josep Maria (FGS)

Sabater Lleal, Maria (IR)

Soto Carricas, Begoña Dolores (FGS)

Temprano Sagrera, Gerard (IR)

### Research Technicians

Borras Oorbitg, Andrea Adriana (IR)

De La Rosa Estadella, Mireia (IR)

Martinez Perez, Angel (IR)

Uribezubia Azpitarte, Ager (IR)

Vega Mendez, Anton (IR)



### DESCRIPTION

Our group is focused on the acquisition, management, and analysis of multi-omics data and its integration with clinical and biological data for the identification of new biomarkers and the generation of risk prediction models to facilitate clinical decision-making in patients with vascular diseases (venous and arterial thrombosis and aneurysms). Also, to the study of biological processes in healthy people exposed to conditions of physiological stress (such as extreme sports). Our multidisciplinary team (Basic/Clinic) has a molecular biology laboratory, including functional analysis and cell cultures, that allows the control of the entire workflow of the process: from the generation of samples and data to the analysis and interpretation of the results.

### MAIN LINES OF RESEARCH

- Venous Thrombosis. Led by Dr. José Manuel Soria.
- Angiology and Vascular Biology. Led by Dra. Mercedes Camacho.
- Genomics of Arterial Vascular Disease. Led by Dra. Maria Sabater-Lleal.
- Genomics in Sport Medicine. Led by Dr. José Manuel Soria.
- Interdisciplinary Areas of Bioinformatics and multi-omics Data. Led by Dr. José Manuel Soria.

### SCIENTIFIC CHALLENGES

- Analysis of Omics data (Genomics, transcriptomics, epigenomics) in the field of complex diseases with a translational approach in cooperation with clinical groups.



### 05.1.1 Cardiovascular Diseases Area

- Identify new biomarkers (genetic, epigenetic and/or plasmatic) that determine susceptibility to complex diseases.
- Identify new mechanisms involved in the development and progression of complex traits (susceptibility to complex diseases and to healthy status).
- Development of predictive algorithms that integrate the genetic, biological, and clinical information of the patients (Personalized Medicine).
- Development of computational tools based on mathematical models of artificial intelligence for modeling of diseases and physiological processes and patient virtualization from real data.
- Soria Fernández, José Manuel. Un enfoque genómico de e-Health en la trombosis asociada al cáncer (Proyecto ONCOTHROMB\_2). PI20/00325. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 159.720,00 €.
- Soria Fernández, José Manuel. IMPaCT-DATA (IMP/00019) Programa de Ciencia de Datos "Infraestructura de datos para Medicina Personalizada". IMP/00019. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 21.633,33 €.
- Soria Fernández, José Manuel. UNITAT DE GENOMICA DE MALALTIES COMPLEXES. 2022 INV-1 00048. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 66.217,84 €.

### ACTIVE GRANTS

- Camacho Perez, Maria Mercedes. Descifrando los mecanismos moleculares subyacentes a la formación del aneurisma de aorta: el estrés del retículo endoplásmico y el estrés oxidativo mitocondrial como nuevas dianas terapéuticas. PI20/01004. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 145.200,00 €.
- Lobato Delgado, Barbara. Contratos predoctorales PFIS 2021. FI21/00197. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2025. 89.900,00 €.
- Sabater Lleal, Maria. Contratos Miguel Servet I 2017. CP17/00142. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2023. 202.500,00 €.
- Sabater Lleal, Maria. Contratos Miguel Servet II 2022. CPII22/00007. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 101.250,00 €.
- Sabater Lleal, Maria. Nuevo enfoque ómico para predecir el crecimiento y la rotura del aneurisma aórtico abdominal. PID2019-109844RB-I00. Ministerio de Ciencia e Innovación (MICINN). Duration: 2020-2024. 133.100,00 €.
- Sabater Lleal, Maria. Population genomic variation, functional biology and the risk of venous thrombosis. NIH WASHINGTON 5R01HL134894-02. University of Washington. Duration: 2018-2023. 76.985,85 €.
- Sabater Lleal, Maria. Structural and Nucleotide Variation as Genomic Risks for Venous Thrombosis: TOPMED and INVENT Collaboration. R01HL154385. NIH. Duration: 2022-2024. 21.570,85 €.
- Soria Fernández, José Manuel. Desarrollo y validación de una nueva tecnología de análisis de datos transcriptómicos basada en IA para optimizar el seguimiento y tratamiento personalizado de pacientes con sobrepeso y obesidad. CPP2021-008423. Ministerio de Ciencia e Innovación (MICINN). Duration: 2022-2025. 265.248,90 €.
- Temprano Sagrera, Gerard. Nuevo enfoque ómico para predecir el crecimiento y la rotura del aneurisma aórtico abdominal. SLT017/20/000100. Departament de Salut Generalitat de Catalunya. Duration: 2021-2023. 90.579,14 €.

### GRANTS AWARDED

- Soria Fernández, José Manuel. Genomics of Complex Diseases. 2021 SGR 00830. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 60.000 €.

### DOCTORAL THESES DEFENDED

- Bagué Rosell, Sílvia. Capacitat pronòstica de l'expressió de gens relacionats amb el metabolisme de la glucosa en el control local dels pacients amb carcinoma de cap i coll. 17/02/2023. Universitat Autònoma de Barcelona. Supervisors: Avilés Jurado, Francesc Xavier; Camacho Perez de Madrid, Mercedes; León i Vintró, Xavier. <http://hdl.handle.net/10803/688678>.

### SCIENTIFIC PRODUCTION

- Gené A, Casasa A, Puig T, de La Figuera M, Jimenez MJ, Fité J, Roman J, Bellmunt S. Normal Infrarenal Aortic Diameter in Men and



## 05.1.1 Cardiovascular Diseases Area

Women in a Mediterranean Area. *ANNALS OF VASCULAR SURGERY*. 2023; 92:DOI:10.1016/j.avsg.2022.12.087. PMID:36639098. IF:1,500 (Q3/8D). Document type: Article.

- Hahn J, Bressler J, Domingo A, Chen MH, McCartney DL, Teumer A, van J, Kleber ME, Aissi D, Swenson BR, Yao J, Zhao W, Huang J, Xia YJ, Brown MR, Costeira R, de Geus E, Delgado GE, Dobson DA, Elliott P, Grabe HJ, Guo XQ, Harris SE, Huffman JE, Kardina SLR, Liu YM, Lorkowski S, Marioni RE, Nauck M, Ratliff SM, Sabater M, Spector TD, Suchon P, Taylor KD, Thibord F, Tregouet DA, Wiggins KL, Willemsen G, Bell JT, Boomsma DI, Cole SA, Cox SR, Dehghan A, Greinacher A, Haack K, Marz W, Morange PE, Rotter JI, Sotoodehnia N, Tellez M, Navas A, Smith JA, Johnson AD, Fornage M, Smith NL, Wolberg AS, Morrison AC, de Vries PS. DNA methylation analysis is used to identify novel genetic loci associated with circulating fibrinogen levels in blood. *JOURNAL OF THROMBOSIS AND HAEMOSTASIS*. 2023; 21(5):DOI:10.1016/j.jtha.2023.01.015. PMID:36716967. IF:10,400 (Q1/1D). Document type: Article.
- Iglesias MJ, Sánchez L, Ibrahim M, Naudin C, Munsch G, Goumidi L, Farm M, Smith PM, Thibord F, Kral JB, Hong M-G, Suchon P, Germain M, Schottmaier W, Dusart P, Boland A, Kotol D, Edfors F, Koprulu M, Pietzner M, Langenberg C, Damrauer SM, Johnson AD, Klarin DM, Smith NL, Smadja DM, Holmström M, Magnusson M, Silveira A, Uhlén M, Renné T, Martinez A, Emmerich J, Deleuze J-F, Antovic J, Soria JM, Assinger A, Schwenk JM, Souto JC, Morange P-E, Butler LM, Trégouët D-A, Odeberg J. Elevated plasma complement factor H related 5 protein is associated with venous thromboembolism. *Nature Communications*. 2023; 14(1):3280. DOI:10.1038/s41467-023-38383-y. PMID:37286573. IF:16,600 (Q1/1D). Document type: Article.
- Ji YK, Temprano G, Holle LA, Bebo A, Brody JA, Le NQ, Kangro K, Brown MR, Martinez A, Sitlani CM, Suchon P, Kleber ME, Emmert DB, Ozel AB, Dobson DA, Tang WH, Llobet D, Tracy RP, Deleuze JF, Delgado GE, Gogele M, Wiggins KL, Souto JC, Pankow JS, Taylor KD, Tregouet DA, Moissl AP, Fuchsberger C, Rosendaal FR, Morrison AC, Soria JM, Cushman M, Morange PE, Marz W, Hicks AA, Desch KC, Johnson AD, de Vries PS, Wolberg AS, Smith NL, Sabater M, INVENT C, CHARGE Consortium Hemostasis W, INVENT C. Anti-thrombin, Protein C, and Protein S: Genome and Transcriptome-Wide Association Studies Identify 7 Novel Loci Regulating Plasma Levels. *ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY*. 2023; 43(7):e254-e269. DOI:10.1161/ATVBAHA.122.318213. PMID:37128921. IF:8,700 (Q1/1D). Document type: Article.
- León X, Bague S, Holgado A, Quer M, Terra X, Camacho M, Avilés FX. Relationship between transcriptional expression of pyruvate dehydrogenase and local control of disease in patients with oral cavity carcinomas. *Acta Otorrinolaringologica Española*. 2023; 74(6):DOI:10.1016/j.otoeng.2023.05.006. PMID:37730160. Document type: Article.
- León X, Bague S, Holgado A, Quer M, Terra X, Camacho M, Avilés FX. Relationship between transcriptional expression of pyruvate dehydrogenase and local control of disease in patients with oral cavity carcinomas. *Acta Otorrinolaringologica Española*. 2023; 74(6):DOI:10.1016/j.otorri.2023.05.001. Document type: Article.
- León X, Llansana A, Pérez L, García J, Valero C, Quer M, Camacho M. Predictive capacity of FAT1 transcriptional expression in patients with head and neck squamous cell carcinomas treated with radiotherapy. *Acta Otorrinolaringologica Española*. 2023; 74(6):DOI:10.1016/j.otorri.2023.03.003. PMID:37931687. Document type: Article.
- Martín L, García I, López S, Martínez A, Vilalta N, Plaza M, Moret C, Vinuela A, Brown AA, Panousis NI, Buil A, Dermitzakis ET, Corrales I, Souto JC, Vidal F, Soria JM. Multiallelic Copy Number Variation in ORM1 is Associated with Plasma Cell-Free DNA Levels as an Intermediate Phenotype for Venous Thromboembolism. *THROMBOSIS AND HAEMOSTASIS*. 2023; 123(04) DOI:10.1055/s-0043-1760844. PMID:36696913. IF:6,700 (Q1/2D). Document type: Article.
- Matamoros JF. Latest report from the ALTAMIRA study of emergency management of vein thrombosis: our departments' strengths and weaknesses. *Emergencias*. 2023; 35(2):PMID:37038937. IF:5,500 (Q1/2D). Document type: Editorial Material.



## 05.1.1 Cardiovascular Diseases Area

- Molina JM, Munoz JD. Blood pool in a patient with intramural aortic hematoma. *Angiologia*. 2023; 75(3)DOI:10.20960/angiologia.00492. Document type: Article.
- Muñoz A, Ay C, Grilz E, López S, Font C, Pachón V, Castellón V, Martínez V, Salgado M, Martínez E, Calzas J, Ortega L, Rupérez A, Salas E, Pabinger I, Soria JM. A Clinical-Genetic Risk Score for Predicting Cancer-Associated Venous Thromboembolism: A Development and Validation Study Involving Two Independent Prospective Cohorts. *JOURNAL OF CLINICAL ONCOLOGY*. 2023; 41(16)DOI:10.1200/JCO.22.00255. PMID:36730884. IF:45,300 (Q1/1D). Document type: Article.
- Muñoz A, Salas E, Soria JM. Reply to FI Mulder et al. *JOURNAL OF CLINICAL ONCOLOGY*. 2023; 41(36)DOI:10.1200/JCO.23.00817. PMID:37816210. IF:45,300 (Q1/1D). Document type: Letter.
- Muñoz AJ, Ortega L, Gutiérrez A, Gallardo E, Rubio D, Rubio C, Morón B, García P, Soria JM. Cost-effectiveness of apixaban and rivaroxaban in thromboprophylaxis of cancer patients treated with chemotherapy in Spain. *JOURNAL OF MEDICAL ECONOMICS*. 2023; 26(1)DOI:10.1080/13696998.2023.2248839. PMID:37602646. IF:2,400 (Q3/6D). Document type: Article.
- Puig N, Camps P, Sole A, Aguilera A, Jimenez E, Fernández A, Camacho M, Guasch M, Marin R, Marti J, Martinez A, Prats L, Casoni F, Perez B, Jimenez F, Sánchez JL, Benitez S. Electronegative LDL Is Associated with Plaque Vulnerability in Patients with Ischemic Stroke and Carotid Atherosclerosis. *Antioxidants*. 2023; 12(2):438. DOI:10.3390/antiox12020438. PMID:36829998. IF:7,000 (Q1/1D). Document type: Article.
- Puig N, Rives J, Estruch M, Aguilera A, Rotllan N, Camacho M, Colomé N, Canals F, Sánchez JL, Benitez S. Presence of Ceramidase Activity in Electronegative LDL. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(1):165. DOI:10.3390/ijms24010165. PMID:36613609. IF:5,600 (Q1/3D). Document type: Article.
- Rodríguez A, Tello C, Vergara AC, Fernández C, Moustafa AH, Pinilla CA, Ginel A, Barros AJ, Dilme JF. Case Report: Kommerell's diverticulum and left aberrant subclavian artery stenosis hybrid treatment with branched aortic stent-graft. *Frontiers in Cardiovascular Medicine*. 2023; 10:1309839. DOI:10.3389/fcvm.2023.1309839. PMID:38155991. IF:3,600 (Q2/5D). Document type: Article.
- Roychowdhury T, Klarin D, Levin MG, Spin JM, Rhee YH, Deng A, Headley CA, Tsao NL, Gellatly C, Zuber V, Shen F, Hornsby WE, Laursen IH, Verma SS, Locke AE, Einarsson G, Thorleifsson G, Graham SE, Dikilitas O, Pattee JW, Judy RL, Pauls F, Nielsen JB, Wolford BN, Brumpton BM, Dilmé J, Peypoch O, Juscafresa LC, Edwards TL, Li D, Banasik K, Brunak S, Jacobsen RL, García MT, Zhang J, Rasmussen LM, Lee R, Handa A, Wanhainen A, Mani K, Lindholt JS, Obel LM, Strauss E, Oszkinis G, Nelson CP, Saxby KL, van JA, van der Laan SW, van J, Camacho M, Davis FM, Wasikowski R, Tsoi LC, Gudjonsson JE, Eliason JL, Coleman DM, Henke PK, Ganesh SK, Chen YE, Guan W, Pankow JS, Pankratz N, Pedersen OB, Erikstrup C, Tang W, Hveem K, Gudbjartsson D, Gretarsdottir S, Thorsteinsdottir U, Holm H, Stefansson K, Ferreira MA, Baras A, Kullo IJ, Ritchie MD, Christensen AH, Iversen KK, Eldrup N, Sillesen H, Ostrowski SR, Bundgaard H, Ullum H, Burgess S, Gill D, Gallagher K, Sabater M, Dudbridge F, Samani NJ, Surakka I, Jones GT, Bown MJ, Tsao PS, Willer CJ, Damrauer SM. Genome-wide association meta-analysis identifies risk loci for abdominal aortic aneurysm and highlights PCSK9 as a therapeutic target. *NATURE GENETICS*. 2023; DOI:10.1038/s41588-023-01510-y. PMID:37845353. IF:30,800 (Q1/1D). Document type: Article.
- Tello C, Dilmé JF. An Uncommon Cause of Congestive Heart Failure. *EUROPEAN JOURNAL OF VASCULAR AND ENDOVASCULAR SURGERY*. 2023; 66(4)DOI:10.1016/j.ejvs.2023.07.042. PMID:37506872. IF:5,700 (Q1/1D). Document type: Article.
- Tello C, Romero JM, Soto B, Moreno J, Aloy C, Dilmé JF. Type Ib endoleak repaired with a thoracic endovascular graft inside previous visceral debranching bypass in a patient with chronic type B aortic dissection. *Journal Of Vascular Surgery Cases, Innovations And Techniques*. 2023; 9(2):101186. DOI:10.1016/j.jvscit.2023.101186. PMID:37305360. Document type: Case Reports.



## 05.1.1 Cardiovascular Diseases Area

- Torres JK, Niño J, Martínez P, Diarte EMG, Méndez KA, del Olmo TV, Rotllan N, Julián MT, Alonso N, Mauricio D, Camacho M, Muñoz JP, Rossell J, Julve J. Nicotinamide Prevents Diabetic Brain Inflammation via NAD<sup>+</sup>-Dependent Deacetylation Mechanisms. *Nutrients*. 2023; 15(14):3083. DOI:10.3390/nu15143083. PMID:37513501. IF:5,900 (Q1/2D). Document type: Article.
- Trallero J, Camacho M, Marín M, Álvarez E, Benseny N, Barnadas R. Properties and cellular uptake of photo-triggered mixed metallosurfactant vesicles intended for controlled CO delivery in gas therapy. *COLLOIDS AND SURFACES B-BIOINTERFACES*. 2023; 228:113422. DOI:10.1016/j.colsurfb.2023.113422. PMID:37356136. IF:5,800 (Q1/2D). Document type: Article.
- Ward J, Le NQ, Suryakant S, Brody JA, Amouyel P, Boland A, Bown R, Cullen B, Debette S, Deleuze JF, Emmerich J, Graham N, Germain M, Anderson JJ, Pell JP, Lyall DM, Lyall LM, Smith DJ, Wiggins KL, Soria JM, Souto JC, Morange PE, Smith NL, Trégouët DA, Sabater M, Strawbridge RJ. Polygenic risk of major depressive disorder as a risk factor for venous thromboembolism. *Blood Advances*. 2023; 7(18)DOI:10.1182/bloodadvances.2023010562. PMID:37399490. IF:7,500 (Q1/2D). Document type: Article.

## Regulatory Mechanisms of Cardiovascular Remodelling

### Group leader

Rodríguez Sinovas, Cristina (IR)

### Researchers

Almendra Pegueros, Rafael Antonio (IR)

Alonso Nieto, Judith (CIBER)

Ballester Servera, Carme (CSIC)

Martinez Gonzalez, Jose (CSIC)

Puertas Umbert, Lidia (IR)

Vazquez Sufuentes, Paula (CSIC)

### Research Technicians

Aguilo Nuñez, Silvia (IR)

Blanco Casoliva, Laia (CSIC)



### DESCRIPTION

Our group addresses different aspects of vascular biology, thrombosis, and myocardial pathophysiology aimed at studying the mechanisms underlying the onset, progression, and complication of cardiovascular diseases (CVDs) with high morbidity and mortality, such as atherosclerosis, aortic aneurysms, cardiac hypertrophy, and myocardial infarction. Our ultimate goal is to develop tools for early diagnosis and new therapeutic strategies for these diseases.

### MAIN LINES OF RESEARCH

- L1. Extracellular matrix (ECM) integrating and modifying proteins in CVDs (PI: Dr. C. Rodríguez).
- L2. The nuclear receptor NOR-1 in coronary artery disease, abdominal aortic aneurysm (AAA) and cardiac function, and remodeling after myocardial infarction (PI: Dr. J. Martínez-González).

### SCIENTIFIC CHALLENGES

- Analysis of the molecular basis of abdominal aortic aneurysm: Identification of new therapeutic targets.
- Physiopathological mechanisms underlying the development of thoracic aortic aneurysm in syndromic patients.
- Identification of new biomarkers and therapeutic targets in hypertensive cardiac hypertrophy and myocardial infarction.
- Analysis of the molecular mechanisms underlying cardiovascular calcification.
- Identification and validation of novel pharmacological tools in cardiovascular diseases.





### 05.1.1 Cardiovascular Diseases Area

- Development and characterization of new animal models in cardiovascular diseases.

#### ACTIVE GRANTS

- Ballester Servera, Carme. Ayuda de formación de profesorado Universitario. FPU19/05257. Ministerio de Educación Cultura Y Deporte. Duration: 2020-2024. 89.286,00 € (CSIC).
- Martinez Gonzalez, Jose. El receptor nuclear NOR-1 en la homeostasis del calcio, el estrés oxidativo y la arritmogénesis cardíaca. Fundación Española del Corazón (FEC)-Sociedad Española de Cardiología (SEC). Duration: 2022-2026. 15.000,00 € (CIBER).
- Martinez Gonzalez, Jose. El enzima lisil oxidasa (LOX) en la aterosclerosis y la calcificación: estudio en un modelo de aterosclerosis experimental y en válvulas aórticas humanas calcificadas. Fundación Española de Arteriosclerosis (FEA)- Sociedad Española de Arteriosclerosis (SEA). Duration: 2022-2025. 15.000,00 €.
- Martinez Gonzalez, Jose. Deciphering the role of NOR-1 in abdominal aortic aneurysm progression, cardiac arrhythmogenesis, and cardiac function and remodeling after myocardial infarction (NORemolCar) (PID2021-122509OB-I00 ). MICIN. Duration: 2022-2025. 242.000,00 € (CSIC).
- Puertas Umbert, Lidia. Contractes PFIS: Contractes Predoctorals de Formació en Recerca en Salut 2019. FI19/00331. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 82.400,00 €.
- Rodríguez Sinovas, Cristina. Descifrando el potencial de LOX y de la proteína matricelular TSP4 como nuevas dianas terapéuticas en la aterosclerosis y el aneurisma de aorta abdominal. PI21/01048. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 226.270,00 €.
- Rodríguez Sinovas, Cristina. Impacto del ácido bempedoico sobre la inflamación y el remodelado vascular en el aneurisma aórtico abdominal. Un estudio de reposicionamiento terapéutico. F. EUGENIO RODRÍGUEZ PASCUAL 2022. Fundación Eugenio Rodríguez Pascual. Duration: 2023-2024. 24.990,00 €.

#### GRANTS AWARDED

- Martinez Gonzalez, Jose. RESolution of inflammation after myocardial injury through Targeting

novel regulatory molecules. Fundació La Marató de TV3. Duration: 2024-2027. 150.000,00 € (CSIC).

- Martinez Gonzalez, Jose. Inflammation and Cardiovascular Damage in Lung Cancer: Studying the Role of Immunomodulatory Therapies in Reducing Cardiotoxicity and Vascular Injury. InCaRe Intramural project CIBERONC/CIBERCV called 2023. 65.000,00 € (CIBER).

#### DOCTORAL THESES DEFENDED

- Ballester Servera, Carme. Mecanismos de remodelado y calcificación cardiovascular: papel del receptor nuclear NOR-1 y la LOX. 16/10/2023. Universitat de Barcelona. Supervisors: Martínez González, José; Rodríguez Sinovas, Cristina; Tauler Girona, Albert. <http://hdl.handle.net/10803/689493>.

#### SCIENTIFIC PRODUCTION

- Ballester C, Alonso J, Cañes L, Vázquez P, Puertas L, Fernández A, Taurón M, Rodríguez A, López N, Rodríguez C, Martínez J. Lysyl oxidase-dependent extracellular matrix crosslinking modulates calcification in atherosclerosis and aortic valve disease. *BIOMEDICINE & PHARMACOTHERAPY*. 2023; 167:115469. DOI:10.1016/j.biopha.2023.115469. PMID:37729730. IF:7,500 (Q1/1D). Document type: Article.
- Bonilla DA, Daga R, Gamero A, Pérez A, Pérez E, Pérez P, Petermann F, Lozano M, García MR, Kouiti M, Carrillo E, Fernández T, Apolinar E, Nava EJ, Benítez N, Almendra R. Applications of artificial intelligence in nutrition and dietetics: Beyond virtual assistants. *Revista Española De Nutrición Humana Y Dietética*. 2023; 27(4). DOI:10.14306/renhyd.27.4.2054. Document type: Editorial Material.
- Consegal M, Barba I, del Blanco BG, Otaegui I, Rodríguez JF, Martí G, Serra B, Bellera N, Ojeda M, Valente F, Carmona MA, Miro E, Sambola A, Lidon RM, Baneras J, Barrabes JA, Rodríguez C, Benito B, Ruiz M, Inserte J, Ferreira I, Rodríguez A. Spontaneous reperfusion enhances succinate concentration in peripheral blood from stemi patients but its levels does not correlate with myocardial infarct size or area at risk. *Scientific Reports*. 2023; 13(1):6907. DOI:10.1038/s41598-



## 05.1.1 Cardiovascular Diseases Area

- 023-34196-7. PMID:37106099. IF:4,600 (Q2/4D). Document type: Article.
- del Campo LSD, García AB, Rodríguez C, Zaragoza C, Duro S, Palmas F, De Benito A, Socuéllamos PG, Peraza DA, Rodrigues R, Valenzuela C, Dalli J, Salaiques M, Briones AM. Resolvin D2 Attenuates Cardiovascular Damage in Angiotensin II-Induced Hypertension. *HYPERTENSION*. 2023; 80(1). DOI:10.1161/HYPERTENSIONAHA.122.19448. PMID:36337053. IF:8,300 (Q1/2D). Document type: Article.
  - Kelly L, Sharp MM, Thomas I, Brown C, Schrag M, Antunes LV, Solopova E, Martinez J, Rodríguez C, Carare RO. Targeting lysyl-oxidase (LOX) may facilitate intramural periarterial drainage for the treatment of Alzheimer's disease. *Cerebral Circulation - Cognition And Behavior*. 2023; 5:100171. DOI:10.1016/j.cccb.2023.100171. PMID:37457664. Document type: Article.
  - Munoz E, Pérez A, Apolinar E, Fernández T, Brito NB, Petermann F, Gamero A, Pérez P, Lozano M, Bonilla DA, Pérez É, Nava EJ, Troncoso C, Almendra R. Balance of the year 2022 and new Strategic Plan 2023-2026 of the Spanish Journal of Human Nutrition and Dietetics. *Revista Española De Nutricion Humana Y Dietetica*. 2023; 27(1). DOI:10.14306/renhyd.27.1.1903. Document type: Editorial Material.
  - Nava EJ, Apolinar E, Bénitez N, Pérez P, Pérez A, Troncoso C, Bonilla DA, Fernández T, Petermann F, Gamero A, Pérez É, Navarrete EM, Lozano M, Almendra R. Formación del dietista-nutricionista clínico en Latinoamérica: un espejo donde debe mirarse España. *Revista Española De Nutricion Humana Y Dietetica*. 2023; 27(2). DOI:10.14306/renhyd.27.2.1957. Document type: Editorial Material.
  - Navas M, Almendra R, Puertas L, Jimenez F, Julve J, Perez B, Consegal M, Kassan M, Martinez J, Rodríguez C, Galan M. Targeting mitochondrial stress with Szeto-Schiller 31 prevents experimental abdominal aortic aneurysm: Crosstalk with endoplasmic reticulum stress. *BRITISH JOURNAL OF PHARMACOLOGY*. 2023; 180(17). DOI:10.1111/bph.16077. PMID:36964990. IF:7,300 (Q1/1D). Document type: Article.
  - Pérez A, Fernández T, Lozano M, Pérez P, García MR, Pérez E, Gamero A, Petermann F, Apolinar E, Nava EJ, Almendra R. Pros and cons of open science from the Spanish Journal of Human Nutrition and Dietetics. *Revista Española De Nutricion Humana Y Dietetica*. 2023; 27(4). DOI:10.14306/renhyd.27.4.2055. Document type: Editorial Material.
  - Puertas L, Almendra R, Jimenez F, Sirvent M, Galan M, Martinez J, Rodríguez C. Novel pharmacological approaches in abdominal aortic aneurysm. *CLINICAL SCIENCE*. 2023; 137(15). DOI:10.1042/CS20220795. PMID:37559446. IF:6,000 (Q1/3D). Document typer: Review.
  - Puertas L, Alonso J, Hove L, Martínez J, Rodríguez C. PDE4 Phosphodiesterases in Cardiovascular Diseases: Key Pathophysiological Players and Potential Therapeutic Targets. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(23):17017. DOI:10.3390/ijms242317017. PMID:38069339. IF:5,600 (Q1/3D). Document type: Review.
  - Puertas L, Varona S, Ballester C, Alonso J, Aguiló S, Orriols M, Martínez E, Rodríguez A, Martínez J, Rodríguez C. Activation of Wnt/ $\beta$ -catenin signaling in abdominal aortic aneurysm: A potential therapeutic opportunity?. *Genes And Diseases*. 2023; 10(3). DOI:10.1016/j.gendis.2022.05.017. PMID:37396504. IF:6,800 (Q1/2D). Document type: Article.
  - Reyes AI, Bernabeu J, Rodríguez C, Santamaria A, de Castellar R, Martinez J. Post-Pandemic Feeding Patterns and Mediterranean Diet Adherence in Spanish Toddlers. *Nutrients*. 2023; 15(9):2049. DOI:10.3390/nu15092049. PMID:37432177. IF:5,900 (Q1/2D). Document type: Article.
  - Zagmutt S, Mera P, Gonzalez I, Ibeas K, Romero MD, Obri A, Martin B, Esteve A, Soler MC, Bastias M, Canes L, Auge E, Pelegri C, Vilaplana J, Ariza X, García J, Martinez J, Casals N, López M, Palmiter R, Sanz E, Quintana A, Herrero L, Serra D. CPT1A in AgRP neurons is required for sex-dependent regulation of feeding and thirst. *Biology of Sex Differences*. 2023; 14(1):14. DOI:10.1186/s13293-023-00498-8. PMID:36966335. IF:7,900 (Q1/1D). Document type: Article.

## Pahophysiology of Lipid-related Disease

### Group leader

Escola Gil, Joan Carles (IR)  
Blanco Vaca, Francisco (FGS) until 2023/02/02

### Researchers

Blanco Vaca, Francisco (FGS)  
Borras Querol, Carla (IR)  
Canyelles Vich, Marina (FGS)  
Illana Camara, Francisco Jose (FGS)  
Muñoz Neculman, Juan Pablo (CIBER)  
Revilla Senra, Giovanna (IR)  
Rotllan Vila, Noemi (IR)  
Sole Galvez, Arnau (CIBER)  
Tondo Colomer, Mireia (FGS)

### Research Technicians

Griñan Gonzalez, Raquel (IR)  
Martinez Figueroa, Susana (FGS)  
Roig Martinez, Rosa (FGS)  
Santos Palacios, David (CIBER)



### DESCRIPTION

The Pathophysiology of Lipid-Related Diseases Group is an interdisciplinary and translational research team that primarily focuses on lipoprotein metabolism and dyslipidemias. These disorders are causally linked to atherosclerotic cardiovascular disease and are closely associated with the development of type 2 diabetes, metabolic syndrome, Alzheimer's disease, and certain forms of cancer. Our research aims to identify novel, potentially targeted therapies and biomarkers related to lipid abnormalities in the aforementioned diseases, to improve diagnosis and patient management.

### MAIN LINES OF RESEARCH

- Lipoprotein metabolism variations, focusing on HDL and remnant lipoproteins, and their links to atherosclerotic cardiovascular disease, type 2 diabetes, and specific cancers. Emphasis on lipoprotein functions as novel prognostic biomarkers (Joan Carles Escolà Gil and Marina Canyelles Vich).
- New microRNAs as determinants of metabolic pathways related to homocysteine and as regulators of lipoprotein metabolism and atherosclerosis progression, as well as their therapeutic use in vivo (Noemí Rotllan).
- Diagnosis and molecular characterization of metabolic disorders, mainly of endocrinological or metabolic nature. The optimization and validation of analysis methods for conducting these studies have been carried out in our laboratory through innovation activities (Francisco Blanco Vaca and Mireia Tondo).



### 05.1.1 Cardiovascular Diseases Area

- Lipid-related biomarkers for the diagnosis of neurodegenerative diseases such as Alzheimer's disease, Parkinson's disease, and other dementias. This line is relatively new and specific to Dr. Mireia Tondo, who collaborates regularly with the Memory Unit of the Neurology Service of our hospital.
- García Rodríguez, Jesus Eduardo. Formación de Personal Universitario. FPU21/01173. Ministerio de Universidades. Duration: 2022-2026. 74.857,00 €.
- Illana Camara, Francisco Jose. Desarrollo de un método de detección de ADN libre circulante metilado para la detección de cáncer colorrectal. SEQC 2022. Fundación José Luis Castaño. Duration: 2022-2023. 6.000,00 €.

### SCIENTIFIC CHALLENGES

- Investigate if PCSK9 antibodies correct HDL dysfunction in familial hypercholesterolemia.
- Explore HDL-associated miRNAs' role in coronary heart disease and assess vascular effects of miRNA-enriched sHDL nanoparticles.
- Examine CSF HDL-like lipoproteins from Alzheimer's disease patients for their ability to promote cholesterol efflux in astrocytes and mediate cholesterol delivery in neurons.
- Assess blood biomarkers' diagnostic accuracy for Alzheimer's disease pathophysiology on an automated platform and CSF biomarkers' for Parkinson's disease through RT-QulC.
- Evaluate vascular smooth muscle cells 'cholesterol efflux pathways' contribution to atherosclerosis progression.
- Julve Gil, Josep. Therapeutic potential of nicotinamide supplementation on adiposity, impaired insulin signaling and non-alcoholic liver fatty disease severity. PI2100770. Instituto de Salud Carlos III (ISCIII). 2022-2024. 122.210,00 €.
- Revilla Senra, Giovanna. TMAO y su relación con la disfuncionalidad de HDL y el riesgo de enfermedad coronaria en pacientes con hipercolesterolemia familiar y diabetes tipo 2. FI19/00007. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 82.400,00 €.
- Rotllan Vila, Noemi. Potenciales microRNAs como nuevas dianas terapéuticas en la arteriosclerosis relacionada con hiperhomocisteinemia. PID2019-104367RB-I00. Ministerio de Ciencia e Innovación (MICINN). Duration: 2020-2023. 96.800,00 €.
- Rotllan Vila, Noemi. Subprograma Contratos Ramón y Cajal 2017. RYC-2017-22879. Ministerio de Ciencia, Innovación y Universidades (MICIU). Duration: 2019-2024. 168.600,00 €.

### ACTIVE GRANTS

- Blanco Vaca, Francisco; Tondo Colomer, Mireia. Tráfico de colesterol celular y tecnologías ómicas dirigidas a HDL: mecanismos fisiopatológicos y evaluación de biomarcadores en pacientes con enfermedad cardiovascular y enfermedad de Alzheimer. PI21/00140. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 159.720,00 €.
- Borrás Querol, Carla. Formación de Personal Universitario. FPU21/01173. Ministerio de Universidades. Duration: 2021-2025. 74.156,00 €.
- Canyelles Vich, Marina. Juan Rodés. JR22/00003. Instituto de Salud Carlos III (ISCIII) Duration: 2023-2026. 180.000,00 €.
- Escola Gil, Juan Carlos. Adiposidad, inflamación y la desregulación del colesterol en el carcinoma de tiroides. Evaluación de estrategias terapéuticas basadas en la reducción del colesterol y la activación de LXR. PI19/00136. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 111.320,00 €.

### GRANTS AWARDED

- Canyelles Vich, Marina; Escolà Gil, Joan Carles. Impacto de las lipoproteínas remanentes y HDL en el riesgo cardiovascular: evaluación de biomarcadores predictivos en el estudio prospectivo Di@bet.es y un estudio longitudinal en sujetos con diabetes tipo 2. Competitiu. Expedient: PI23/00232. Instituto de Salud Carlos III. Duration: 2024-2026. 165.000,00 €.
- Rotllan Vila, Noemí. Role of HDL miRNA in coronary heart disease incidence; Customised miR-sHDL as strategy for atherosclerosis treatment. MARATO 202312-31 Expedient: 82/225. Fundació La Marató de TV3. Duration: 2024-2027. 75.375,00 €.
- Rotllan Vila, Noemi. Células vasculares lisas, transporte reverso de colesterol y miRNAs: Mecanismos patofisiológicos y nuevas dianas para



### 05.1.1 Cardiovascular Diseases Area

prevenir la enfermedad cardiovascular. PID2022-137186OB-I00. Ministerio de Ciencia, Innovación y Universidades. Duration: 2024-2026. 187.500,00 €.

### DOCTORAL THESES DEFENDED

- Revilla Senra, Giovanna. Action of cholesterol, 27-hydroxycholesterol and adipose tissue in Thyroid Cancer. 22/12/2023. Universitat Autònoma de Barcelona. Supervisors: Escolà Gil, Joan Carles; Mató Matute, Eugènia.
- Gallinat O'Callaghan, Alex. Molecular basis of ischemic post-conditioning: DJ-1 in cardioprotection. 30/01/2023. Universitat Autònoma de Barcelona. Supervisors: Badimon Maestro, Lina; Blanco Vaca, Francisco. <http://hdl.handle.net/10803/688588>
- Vilella Figuerola, Alba. Circulating cell-derived extracellular vesicles and epigenetic small non-coding ribonucleic acids in chronic heart failure. 28/03/2023. Universitat Autònoma de Barcelona. Supervisors: Badimon Maestro, Lina; Padró Capmany, Teresa; Blanco Vaca, Francisco. <http://hdl.handle.net/10803/689764>

### SCIENTIFIC PRODUCTION

- Asla Q, Sarda H, Seguí N, de Pinillos GM, Mazari-co I, Capel I, Rives J, Suarez J, avila V, Torres MM, Saigi I, Palacios N, Urgell E, Webb SM, Fernández M, Oriola J, Mora M, Tondo M, Aulinas A. Clinical and outcome comparison of genetically positive vs. negative patients in a large cohort of suspected familial hypocalciuric hypercalcemia. *ENDOCRINE*. 2023. DOI:10.1007/s12020-023-03560-y. PMID:38214877. IF:3,700 (Q3/6D). Document type: Article.
- Canyelles M, Blanco F, Pérez A, Escolà JC. Comment on Huh et al. Remnant Cholesterol Is an Independent Predictor of Type 2 Diabetes: A Nationwide Population-Based Cohort Study. *Diabetes Care* 2023;46:305-312. *DIABETES CARE*. 2023; 46(10):e203. DOI:10.2337/dc23-0774. PMID:37729500. IF:16,200 (Q1/1D). Document type: Letter.
- Canyelles M, Borràs C, Rotllan N, Tondo M, Escolà JC, Blanco F. Gut Microbiota-Derived TMAO: A Causal Factor Promoting Atherosclerotic Cardiovascular Disease?. *INTERNATIONAL JOURNAL*

*OF MOLECULAR SCIENCES*. 2023; 24(3):1940. DOI:10.3390/ijms24031940. PMID:36768264. IF:5,600 (Q1/3D). Document type: Review.

- de las Hazas MCL, del Saz A, Cedó L, Crespo MC, Tomé J, Chapado LA, Macià A, Visioli F, Escola JC, Dávalos A. Hydroxytyrosol Induces Dyslipidemia in an ApoB100 Humanized Mouse Model. *MOLECULAR NUTRITION & FOOD RESEARCH*. 2023; 68(1). DOI:10.1002/mnfr.202300508. PMID:37933702. IF:5,200 (Q1/3D). Document type: Article.
- Ferrer R, Mansilla A, Tondo M, Blanco F. Remnant cholesterol: new outcomes highlight its potential as a clinically useful cardiovascular risk factor. *Journal Of Laboratory And Precision Medicine*. 2023; 8:A5. DOI:10.21037/jlpm-22-70. Document type: Note.
- Frutos MFD, Pardo V, Torrecilla M, Rada P, Perez A, Martin Y, de la Pena G, Gomez A, Toledano A, Gomez D, Casarejos MJ, Solis JM, Rotllan N, Pastor O, Ledesma MD, Valverde AM, Busto R, Ramirez CM. "MiR-7 controls cholesterol biosynthesis through posttranscriptional regulation of DHCR24 expression". *Biochimica et Biophysica Acta-Gene Regulatory Mechanisms*. 2023; 1866(2):194938. DOI:10.1016/j.bbagr.2023.194938. PMID:37086967. IF:4,700 (Q1/2D). Document type: Article.
- García A, Muñoz LG, Pallaruelo MC, Usero AM, Eduardo BC, Ramos JL, Canyelles M, Brú CM, Cámara F. Characterization of add-on testing before and after automation at a core laboratory. *Heliyon*. 2023; 9(11):e22096. DOI:10.1016/j.heliyon.2023.e22096. PMID:38034602. IF:4,000 (Q2/4D). Document type: Article.
- Guiñón L, Illana FJ, Cuevas B, Canyelles M, Martínez C, García Á. Periodic verification of results' comparability between several analyzers: Experience in the application of the EP31-A-IR guideline. *CLINICAL CHEMISTRY AND LABORATORY MEDICINE*. 2023; 62(3). DOI:10.1515/cclm-2023-0994. PMID:37819627. IF:6,800 (Q1/2D). Document type: Article.
- Hueso M, Rotllan N, Escolà JC, Vellido A. Systems biology and data-driven machine learning-based models in personalized cardiovascular medicine. *Frontiers in Cardiovascular Medicine*. 2023;



## 05.1.1 Cardiovascular Diseases Area

- 10:1320110. DOI:10.3389/fcvm.2023.1320110. PMID:37965080. IF:3,600 (Q2/5D). Document type: Editorial Material.
- Lee M, Canyelles M, Tondo M, Rotllan N, Kovanen PT, Llorente V, Escola JC. Obesity-induced changes in cancer cells and their microenvironment: Mechanisms and therapeutic perspectives to manage dysregulated lipid metabolism. *SEMINARS IN CANCER BIOLOGY*. 2023; 93. DOI:10.1016/j.semcancer.2023.05.002. PMID:37156344. IF:14,500 (Q1/1D). Document type: Article.
  - Mansilla A, Canyelles M, Ferrer R, Arranz J, Rodríguez I, Zhu N, Rubio S, El Bounasri S, Sánchez O, Torres S, Fortea J, Lleo A, Alcolea D, Tondo M. Effects of storage conditions on the stability of blood-based markers for the diagnosis of Alzheimer's disease. *CLINICAL CHEMISTRY AND LABORATORY MEDICINE*. 2023; 61(9). DOI:10.1515/cclm-2023-0245. PMID:37083158. IF:6,800 (Q1/2D). Document type: Article.
  - Martínez MC, Cortés M, Moreno A, Han L, Ninfali C, Domínguez V, Andrés MJ, Farràs M, Esteve A, Enrich C, Díaz FJ, Pintado B, Escolà JC, de Frutos PG, Andrés V, Melgar P, Postigo A. Atherosclerotic plaque development in mice is enhanced by myeloid ZEB1 downregulation. *Nature Communications*. 2023; 14(1):8316. DOI:10.1038/s41467-023-43896-7. PMID:38097578. IF:16,600 (Q1/1D). Document type: Article.
  - Muñoz JP, Sánchez P, Diarte E, Zorzano A, Blanco F, Julve J. FTY720-P, a Biased S1PR Ligand, Increases Mitochondrial Function through STAT3 Activation in Cardiac Cells. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(8):7374. DOI:10.3390/ijms24087374. PMID:37108539. IF:5,600 (Q1/3D). Document type: Article.
  - Nan MN, García A, Mora J, Trilla C, Antonijuan A, Orantes V, Cruz M, Blanco F, Llorba E. Impact of Angiogenic and Cardiovascular Biomarkers for Prediction of Placental Dysfunction in the First Trimester of Pregnancy. *Biomedicines*. 2023; 11(5):1327. DOI:10.3390/biomedicines11051327. PMID:37238997. IF:4,700 (Q1/3D). Document type: Article.
  - Puig N, Rives J, Estruch M, Aguilera A, Rotllan N, Camacho M, Colomé N, Canals F, Sánchez JL, Benitez S. Presence of Ceramidase Activity in Electronegative LDL. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(1):165. DOI:10.3390/ijms24010165. PMID:36613609. IF:5,600 (Q1/3D). Document type: Article.
  - Puig N, Solé A, Aguilera A, Griñán R, Rotllan N, Camps P, Benitez S. Novel Therapeutic Approaches to Prevent Atherothrombotic Ischemic Stroke in Patients with Carotid Atherosclerosis. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(18):14325. DOI:10.3390/ijms241814325. PMID:37762627. IF:5,600 (Q1/3D). Document type: Review.
  - Revilla G, Al Qtaish N, Caruana P, Sainz M, López T, Rodríguez F, Paez V, Li CD, Vallverdú NF, Edwards M, Moral A, Pérez JI, Escolà JC, Pedraz JL, Gallego I, Corcoy R, Céspedes MV, Puras G, Mato E. Lenvatinib-Loaded Poly(lactic-co-glycolic acid) Nanoparticles with Epidermal Growth Factor Receptor Antibody Conjugation as a Preclinical Approach to Therapeutically Improve Thyroid Cancer with Aggressive Behavior. *Biomolecules*. 2023; 13(11):1647. DOI:10.3390/biom13111647. PMID:38002329. IF:5,500 (Q1/3D). Document type: Article.
  - Revilla G, Ruiz L, Vallverdu NF, Santamaria P, Moral A, Perez JI, Li CD, Fuste V, Lerma E, Corcoy R, Pitoia F, Escola JC, Mato E. Low-Density Lipoprotein Receptor Is a Key Driver of Aggressiveness in Thyroid Tumor Cells. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(13):11153. DOI:10.3390/ijms241311153. PMID:37446330. IF:5,600 (Q1/3D). Document type: Article.
  - Rossi G, Belmonte T, Rivas A, Benitez S, Rotllan N, Crespo J, Llorente V, Sánchez JL, de Gonzalo D. Circulating lipoprotein-carried miRNome analysis reveals novel VLDL-enriched microRNAs that strongly correlate with the HDL-microRNA profile. *BIOMEDICINE & PHARMACOTHERAPY*. 2023; 162:114623. DOI:10.1016/j.biopha.2023.114623. PMID:37023624. IF:7,500 (Q1/1D). Document type: Article.
  - Roth L, Dogan S, Tuna BG, Aranyi T, Benitez S, Borrell M, Bozaykut P, De Meyer GRY, Duca L, Durmus N, Fonseca D, Fraenkel E, Gillery P, Giudici A, Jaisson S, Johansson M, Julve J, Lucas AK, Martinet W, Maurice P, McDonnell BJ, Ozbek EN, Pucci G, Pugh C, Rochfort KD, Roks A,



## 05.1.1 Cardiovascular Diseases Area

- Rotllan N, Shadiow J, Sohrabi Y, Spronck B, Szeri F, Terentes D, Aydin ET, Tura O, Ucar E, Yetik G. Pharmacological modulation of vascular ageing: A review from VascAgeNet. *AGEING RESEARCH REVIEWS*. 2023; 92:102122. DOI:10.1016/j.arr.2023.102122. PMID:37956927. IF:13,100 (Q1/1D). Document type: Review.
- Samouillan V, García E, Benitez A, Lhoest MTLC, Dandurand J, Dato VA, Guerra JM, Escola JC, Chiabrande G, Enrich C, Llorente V. Inhibitory Effects of LRP1-Based Immunotherapy on Cardiac Extracellular Matrix Biophysical Alterations Induced by Hypercholesterolemia. *JOURNAL OF MEDICINAL CHEMISTRY*. 2023; 66(9). DOI:10.1021/acs.jmedchem.2c02103. PMID:37116069. IF:7,300 (Q1/1D). Document type: Article.
  - Soler MC, Romero MD, Todorcevic M, Delgado K, Calatayud C, Benitez A, Lhoest MTL, Mera P, Zagmutt S, Bastias M, Ibeas K, Casals N, Escola JC, Llorente V, Consiglio A, Serra D, Herrero L. Implantation of CPT1AM-expressing adipocytes reduces obesity and glucose intolerance in mice. *METABOLIC ENGINEERING*. 2023; 77. DOI:10.1016/j.ymben.2023.04.010. PMID:37088334. IF:8,400 (Q1/1D). Document type: Article.
  - Sprankel L, Vizarraga D, Martín J, Manger S, Meier J, Marcos M, Julve J, Rotllan N, Scheffer MP, Escolà JC, Langer JD, Piñol J, Fita I, Frangakis AS. Essential protein P116 extracts cholesterol and other indispensable lipids for Mycoplasmas. *NATURE STRUCTURAL & MOLECULAR BIOLOGY*. 2023; 30(3). DOI:10.1038/s41594-023-00922-y. PMID:36782049. IF:16,800 (Q1/1D). Document type: Article.
  - Torres JK, Niño J, Martínez P, Diarte EMG, Méndez KA, del Olmo TV, Rotllan N, Julián MT, Alonso N, Mauricio D, Camacho M, Muñoz JP, Rossell J, Julve J. Nicotinamide Prevents Diabetic Brain Inflammation via NAD<sup>+</sup>-Dependent Deacetylation Mechanisms. *Nutrients*. 2023; 15(14):3083. DOI:10.3390/nu15143083. PMID:37513501. IF:5,900 (Q1/2D). Document type: Article.
  - Villanueva T, Cedo L, Madeira A, Ceperuelo V, Rodríguez MM, Nunez C, Maymo E, Repolles M, Badia J, Keiran N, Mirasierra M, Pimenta C, Saba-
- dell J, Bosch R, Caubet L, Escola JC, Fernández JM, Vilarrasa N, Ventura F, Vallejo M, Vendrell J, Fernández S. SUCNR1 signaling in adipocytes controls energy metabolism by modulating circadian clock and leptin expression. *Cell Metabolism*. 2023; 35(4):601-619.e10. DOI:10.1016/j.cmet.2023.03.004. PMID:36977414. IF:29,000 (Q1/1D). Document type: Article.

## 5.1.2 Oncohematologic Diseases Area



**Javier Briones**  
Area Director

A broad range of translational cancer research is conducted in this area, particularly in sarcomas, head-and-neck, breast, ovarian, endometrial, colorectal, and hematological cancers, among others. Research covers a wide range of fields, with disciplines that include from genetic research on cancer susceptibility syndromes to advanced therapies such as those based on targeted drug delivery with nanoparticles, preclinical development of new anticancer agents with disease-specific mouse models, immunotherapy with CAR-T cells, gene therapy, drug repurposing, and predictive molecular markers. Next-generation sequencing approaches are developed and applied to identify novel prognostic or response factors. A large number of clinical trials are performed within this area by our clinical researchers, including phase I, II and III trials with new anticancer drugs.

### RESEARCH GROUPS

#### Clinical Oncology

Barnadas Molins, Agusti

#### Oncogenesis and Antitumour Drugs

Mangues Bafalluy, Ramon

#### Haematological Diagnosis

Nomdedeu Guinot, Josep Francesc

#### Molecular Pathology of Gynaecologic Cancer

Lerma Puertas, Enrique

#### Otorhinolaryngology and Head and Neck Cancer

Quer Agusti, Miquel

#### Oncology/Haematology and Transplantation

Sierra Gil, Jordi

#### Cancer Predisposition and DNA Repair Syndromes

Surralles Calonge, Jordi

#### Gynecologic and Peritoneal Oncology

Cespedes Navarro, Maria Virtudes

#### Clinical Research in Transfusion Medicine

Salinas Argente, Ramon (until June 2023)

Medina Marrero, Laura (from July 2023)



## Clinical Oncology

### Group leader

Barnadas Molins, Agusti (FGS)

### Researchers

Anguera Palacios, Georgia (FGS)  
 Arqueros Nuñez, Cristina (FGS)  
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 Sola Vazquez, Eduard (IR)  
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 Van Veen Romero, Erika (IR)



## DESCRIPTION

**Clinical research:** development of new therapeutic strategies; evaluation of the effectiveness of target treatments; detection of residual disease; design of clinical trials; development of phase I clinical trials; improvement of patient and their family's quality of life.

**Translational research:** design of personalized therapy studies; evaluation of prognostic and predictive molecular markers of response to treatment; molecular mechanisms of action and resistance to drugs; pharmacogenetics of cancer. We aim to translate this knowledge to (1) predict those patients with a higher risk of recurrence, (2) select patients more likely to benefit from specific treatments based on their tumor molecular characteristics and (3) assess the risk of toxicity of treatments according to the genetic characteristics of patients.

## MAIN LINES OF RESEARCH

- Breast Tumors: Dr. Barnadas, Dra. Ramón y Cajal, Dra. Tibau, Dra. Arqueros, Dra. Andrés, Dra. Boronat and Dr. Escuin.
- Lung Tumors and melanomas: Dra. Majem, Dra. Sullivan, Dr. Barba, Jorgina Serra.
- Neuroendocrine Tumors: Dra. Sullivan, Dr. Paez.
- Head and Neck Tumors and central nervous system tumors: Dr. Gallego, Dra. Sebio.
- Hereditary and familial cancer: Dra. Ramón y Cajal, Dr. N Calvo.
- Digestive Tumors: Dr. Páez, Dra. Sebio, Dra. Virgili, Dr. Pelegrin, Dra. Martin Cullell, Dra. Cerda.



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- Urologic Tumors: Dr. Maroto, Dra. Anguera.
- Sarcomas Unit: Dra. Sebio, Dra. Virgili, Dr. Terés, Dr. López Pousa.
- Laboratory of Translational Oncology: Dr. Escuin.

### SCIENTIFIC CHALLENGES

- Identification of tumor molecular alterations and their clinical evolutionary course. Identification of these alterations would allow the use of specific targets and improvement of clinical responses. Currently, this is only possible for some neoplasms, and targeted therapies are administered to patients with advanced disease, for whom acceptable results are expected in terms of survival and tolerance. In recent years, we have implemented the use of next-generation sequencing cancer panels in certain tumors (lung, sarcomas, melanoma, colon, etc.) to identify patients eligible to specific target treatments. Our challenge is to expand this strategy to other carcinomas and to incorporate bioinformatics in the clinical practice to extract the maximum benefit from the information obtained to advance towards Precision Oncology.
- Response to treatment is short in certain cancers due to the heterogeneity of the tumors and the development of tumor clones that are resistant to the initial treatment. Therefore, it is essential to accurately identify the initial genetic alterations and those that develop secondarily to the treatment, to identify the mechanisms of resistance to systemic therapy and define therapeutic strategies based on this information.
- The use of liquid biopsy would allow the identification of molecular alterations at early stages of the disease, to evaluate the tumor load, and to monitor responses to systemic treatment. Our challenge is to set up a prospective sample collection strategy in patients with a high-risk of relapse to assess and monitor the effectiveness of therapies.
- To determine the immunological response of cancer patients, to identify treatments that potentiate the response in the tumor cells, and to define strategies to monitor those effects.

### ACTIVE GRANTS

- Escuin Borrás, Daniel. Investigación del papel de los miRNAs y snoRNAs circulantes como marcadores surrogados del estatus de los ganglios

linfáticos en pacientes con cáncer de mama. PI19/00362. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 131.890,00 €.

- Paez López-Bravo, David. Integración de la farmacogenética y la telemedicina mediante salud móvil para el manejo de los efectos adversos en pacientes con cáncer colorrectal (ePGx study). PI21/01913. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 63.525,00 €.
- Serra López, Jorgina. PR-405/2020. Fundació Infermeria i Societat. Duration: 2021-2023. 4.290,00 €.

### GRANTS AWARDED

- Barnadas Molins, Agustí. Recerca Clínica en Oncologia. 2021 SGR 00827. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2025. 36.000 €.
- Tibau Martorell, Ariadna. Beneficio clínico, precio y acceso de los nuevos medicamentos contra el cáncer en España y en el resto de Europa: un análisis internacional. PI23/00742. Instituto de Salud Carlos III. Duration: 2024-2026. 37.500 €.

### SCIENTIFIC PRODUCTION

- Ahn MJ, Cho BC, Felip E, Korantzis I, Ohashi K, Majem M, Juan O, Handzhiev S, Izumi H, Lee JS, Dziadziszko R, Wolf J, Blackhall F, Reck M, Alvarez JB, Hummel HD, Dingemans A, Sands J, Akamatsu H, Owonikoko TK, Ramalingam SS, Borghaei H, Johnson ML, Huang S, Mukherjee S, Minocha M, Jiang TY, Martinez P, Anderson ES, Paz L, DeLLphi I. Tarlatamab for Patients with Previously Treated Small-Cell Lung Cancer. *NEW ENGLAND JOURNAL OF MEDICINE*. 2023; DOI:10.1056/NEJMoa2307980. PMID:37861218. IF:158,500 (Q1/1D). Document type: Article.
- Annesi I, Cecchi L, Biagioni B, Chung KF, Clot B, Coen MC, Amato GD, Damialis A, Dominguez J, Galan C, Gilles S, Holgate S, Jeebhay M, Kazadzis S, Papadopoulos NG, Quirce S, Sastre J, Tummon F, Traidl C, Walusiak J, Alonso P, Canelo C, Cantero Y, Rigau D, Salazar J, Verdugo F, Jutel M, Akdis CA, Agache I. Is exposure to pollen a risk factor for moderate and severe asthma exacerbations?. *ALLERGY*. 2023; 78(8)DOI:10.1111/all.15724. PMID:36961370. IF:12,400 (Q1/1D). Document type: Review.



## 05.1.2 Oncohematologic Diseases Area

- Arqueros C, Salazar J, Gallardo A, Andrés M, Tibau A, Bell OL, Artigas A, Lasa A, Cajal T, Lerma E, Barnadas A. Secreted Protein Acidic and Rich in Cysteine (<i>SPARC</i>) Polymorphisms in Response to Neoadjuvant Chemotherapy in HER2-Negative Breast Cancer Patients. *Biomedicines*. 2023; 11(12):3231. DOI:10.3390/biomedicines11123231. PMID:38137452. IF:4,700 (Q1/3D). Document type: Article.
- Bertran J, Giménez A, Román R, Talbot S, Whiteley R, Floc'h N, Martínez E, Martin MJ, Smith PD, Sullivan I, Terp MG, Saeh J, Marino C, Fabbri G, Guo G, Xu M, Tornador C, Aguilar A, Reguart N, Ditzel HJ, Martínez A, Nabau N, Gascó A, Rosell R, Pease JE, Polanska UM, Travers J, Urošević J, Molina MA. BID expression determines the apoptotic fate of cancer cells after abrogation of the spindle assembly checkpoint by AUR-KB or TTK inhibitors. *Molecular Cancer*. 2023; 22(1):110. DOI:10.1186/s12943-023-01815-w. PMID:37443114. IF:37,300 (Q1/1D). Document type: Article.
- Blakely CM, Weder W, Bubendorf L, He J, Majem M, Shyr Y, Chaft JE. Primary endpoints to assess the efficacy of novel therapeutic approaches in epidermal growth factor receptor-mutated, surgically resectable non-small cell lung cancer: A review. *LUNG CANCER*. 2023; 177DOI:10.1016/j.lungcan.2023.01.002. PMID:36736076. IF:5,300 (Q2/3D). Document type: Review.
- Blanco R, Dómine M, González JL, Loutfi S, Alfaro J, Saldaña J, Rubio J, Campos B, Hidalgo J, Barba A, Márquez D, Martin M, Olaverri A, Nadal E. Pembrolizumab as first-line treatment for advanced NSCLC in older adults: A phase II clinical trial evaluating geriatric and quality-of-life outcomes. *LUNG CANCER*. 2023; 183:107318. DOI:10.1016/j.lungcan.2023.107318. PMID:37557022. IF:5,300 (Q2/3D). Document type: Article.
- Bracchiglione J, Rodríguez G, Requeijo C, Santero M, Salazar J, Salas K, Meade A-G, Antequera A, Auladell A, Quintana MJ, Solà I, Urrútia G, Acosta R, Bonfill X. Systemic Oncological Treatments versus Supportive Care for Patients with Advanced Hepatobiliary Cancers: An Overview of Systematic Reviews. *Cancers*. 2023; 15(3):766. DOI:10.3390/cancers15030766. PMID:36765723. IF:5,200 (Q2/3D). Document type: Review.
- Campos F, Téres R, Sebio A, Bettim BB, Martinez J. Survival Differences of Patients with Resected Extraskelatal Osteosarcoma Receiving Two Different (Neo)Adjuvant Chemotherapy Regimens: A Systematic Review and Meta-analysis. *CLINICAL ONCOLOGY*. 2023; 35(12)DOI:10.1016/j.clon.2023.09.009. PMID:37777356. IF:3,400 (Q3/6D). Document type: Article.
- Canto E, Anguera G, Jimenez N, Mellado B, Ramirez O, Mariscal A, Maroto P, Vidal S. Association between the Immunophenotype of Peripheral Blood from mCRPC Patients and the Outcomes of Radium-223 Treatment. *Diagnostics*. 2023; 13(13):2222. DOI:10.3390/diagnostics13132222. PMID:37443615. IF:3,600 (Q2/4D). Document type: Article.
- Carmona E, Aguado M, Tubau C, Sánchez S, Mozos A, Sullivan I, Spertino J. Epidermolysis bullosa acquisita induced by atezolizumab. *JOURNAL DER DEUTSCHEN DERMATOLOGISCHEN GESELLSCHAFT*. 2023; DOI:10.1111/ddg.15203. PMID:37658659. IF:3,600 (Q1/3D). Document type: Letter.
- Casanovas A, Sebio R, Ciendones M, Cuartero J, Estanyol B, Padrós J, García B, Barnadas A, Masia J. Prehabilitation in Patients With Breast Cancer Receiving Neoadjuvant Therapy to Minimize Musculoskeletal Postoperative Complications and Enhance Recovery (PREOptimize): A Protocol for a Randomized Controlled Trial. *PHYSICAL THERAPY*. 2023; 103(9):pzad062. DOI:10.1093/ptj/pzad062. PMID:37318267. IF:3,200 (Q1/3D). Document type: Article.
- Chmielecki J, Gray JE, Cheng Y, Ohe Y, Imamura F, Cho BC, Lin MC, Majem M, Shah R, Rukazenzov Y, Todd A, Markovets A, Barrett JC, Hartmaier RJ, Ramalingam SS. Candidate mechanisms of acquired resistance to first-line osimertinib in EGFR-mutated advanced non-small cell lung cancer. *Nature Communications*. 2023; 14(1):1070. DOI:10.1038/s41467-023-35961-y. PMID:36849494. IF:16,600 (Q1/1D). Document type: Article.
- De Castro J, Insa A, Collado R, Escudero V, Martínez A, Fernández E, Sullivan I, Arrabal N, Carcedo D, Manzanque A. Economic burden of locoregional and metastatic relapses in resectable ear-



## 05.1.2 Oncohematologic Diseases Area

ly-stage non-small cell lung cancer in Spain. *BMC Pulmonary Medicine*. 2023; 23(1):69. DOI:10.1186/s12890-023-02356-0. PMID:36809990. IF:3,100 (Q3/7D). Document type: Article.

- de Velasco G, Alonso T, Rodríguez A, Anguera G, Campayo M, Pinto Á, Ortega EM, Gallardo E, Núñez NF, García I, Reig O, Méndez MJ, Fernández O, Cassinello NV, Torregrosa D, López A, Rosero A, Valiente PG, de España CG, Climent MA, Santasusana MD, Sánchez ÁR, González IC, Afonso R, García del Muro X, Casinello J, Fernández EM, García L, Afonso J, Polo SH, Asensio Ú. Long-term Clinical Outcomes of a Spanish Cohort of Metastatic Renal Cell Carcinoma Patients with a Complete Response to Sunitinib. *Clinical Genitourinary Cancer*. 2023; 21(3):e166-e174. DOI:10.1016/j.clgc.2022.11.021. PMID:36610891. IF:3,200 (Q2/4D). Document type: Article.
- Escuin D, López L, Bell O, Mora J, García B, Moral A, Clos M, Boronat L, Arqueros C, Barnadas A. Circulating miRNA Expression Is Inversely Correlated with Tumor Tissue or Sentinel Lymph Nodes in Estrogen Receptor-Positive Early Breast Cancer Patients. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(17):13293. DOI:10.3390/ijms241713293. PMID:37686099. IF:5,600 (Q1/3D). Document type: Article.
- Fiala O, Buti S, Takeshita H, Okada Y, Massari F, Palacios GA, Dionese M, Scagliarini S, Büttner T, Fornarini G, Myint ZW, Galli L, Souza VC, Pichler R, De Giorgi U, Quiroga MNG, Gilbert D, Popovic L, Grande E, Mammone G, Berardi R, Crabb SJ, Molina J, Freitas M, Luz M, Iacovelli R, Calabrò F, Tural D, Atzori F, Küronya Z, Chiari R, Campos S, Caffo O, Fay AP, Kucharz J, Zucali PA, Rinck JA, Zeppellini A, Bastos DA, Aurilio G, Mota A, Trindade K, Ortega C, Sade JP, Rizzo M, Vau N, Giannatempo P, Barillas A, Monteiro FSM, Dauster B, Cattrini C, Nogueira L, de Carvalho R, Seront E, Aceituno LG, Grillone F, Cutuli HJ, Fernández M, Bassanelli M, Roviello G, Abahssain H, Procopio G, Milella M, Kopecky J, Martignetti A, Messina C, Caitano M, Inman E, Kanesvaran R, Herchenhorn D, Santini D, Manneh R, Bissoni R, Zakopoulou R, Mosca A, Morelli F, Maluf F, Soares A, Nunes F, Pinto A, Zgura A, Incorvaia L, Ansari J, Zabalza IO, Landmesser J, Rizzo A, Mollica V, Sorgentoni G, Battelli N, Porta C, Bellmunt J, Santoni M. Use of concomitant proton pump inhibitors, statins or metformin in patients treated with pembrolizumab for metastatic urothelial carcinoma: data from the ARON-2 retrospective study. *CANCER IMMUNOLOGY IMMUNOTHERAPY*. 2023; 72(11)DOI:10.1007/s00262-023-03518-z. PMID:37676282. IF:5,800 (Q1/3D). Document type: Article.
- Frezza AM, Stacchiotti S, Chibon F, Coindre JM, Italiano A, Romagnosa C, Bagué S, Dei AP, Braglia L, Palmerini E, Quagliuolo V, Broto JM, Pousa AL, Grignani G, Brunello A, Blay JY, Beveridge RD, Lugowska I, Lesluyes T, Maestro R, Merlo FD, Casali PG, Gronchi A. CINSARC in high-risk soft tissue sarcoma patients treated with neoadjuvant chemotherapy: Results from the ISG-ST5 1001 study. *Cancer Medicine*. 2023; 12(2)DOI:10.1002/cam4.5015. PMID:35848358. IF:4,000 (Q2/4D). Document type: Article.
- Fumagalli C, Orellana R, Ferre M, Gonzalez A, Catusas L, Vazquez T, Sebio A, López A, Llauger J, Peiro A, Antonescu CR. Expanding the molecular landscape of undifferentiated sarcomas of bone with a novel *EWSR1-SSX3* gene fusion. *GENES CHROMOSOMES & CANCER*. 2023; 63(1)DOI:10.1002/gcc.23215. PMID:38050902. IF:3,700 (Q2/4D). Document type: Article.
- García JA, Blancas I, Echavarría I, Hinojo C, Margeli M, Moreno F, Pernas S, Cajal TRY, Ribelles N, Bellet M. SEOM-GEICAM-SOLTI clinical guidelines in advanced breast cancer (2022). *Clinical & Translational Oncology*. 2023; 25(9)DOI:10.1007/s12094-023-03203-8. PMID:37148499. IF:3,400 (Q3/6D). Document type: Article.
- García R, González B, Vidal R, Contreras D, Pericay C, Fernández A, Falcó E, González M, Reina JJ, Alonso V, Rodríguez N, Gil M, Santos C, Páez D, Anton B, Aguilar F, Morales P. Real-world study on microsatellite instability and mismatch repair deficiency testing patterns among patients with metastatic colorectal cancer in Spain. *Clinical & Translational Oncology*. 2023; DOI:10.1007/s12094-023-03309-z. PMID:37651021. IF:3,400 (Q3/6D). Document type: Article.
- García R, Sullivan I, Arriola E, Insa A, Vidal O, Cruz P, Moran T, Reguart N, Zugazagoitia J, Domine M. SEOM-GECP Clinical guidelines for diagnosis,



## 05.1.2 Oncohematologic Diseases Area

- treatment and follow-up of small-cell lung cancer (SCLC) (2022). *Clinical & Translational Oncology*. 2023; 25(9)DOI:10.1007/s12094-023-03216-3. PMID:37418123. IF:3,400 (Q3/6D). Document type: Article.
- Giménez A, Sánchez E, de Lope LR, Aguilar A, Sullivan I, Calvo V, Moya I, Viteri S, Cabrera C, Aguado C, Armiger N, Valarezo J, Mayo C, Reguart N, Rosell R, Provencio M, Romero A, Molina MA. Detecting ALK, ROS1, and RET fusions and the MET<sup>ex14</sup> splicing variant in liquid biopsies of non-small-cell lung cancer patients using RNA-based techniques. *Molecular Oncology*. 2023; 17(9)DOI:10.1002/1878-0261.13468. PMID:37243883. IF:6,600 (Q1/3D). Document type: Article.
  - González S, Molina V, Homs R, Martín B, Rodríguez M, González JA, López A, Moral A, Sánchez S. Surgical and oncological results after surgical treatment of patients diagnosed with sarcoma liver metastases. *CIRUGIA ESPAÑOLA*. 2023; 101(2)DOI:10.1016/j.ciresp.2021.11.005. PMID:35901963. IF:1,900 (Q3/6D). Document type: Article.
  - Gray JE, Ahn MJ, Oxnard GR, Shepherd FA, Imamura F, Cheng Y, Okamoto I, Cho BC, Lin MC, Wu YL, Majem M, Gautschi O, Boyer M, Bulusu KC, Markovets A, Barrett JC, Hodge R, McKeown A, Hartmaier RJ, Chmielecki J, Papadimitrakopoulou VA, Ramalingam SS. Early Clearance of Plasma Epidermal Growth Factor Receptor Mutations as a Predictor of Outcome on Osimertinib in Advanced Non-Small Cell Lung Cancer; Exploratory Analysis from AURA3 and FLAURA. *CLINICAL CANCER RESEARCH*. 2023; 29(17)DOI:10.1158/1078-0432.CCR-22-3146. PMID:37379430. IF:11,500 (Q1/1D). Document type: Article.
  - Grünwald V, Powles T, Eto M, Kopyltsov E, Rha SY, Porta C, Motzer R, Hutson TE, Méndez MJ, Hong S-H, Winkvist E, Goh JC, Maroto P, Buchler T, Takagi T, Burgents JE, Perini R, He C, Okpara CE, McKenzie J, Choueiri TK. Phase 3 CLEAR study in patients with advanced renal cell carcinoma: outcomes in subgroups for the lenvatinib-plus-pembrolizumab and sunitinib arms. *Frontiers in Oncology*. 2023; 13:1223282. DOI:10.3389/fonc.2023.1223282. PMID:37664025. IF:4,700 (Q2/4D). Document type: Article.
  - Grünwald V, Powles T, Kopyltsov E, Kozlov V, Alonso T, Eto M, Hutson T, Motzer R, Winkvist E, Maroto P, Keam B, Procopio G, Wong SR, Melichar B, Rolland F, Oya M, Rodríguez K, Saito K, McKenzie J, Porta C. Survival by Depth of Response and Efficacy by International Metastatic Renal Cell Carcinoma Database Consortium Subgroup with Lenvatinib Plus Pembrolizumab Versus Sunitinib in Advanced Renal Cell Carcinoma: Analysis of the Phase 3 Randomized CLEAR Study. *European Urology Oncology*. 2023; 6(4) DOI:10.1016/j.euo.2023.01.010. PMID:36720658. IF:8,200 (Q1/1D). Document type: Article.
  - Herbst RS, Wu Y-L, John T, Grohe C, Majem M, Wang J, Kato T, Goldman JW, Laktionov K, Kim S-W, Yu C-J, Vu HV, Lu S, Lee KY, Mukhametshina G, Akewanlop C, De Marinis F, Bonanno L, Dornine M, Shepherd FA, Urban D, Huang X, Bolanos A, Stachowiak M, Tsuboi M. Adjuvant Osimertinib for Resected EGFR-Mutated Stage IB-III A Non Small-Cell Lung Cancer: Updated Results From the Phase III Randomized ADAURA Trial. *JOURNAL OF CLINICAL ONCOLOGY*. 2023; 41(10) DOI:10.1200/JCO.22.02186. PMID:36720083. IF:45,300 (Q1/1D). Document type: Article.
  - Isla D, Felip E, Garrido P, Insa A, Majem M, Remon J, Trigo JM, de Castro J. A Delphi consensus panel about clinical management of early-stage EGFR-mutated non-small cell lung cancer (NSCLC) in Spain: a Delphi consensus panel study. *Clinical & Translational Oncology*. 2023; 25(1)DOI:10.1007/s12094-022-02941-5. PMID:36168085. IF:3,400 (Q3/6D). Document type: Article.
  - Isla D, Sánchez A, Casal J, Cobo M, Majem M, Reguart N, Zugazagoitia J, Bernabe R. PD-1/PD-L1 Inhibitors as Monotherapy in the First-Line Treatment of Advanced Non-Small Cell Lung Cancer Patients with High PD-L1 Expression: An Expert Position Statement. *Journal of Clinical Medicine*. 2023; 12(15):5063. DOI:10.3390/jcm12155063. PMID:37568465. IF:3,900 (Q2/4D). Document type: Article.
  - Jimenez P, Foy V, Raby S, Carmona A, Macía L, Arrazubi V, Cacho D, Hernandez San Gil R, Custodio A, Cano JM, Fernández A, Mirallas O, Macias I, Vidal R, Visa L, Limón ML, Pimentel P, Martínez N, Sauri T, Martín M, Mangas



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M, Gil M, Calvo A, Reguera P, Granja M, Martín A, Hernández C, Cerdá P, Gomez L, García F, Pacheco V, Gutierrez D, Ruiz M, Weaver J, Mansoor W, Gallego J. The AGAMENON-SEOM model for prediction of survival in patients with advanced HER2-positive oesophagogastric adenocarcinoma receiving first-line trastuzumab-based therapy. *Therapeutic Advances in Medical Oncology*. 2023; 15:17588359231157641. DOI:10.1177/17588359231157641. PMID:36895850. IF:4,900 (Q2/4D). Document type: Article.

- John T, Grohé C, Goldman JW, Shepherd FA, de Marinis F, Kato T, Wang Q, Su W-C, Choi JH, Sriuranpong V, Melotti B, Fidler MJ, Chen J, Albayaty M, Stachowiak M, Taggart S, Wu Y-L, Tsuboi M, Herbst RS, Majem M. Three-Year Safety, Tolerability, and Health-Related Quality of Life Outcomes of Adjuvant Osimertinib in Patients With Resected Stage IB to IIIA EGFR-Mutated NSCLC: Updated Analysis From the Phase 3 ADAURA Trial. *Journal of Thoracic Oncology*. 2023; 18(9) DOI:10.1016/j.jtho.2023.05.015. PMID:37236398. IF:20,400 (Q1/1D). Document type: Article.
- John T, Majem M, Legg D, Goldman J. Current and Future Perspectives of Health-Related Quality of Life in Resectable EGFR-Mutated Non-Small Cell Lung Cancer: A Podcast. *Targeted Oncology*. 2023; 18(1) DOI:10.1007/s11523-022-00927-5. PMID:36534268. IF:5,400 (Q2/3D). Document type: Editorial Material.
- Kobel M, Kang EY, Weir A, Rambau PF, Lee CH, Nelson GS, Ghatage P, Meagher NS, Riggan MJ, Alsop J, Anglesio MS, Beckmann MW, Bisinotto C, Boisen M, Boros J, Brand AH, Brooks A, Carney ME, Coulson P, Courtney M, Cushing KL, Cybulski C, Deen S, El MA, Elishaev E, Erber R, Fereday S, Fischer A, Gayther SA, Barquin A, Gentry A, Gilks CB, Gronwald H, Grube M, Harnett PR, Harris HR, Hartkopf AD, Hartmann A, Hein A, Hendley J, Hernandez BY, Huang YJ, Jakubowska A, Jimenez M, Jones ME, Kennedy CJ, Kluz T, Koziak JM, Lesnock J, Lester J, Lubinski J, Longacre TA, Lycke M, Mateoiu C, McCauley BM, McGuire V, Ney B, Olawaiye A, Orsulic S, Osorio A, Paz L, Cajal TRY, Rothstein JH, Ruebner M, Schoemaker MJ, Shah MT, Sharma R, Sherman ME, Shvetsov YB, Singh N, Steed H, Storr SJ, Talhouk A, Traficante N, Wang C, Whittemore AS, Widschwendter M, Wilkens LR, Winham SJ, Benitez J, Berchuck A, Bowtell DD, dos FJC, Campbell I, Cook LS, DeFazio A, Doherty JA, Fasching PA, Fortner RT, García MJ, Goodman MT, Goode EL, Gronwald J, Huntsman DG, Karlan BY, Kelemen LE, Kommoss S, Le ND, Martin SG, Menon U, Modugno F, Pharoah PDP, Schildkraut JM, Sieh W, Staebler A, Sundfeldt K, Swerdlow AJ, Ramus SJ, Brenton JD, AOCs GRP. p53 and ovarian carcinoma survival: an Ovarian Tumor Tissue Analysis consortium study. *Journal of Pathology Clinical Research*. 2023; 9(3) DOI:10.1002/cjp.2.311. PMID:36948887. IF:4,100 (Q2/3D). Document type: Article.
- López A, González P, Sanz J, Prieto JD, Trias I, Luque RJ, Semidey ME, Maroto P, Algaba F. Practical aspects of PD-L1 assessment in the treatment of urothelial carcinoma: Consensus of the uropathology group of the SEAP. *Revista Española De Patología*. 2023; 56(4) DOI:10.1016/j.patol.2023.05.001. PMID:37879823. Document type: Review.
- Lozano R, Castro E, FL, Thorne H, Ramirez M, Aragon IM, Cendon Y, Gutierrez A, Salles DC, Romero N, Lorente D, Gonzalez P, Calatrava A, Alonso C, Anido U, Arevalo S, Balmana J, Chirivella I, Juan MJ, Llorca G, Cajal TRY, Almagro E, Alameda D, López PP, Herrera B, Mateo J, Pritchard CC, Antonarakis ES, Lotan TL, Rubio J, Sandhu S, Olmos D. Impact of concurrent tumour events on the prostate cancer outcomes of germline BRCA2 mutation carriers. *EUROPEAN JOURNAL OF CANCER*. 2023; 185 DOI:10.1016/j.ejca.2023.02.022. PMID:36972661. IF:8,400 (Q1/2D). Document type: Article.
- Macaulay VM, Lord S, Hussain S, Maroto JP, Jones RH, Climent MÁ, Cook N, Lin CC, Wang SS, Bianchini D, Bailey M, Schlieker L, Bogenrieder T, de Bono J. A Phase Ib/II study of IGF-neutralising antibody xentuzumab with enzalutamide in metastatic castration-resistant prostate cancer. *BRITISH JOURNAL OF CANCER*. 2023; 129(6) DOI:10.1038/s41416-023-02380-1. PMID:37537253. IF:8,800 (Q1/2D). Document type: Article.
- Manzano JL, Martin J, Fernández LA, Benítez G, Medina J, Quindós M, García A, Fernández O, Simo RV, Majem M, Bellido L, Ayala de Miguel P,



## 05.1.2 Oncohematologic Diseases Area

- Campos B, Espinosa E, Macías JA, Gil I, Loren-te D, Rodríguez A, Perez VN, López R, Gramaje MG, Puértolas T, Rodríguez JF, Espasa L, Be-laustegui G, Cerezuela P. Adjuvant dabrafenib and trametinib for patients with resected BRAF-mutated melanoma: DESCRIBE-AD real-world retrospective observational study. *MELANOMA RESEARCH*. 2023; 33(5)DOI:10.1097/CMR.0000000000000888. PMID:36988401. IF:2,200 (Q3/7D). Document type: Article.
- Martin J, Martinez J, Moura DS, Redondo A, Gutierrez A, López A, Martinez J, Sevilla I, Díaz R, Solis MP, Carnero A, Perez M, Marcilla D, García J, Romero P, Fernández J, López D, Arribas I, Hindi N. Phase II trial of CDK4/6 inhibitor palbociclib in advanced sarcoma based on mRNA expres-sion of CDK4/ CDKN2A. *Signal Transduction and Targeted Therapy*. 2023; 8(1):405. DOI:10.1038/s41392-023-01661-8. IF:39,300 (Q1/1D). Docu-ment type: Article.
  - Martinez DAS, Quilez A, Jimenez P, Sesma A, Tara-zona N, Pacheco V, Obispo B, Paez D, Quintanar T, Sánchez M, Montes AF, Felip E, Rodríguez A, Elez E. Current professional standing of young medical oncologists in Spain: a nationwide survey by the Spanish Society of Medical Oncology + MIR sec-tion. *Clinical & Translational Oncology*. 2023; 25(3) DOI:10.1007/s12094-022-02989-3. PMID:36418642. IF:3,400 (Q3/6D). Document type: Article.
  - Martinez N, Vilarino N, Alameda F, Mojal S, Arumi M, Carrato C, Aldecoa I, Ribalta T, Vidal N, Bello-sillo B, Menéndez S, Del Barco S, Gallego O, Pineda E, López R, Hernandez A, Mesia C, Esteve A, de la Iglesia N, Balana C, Martinez M, Navarro P. Gal-1 Expression Analysis in the GLIOCAT Multicenter Study: Role as a Prognostic Factor and an Immu-ne-Suppressive Biomarker. *Cells*. 2023; 12(6):843. DOI:10.3390/cells12060843. PMID:36980184. IF:6,000 (Q2/4D). Document type: Article.
  - Mayayo C, de Heredia ML, Prat E, Gonzalez L, Guarch ME, Vilches C, Munoz L, Asensi MA, Serra C, Llebaria A, Casado M, Artuch R, Garrabou G, García PM, Pallardo FV, Nunes V. The antioxi-dant L-Ergothioneine prevents cystine lithiasis in the Slc7a9-/- mouse model of cystinuria. *Redox Biology*. 2023; 64:102801. DOI:10.1016/j.redox.2023.102801. PMID:37418888. IF:11,400 (Q1/1D). Document type: Article.
  - Nadal E, Oré M, Remon J, Bernabé R, Covela M, de Castro J, Massutí B, Guillot M, Majem M, Maestu I, Morilla I, Gironés R. Expert consensus to optimize the management of older adult patients with advanced EGFR-mutated non-small cell lung cancer. *Clinical & Translational Oncology*. 2023; 25(11)DOI:10.1007/s12094-023-03286-3. PMID:37566345. IF:3,400 (Q3/6D). Document type: Article.
  - Nadal E, Rodríguez D, Simó M, Massutí B, Juan O, Huidobro G, López R, De Castro J, Estival A, Mosquera J, Sullivan I, Felip E, Blasco A, Guirado M, Pereira E, Vilariño N, Navarro V, Bruna J. Phase II Trial of Atezolizumab Combined With Carbo-platin and Pemetrexed for Patients With Advan-ced Nonsquamous Non-Small-Cell Lung Cancer With Untreated Brain Metastases (Atezo-Brain, GEC17/05). *JOURNAL OF CLINICAL ONCO-LOGY*. 2023; 41(28)DOI:10.1200/JCO.22.02561. PMID:37603816. IF:45,300 (Q1/1D). Document type: Article.
  - O'Donnell PH, Milowsky MI, Petrylak DP, Hoimes CJ, Flaig TW, Mar N, Moon HH, Friedlander TW, McKay RR, Bilen MA, Srinivas S, Burgess EF, Ra-mamurthy C, George S, Geynisman DM, Bracarda S, Borchiellini D, Geoffrois L, Maroto JP, Ferrario C, Carret A-S, Yu Y, Guseva M, Homet B, Rosen-berg JE. Enfortumab Vedotin With or Without Pembrolizumab in Cisplatin-Ineligible Patients With Previously Untreated Locally Advanced or Metastatic Urothelial Cancer. *JOURNAL OF CLI-NICAL ONCOLOGY*. 2023; 41(25)DOI:10.1200/JCO.22.02887. PMID:37369081. IF:45,300 (Q1/1D). Document type: Article.
  - Peters S, Letovanec I, Mauer M, Dafni U, Eje-depang D, Biernat W, Bubendorf L, Warth A, Pokharel S, Reinmuth N, Tarruella MM, Casas J, Tsourtis Z, Marti N, Kammler R, Danson S, O'Brien M, Stahel RA. Assessment of RANK/RANK-L prevalence and clinical significance in NSCLC European Thoracic Oncology Platform Lungscap-e cohort and SPLENDOR randomized clinical trial. *LUNG CANCER*. 2023; 175DOI:10.1016/j.lungcan.2022.12.004. PMID:36535121. IF:5,300 (Q2/3D). Document type: Article.
  - Pilcher L, Pahlke S, Urquhart O, O'Brien KK, Dhar V, Fontana M, Gonzalez C, Keels MA, Mascaren-has AK, Nascimento MM, Platt JA, Sabino GJ,



## 05.1.2 Oncohematologic Diseases Area

- Slayton RL, Tinanoff N, Young DA, Zero DT, Tampi MP, Purnell D, Salazar J, Megremis S, Bienek D, Carrasco A. Direct materials for restoring caries lesions Systematic review and meta-analysis-a report of the American Dental Association Council on Scientific Affairs. *JOURNAL OF THE AMERICAN DENTAL ASSOCIATION*. 2023; 154(2) DOI:10.1016/j.adaj.2022.09.012. PMID:36610925. IF:3,900 (Q1/2D). Document type: Article.
- Provencio M, Estival A, Franco F, López G, Saigí M, Arasanz H, Diz P, Carcereny E, García J, Aguado C, Mosquera J, Iruarizaga E, Majem M, Bosch J, Mielgo X, Guirado M, Juan Ó, Blasco A, Lucía C, Del Barrio A, De Portugal T, López A, Serrano G, Campos B, Rubio J, Catot S, Esteban B, Martí JL, del Barco E, Calvo V. Immunogenicity of COVID-19 vaccines in lung cancer patients. *LUNG CANCER*. 2023; 184:107323. DOI:10.1016/j.lungcan.2023.107323. PMID:37639820. IF:5,300 (Q2/3D). Document type: Article.
  - Provencio M, Ortega AL, Coves J, Calvo V, Marsé R, Dómine M, Guirado M, Carcereny E, Fernández N, Álvarez R, Blanco R, León L, Sánchez JM, Sullivan IG, Cobo M, Sánchez A, Massuti B, Sierra B, Martínez C, Serna R, Romero A, Cruz A. Atezolizumab Plus Bevacizumab as First-line Treatment for Patients with Metastatic Nonsquamous Non-Small Cell Lung Cancer with High Tumor Mutation Burden: A Nonrandomized Controlled Trial. *JAMA Oncology*. 2023; 9(3)DOI:10.1001/jamaoncol.2022.5959. PMID:36520426. IF:28,400 (Q1/1D). Document type: Article.
  - Remon J, Besse B, Aix SP, Callejo A, Al K, Bernabe R, Greillier L, Majem M, Reguart N, Monnet I, Cousin S, Garrido P, Robinet G, Campelo RG, Madroszyk A, Mazieres J, Curcio H, Wasag B, Pretzenbacher Y, Fournier B, Dingemans A, Dziadziuszko R. Osimertinib treatment based on plasma T790M monitoring in patients with EGFR-mutant non-small-cell lung cancer (NSCLC): EORTC Lung Cancer Group 1613 APPLE phase II randomized clinical trial. *ANNALS OF ONCOLOGY*. 2023; 34(5)DOI:10.1016/j.annonc.2023.02.012. PMID:36863484. IF:50,500 (Q1/1D). Document type: Article.
  - Rodríguez A, Maroto P, Font A, Martin C, Mellado B, Corbera A, Orrillo M, Reig O, Querol R, Rios A, Cano L, Alonso J, Martinez G, Galtés S, Taus A, Martinez M, Juanpere N, Juan O, Bellmunt J. Safety and efficacy of avelumab plus carboplatin in patients with metastatic castration-resistant prostate cancer in an open-label Phase Ib study. *BRITISH JOURNAL OF CANCER*. 2023; 128(1)DOI:10.1038/s41416-022-01991-4. PMID:36289372. IF:8,800 (Q1/2D). Document type: Article.
  - Roldan JM, Valdivia C, Santos M, Lanillos J, Maroto P, Anguera G, Calsina B, Martinez A, Monteagudo M, Mellid S, Leandro LJ, Montero C, Cascon A, Roncador G, Coloma J, Robledo M, Rodríguez C. Deubiquitinase USP9X loss sensitizes renal cancer cells to mTOR inhibition. *INTERNATIONAL JOURNAL OF CANCER*. 2023; 153(6) DOI:10.1002/ijc.34575. PMID:37260183. IF:6,400 (Q1/3D). Document type: Article.
  - Rueda A, Mendoza JI, Alba L, Parladé E, Voltà E, Paez D, Aviño A, Eritja R, Vázquez E, Villaverde A, Mangues R, Unzueta U. Site-directed cysteine coupling of disulfide-containing non-antibody carrier proteins (THIOCAPs). *Science China-Materials*. 2023; 66(10)DOI:10.1007/s40843-023-2571-6. IF:8,100 (Q1/3D). Document type: Article.
  - Salazar J, Bracchiglione J, Savall O, Antequera A, Bottaro D, Gutierrez M, Martinez S, Pericay C, Tibau A, Bonfill X, Appropriateness SYSTT. Treatment with anticancer drugs for advanced pancreatic cancer: a systematic review. *BMC CANCER*. 2023; 23(1):748. DOI:10.1186/s12885-023-11207-4. PMID:37573294. IF:3,800 (Q2/5D). Document type: Review.
  - Sánchez A, Cajal TRY, Pineda M, Aguirre E, Grana B, Chirivella I, Balmana J, Brunet J, SEOM Hereditary Canc Working GRP, AEGH Hereditary Canc C. SEOM clinical guideline on heritable TP53-related cancer syndrome (2022). *Clinical & Translational Oncology*. 2023; 25(9)DOI:10.1007/s12094-023-03202-9. PMID:37133731. IF:3,400 (Q3/6D). Document type: Article.
  - Sanfilippo R, Hindi N, Jurado JC, Blay JY, López A, Italiano A, Alvarez R, Gutierrez A, Rincon I, Sangalli C, Aguiar JLP, Romero J, Morosi C, Sunyach MP, Fabbioni C, Romagosa C, Ranchere D, Dei AP, Casali PG, Martin J, Gronchi A. Effectiveness and Safety of Trabectedin and Radiotherapy for Patients With Myxoid Liposarcoma A





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- Nonrandomized Clinical Trial. *JAMA Oncology*. 2023; 9(5)DOI:10.1001/jamaoncol.2023.0056. PMID:36995731. IF:28,400 (Q1/1D). Document type: Article.
- Segura PP, Quintela NV, García MM, Berron SD, Sarrío RG, Gomez JG, Castano AG, Martín LMN, Rubio OG, Losada EP. SEOM-GEINO clinical guidelines for high-grade gliomas of adulthood (2022). *Clinical & Translational Oncology*. 2023; 25(9)DOI:10.1007/s12094-023-03245-y. PMID:37540408. IF:3,400 (Q3/6D). Document type: Article.
  - Serrano C, Álvarez R, Carrasco JA, Marquina G, Martínez J, Martínez V, Sala MÁ, Sebio A, Sevilla I, Martín J. SEOM-GEIS clinical guideline for gastrointestinal stromal tumors (2022). *Clinical & Translational Oncology*. 2023; 25(9)DOI:10.1007/s12094-023-03177-7. PMID:37129716. IF:3,400 (Q3/6D). Document type: Article.
  - Tibau A, Martínez MT, Ramos M, De La Cruz L, Santaballa A, O'Connor M, Martínez N, Moreno F, Fernández I, Virizuela JA, Alarcón J, de La Haba J, Sánchez P, Albarca CR, Bueno C, Kelly C, Casas M, Bezares S, Rosell L, Albanell J. Quality of life with palbociclib plus fulvestrant versus placebo plus fulvestrant in postmenopausal women with endocrine-sensitive hormone receptor-positive and HER2-negative advanced breast cancer: patient-reported outcomes from the FLIPPER trial. *Therapeutic Advances in Medical Oncology*. 2023; 15:17588359221148921. DOI:10.1177/17588359221148921. PMID:36743520. IF:4,900 (Q2/4D). Document type: Article.
  - Trilla L, Gámez A, Prado G, López R, Soriano V, Garicano F, Lecumberri MJ, Rodríguez de la Borbolla M, Majem M, Pérez E, González M, Oramas J, Magdaleno A, Fra J, Martín A, Corral M, Puértolas T, Ramos R, Dittmann A, Nanni P, Fresno JÁ, Espinosa E. Multi-omics Characterization of Response to PD-1 Inhibitors in Advanced Melanoma. *Cancers*. 2023; 15(17):4407. DOI:10.3390/cancers15174407. PMID:37686682. IF:5,200 (Q2/3D). Document type: Article.
  - Trilla L, Gámez A, Prado G, López R, Zapater A, López E, Lumbreras MI, Soriano V, Garicano F, Lecumberri MJ, de la Borbolla MR, Majem M, Pérez E, González M, Oramas J, Magdaleno A, Fra J, Martín A, Corral M, Puértolas T, Ramos R, Ramos R, Vara J, Espinosa E. Sorting Transcriptomics Immune Information from Tumor Molecular Features Allows Prediction of Response to Anti-PD1 Therapy in Patients with Advanced Melanoma. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(1):801. DOI:10.3390/ijms24010801. PMID:36614248. IF:5,600 (Q1/3D). Document type: Article.
  - Tsuboi M, Herbst RS, John T, Kato T, Majem M, Grohé C, Wang J, Goldman JW, Lu S, Su WC, De Marinis F, Shepherd FA, Lee KH, Le NT, Dechaphunkul A, Kowalski D, Poole L, Bolanos A, Rukazenkov Y, Wu YL, ADAURA I. Overall Survival with Osimertinib in Resected EGFR-Mutated NSCLC. *NEW ENGLAND JOURNAL OF MEDICINE*. 2023; 389(2)DOI:10.1056/NEJMoa2304594. PMID:37272535. IF:158,500 (Q1/1D). Document type: Article.
  - Tsutani Y, Goldman JW, Dacic S, Yatabe Y, Majem M, Huang X, Chen A, van der Gronde T, He J. Adjuvant Osimertinib vs. Placebo in Completely Resected Stage IA2–IA3 EGFR-Mutated NSCLC: ADAURA2. *Clinical Lung Cancer*. 2023; 24(4) DOI:10.1016/j.clcc.2023.02.002. PMID:36872181. IF:3,600 (Q2/5D). Document type: Article.
  - Valcarcel S, Gallego J, Jimenez P, Diez M, de Castro EM, Hernandez R, Arrazubi V, Custodio A, Cano JM, Montes AF, Macias I, Visa L, Calvo A, Tocino RV, Lago NM, Limon ML, Granja M, Gil M, Pimentel P, Macia L, Perez CH, Mangas M, Carnicero AM, Cerda P, Gonzalez LG, Navalon FG, Rambla MDM, Richard MM, Carmona A. Does HER2 status influence in the benefit of ramucirumab and paclitaxel as second line treatment of advanced gastro-esophageal adenocarcinoma? Data from the AGAMENON-SEOM registry. *JOURNAL OF CANCER RESEARCH AND CLINICAL ONCOLOGY*. 2023; 149(7)DOI:10.1007/s00432-022-04294-6. PMID:36042046. IF:3,600 (Q2/5D). Document type: Article.
  - Vazquez JC, Antolin S, Ruiz M, Servitja S, Alba E, Barnadas A, Lluch A, Martín M, Rodríguez A, Sola I, Bonfill X, Urrutia G, Sánchez P. Dual neoadjuvant blockade plus chemotherapy versus monotherapy for the treatment of women with non-metastatic HER2-positive breast cancer: a



## 05.1.2 Oncohematologic Diseases Area

systematic review and meta-analysis. *Clinical & Translational Oncology*. 2023; 25(4)DOI:10.1007/s12094-022-02998-2. PMID:36417083. IF:3,400 (Q3/6D). Document type: Review.

- Vazquez JC, Pinero A, de Castro FJ, Lluch A, Martín M, Barnadas A, Alba E, Rodríguez A, Rojo F, Gimenez J, Sola I, Quintana MJ, Bonfill X, Urrutia G, Sánchez P. The value of sentinel lymph-node biopsy in women with node-positive breast cancer at diagnosis and node-negative tumour after neoadjuvant therapy: a systematic review. *Clinical & Translational Oncology*. 2023; 25(2)DOI:10.1007/s12094-022-02953-1. PMID:36153763. IF:3,400 (Q3/6D). Document type: Review.
- Vidal J, Fernández MC, Casadevall D, García P, Páez D, Guix M, Alonso V, Cano MT, Santos C, Durán G, Elez E, Manzano JL, García R, Ferreiro R, Losa F, Pineda E, Sastre J, Rivera F, Bellosillo B, Tabernero J, Aranda E, Salazar R, Montagut C, Spanish Cooperative Group for the Treatment of Digestive Tumours (TTD). Liquid Biopsy Detects Early Molecular Response and Predicts Benefit to First-Line Chemotherapy plus Cetuximab in Metastatic Colorectal Cancer: PLATFORM-B Study. *CLINICAL CANCER RESEARCH*. 2023; 29(2)DOI:10.1158/1078-0432.CCR-22-1696. PMID:36074154. IF:11,500 (Q1/1D). Document type: Article.
- Wakelee H, Liberman M, Kato T, Tsuboi M, Lee S-H, Gao S, Chen K-N, Dooks C, Majem M, Eigendorff E, Martinengo GL, Bylicki O, Rodríguez D, Chaft JE, Novello S, Yang J, Keller SM, Samkari A, Spicer JD. Perioperative Pembrolizumab for Early-Stage Non-Small-Cell Lung Cancer. *NEW ENGLAND JOURNAL OF MEDICINE*. 2023; 389(6)DOI:10.1056/NEJMoa2302983. PMID:37272513. IF:158,500 (Q1/1D). Document type: Article.

## Oncogenesis and Antitumour Drugs

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### DESCRIPTION

We are developing targeted protein-based nanoparticles and nanoconjugates to selectively ablate cancer stem cells, or cancer associated fibroblasts, and inhibitors of Immune checkpoints to improve current treatment of solid (colorectal, head and neck) and hematological (DLBCL, AML) neoplasias. We also generate immunosuppressed and immunocompetent, subcutaneous, or orthotopic, cancer mouse models to preclinically evaluate the anticancer effect and the associated toxicity of these nanomedicines and their combination for clinical translation and industrial transference.

### MAIN LINES OF RESEARCH

- To develop a humanized nanoconjugate of auristatin directed to leukemic stem cells for the treatment of Acute Myeloid Leukemia. Within this line, the activity of the nanoconjugate is being evaluated in new animal models derived from patient samples (PDX) and humanized murine models. We are also studying the ability of the nanoconjugate to activate the immune system and the possible synergies of its combination with other precision drugs. Isolda Casanova.
- To design and develop protein nanodrugs for the treatment of cancer. This line seeks to offer innovative therapeutic proposals based on rational design and development of active targeted protein nanoparticles for the selective delivery of therapeutic protein domains or conjugated anti-tumor drugs to tumor cells. Ugutz Unzueta.
- To develop and preclinical validation of tumor microenvironment targeted nanoparticles. This



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research line aims to target cancer-associated fibroblasts within solid tumors to reprogram the tumor microenvironment to reduce cancer cell aggressiveness and block metastatic dissemination. Lorena Alba.

- Induction of local tumor pyroptosis, by administration of nanotoxins, to turn cold solid tumors into immune-hot ones, to achieve T cell cancer tissue infiltration, activation of anticancer immunity, and the search for synergistic activity by its combination with Checkpoint inhibitors and T Cell Receptor Agonists to reverse immune exhaustion. Ramon Mangués.

#### SCIENTIFIC CHALLENGES

- To develop nanomedicines to define preclinical protocols to achieve effective immunogenic activity against solid tumors, which are currently resistant to Immunotherapy.
- To develop new protein nanoconjugates for targeted delivery of antitumor drugs with innovative mechanisms of action for the treatment of tumors resistant to common drugs.
- To develop efficient protein nanovehicles for the targeted delivery of therapeutic nucleic acids to tumor cells in vivo as an alternative to viral vectors.
- To develop protein nanopharmaceuticals for the activation of the immune system against cancer as a more effective nano-immuno-oncology approach than current treatments.
- To develop targeted-nanotherapy to reprogram the tumor microenvironment to enhance their antitumor role.

#### ACTIVE GRANTS

- Alba Castellon, Lorena. Cancer-Associated Fibroblast-Targeted Nanoparticles to Improve Antimetastatic Therapy in Colorectal Cancer. POSTDOC AECC 2020. Asociación Española Contra el Cáncer (AECC). Duration: 2020-2025. 170.000,00 €.
- Mangués Bafalluy, Ramon. Eliminación selectiva de células madre de cáncer de colon mediante nanopartículas inductoras de poro, inflamación crónica e inmunidad antineoplásica (IMMUNO-FIRING). PI21/00150. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 244.420,00 €.

- Mangués Bafalluy, Ramon. New protein-based nanodrugs for the development of targeted tumor-agnostic therapy. CPP2021-008946. Ministerio de Ciencia e Innovación (MICINN). Duration: 2022-2025. 439.367,01 €.

- Unzueta Elorza, Ugutz. Conjugación dirigida de nanomedicinas proteicas inteligentes para la mejora de la terapia selectiva del cáncer metastásico de colon. PI20/00400. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 171.820,00 €.

#### GRANTS AWARDED

- Mangués Bafalluy, Ramon. Oncogenesis and Antitumor Drugs. 2021 SGR 01140. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 60.000 €.
- Unzueta Elorza, Ugutz. Eliminación selectiva de células madre metastásicas del cáncer colorrectal por bloqueo de la RNA polimerasa II. PI23/00318. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2026. 230.000,00 €

#### DOCTORAL THESES DEFENDED

- López Laguna, Héctor. Simple biochemistry for complex protein-based materials. 31/03/2023. Universitat Autònoma de Barcelona. Supervisors: Villaverde Corrales, Antonio; Vázquez Gómez, Esther; Unzueta Elorza, Ugutz. <http://hdl.handle.net/10803/690077>.
- Núñez Amela, Yáiza. Nanopartículas dirigidas a células madre CXCR4+ per al tractament de la leucèmia mieloide aguda. 12/04/2023. Universitat de Barcelona. Supervisors: Mangués Bafalluy, Ramon; Casanova Rigat, Isolda; Cascante i Serratos, Marta. <http://hdl.handle.net/10803/688200>.
- Voltà Durán, Eric. Exploring and exploiting multi-domain recombinant proteins as targeted nanomedical tools. 12/09/2023. Universitat Autònoma de Barcelona. Supervisors: Unzueta Elorza, Ugutz; Villaverde Corrales, Antonio; Vázquez Gómez, Esther.

#### SCIENTIFIC PRODUCTION

- Álamo P, Parladé E, Favaro MTP, Gallardo A, Mendoza R, Ferreira LCS, Roher N, Mangués R, Villaverde A, Vázquez E. Probing the Biosafety of Implantable Artificial Secretory Granules for the Sustained Release of Bioactive Proteins.



## 05.1.2 Oncohematologic Diseases Area

- ACS Applied Materials & Interfaces. 2023; 15(33) DOI:10.1021/acscami.3c08643. PMID:37614001. IF:9,500 (Q1/2D). Document type: Article.
- López H, Rueda A, Martínez C, Sánchez L, Carratalá JV, Atienza J, Parladé E, Sánchez JM, Serna N, Voltà E, Ferrer N, Reverter D, Mangués R, Villaverde A, Vázquez E, Unzueta U. Biofabrication of Self-Assembling Covalent Protein Nanoparticles through Histidine-Templated Cysteine Coupling. ACS Sustainable Chemistry & Engineering. 2023; 11(10)DOI:10.1021/acssuschemeng.2c06635. IF:8,400 (Q1/1D). Document type: Article.
  - Martínez C, Alba L, Carrasco LI, Serna N, Imedio L, Gallardo A, Casanova I, Unzueta U, Vázquez E, Mangués R, Villaverde A. Lymphocyte infiltration and antitumoral effect promoted by cytotoxic inflammatory proteins formulated as self-assembling, protein-only nanoparticles. BIOMEDICINE & PHARMACOTHERAPY. 2023; 164:114976. DOI:10.1016/j.biopha.2023.114976. PMID:37276641. IF:7,500 (Q1/1D). Document type: Article.
  - Medina E, García A, Gallardo A, Álamo P, Alba L, Unzueta U, Villaverde A, Vázquez E, Casanova I, Mangués R. Potent Anticancer Activity of CXCR4-Targeted Nanostructured Toxins in Aggressive Endometrial Cancer Models. Cancers. 2023; 15(1):85. DOI:10.3390/cancers15010085. PMID:36612081. IF:5,200 (Q2/3D). Document type: Article.
  - Nunez Y, García A, Falgas A, Serna N, Sánchez L, Garrido A, Sierra J, Gallardo A, Unzueta U, Vázquez E, Villaverde A, Mangués R, Casanova I. T22-PE24-H6 Nanotoxin Selectively Kills CXCR4-High Expressing AML Patient Cells In Vitro and Potently Blocks Dissemination In Vivo. Pharmaceutics. 2023; 15(3):727. DOI:10.3390/pharmaceutics15030727. PMID:36986589. IF:5,400 (Q1/2D). Document type: Article.
  - Parladé E, Sánchez JM, López H, Unzueta U, Villaverde A, Vázquez E. Protein features instruct the secretion dynamics from metal-supported synthetic amyloids. INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES. 2023; 250:126164. DOI:10.1016/j.ijbiomac.2023.126164. PMID:37549767. IF:8,200 (Q1/1D). Document type: Article.
  - Rueda A, Mendoza JI, Alba L, Parladé E, Voltà E, Paez D, Aviño A, Eritja R, Vázquez E, Villaverde A, Mangués R, Unzueta U. Site-directed cysteine coupling of disulfide-containing non-antibody carrier proteins (THIOCAPs). Science China-Materials. 2023; 66(10)DOI:10.1007/s40843-023-2571-6. IF:8,100 (Q1/3D). Document type: Article.
  - Serna N, López H, Aceituno P, Rojas M, Parladé E, Voltà E, Martínez C, Sánchez JM, Di A, Carratalá JV, Livieri AL, Ferrer N, Vázquez E, Unzueta U, Roher N, Villaverde A. Efficient Delivery of Antimicrobial Peptides in an Innovative, Slow-Release Pharmacological Formulation. Pharmaceutics. 2023; 15(11):2632. DOI:10.3390/pharmaceutics15112632. PMID:38004610. IF:5,400 (Q1/2D). Document type: Article.
  - Voltà E, Alba L, Serna N, Casanova I, López H, Gallardo A, Sánchez A, Villaverde A, Unzueta U, Vázquez E, Mangués R. High-precision targeting and destruction of cancer-associated PDGFR-β(+) stromal fibroblasts through self-assembling, protein-only nanoparticles. Acta Biomaterialia. 2023; 170DOI:10.1016/j.actbio.2023.09.001. PMID:37683965. IF:9,700 (Q1/1D). Document type: Article.
  - Voltà E, Parladé E, Serna N, Villaverde A, Vázquez E, Unzueta U. Endosomal escape for cell-targeted proteins. Going out after going in. BIOTECHNOLOGY ADVANCES. 2023; 63:108103. DOI:10.1016/j.biotechadv.2023.108103. PMID:36702197. IF:16,000 (Q1/1D). Document type: Review.

## Haematological Diagnosis

### Group leader

Nomdedeu Guinot, Josep Francesc (FGS)

### Researchers

Blanco , Maria Laura (FGS)

Gonzalez Alvarez, Nuria (FGS)

Martinez Valverde, Clara Maria (FGS)

Pratcorona Canela, Marta (FGS)

Ramil López, Guillermo (IR)

Remacha Sevilla, Angel Francisco (FGS)

San Jose Alonso, Paula (FGS)

Sánchez García, Jana (FGS)

### Research Technicians

Brell Martinez, Albert (FGS)

Bussaglia Petrillo, Elena Mart (FGS)

Carricondo Morcillo, Maite (FGS)

Castellet Farrus, Helena (IR)

Espadaler Pare, Montserrat (FGS)

Fernández Rosales, Maria Nieves (FGS)

Fuentes Hernandez, Francisca (FGS)

Gine Vilalta, Anna (IR)

Martinez Sánchez, Elisabeth (FGS)

Ortin Quilez, Rosa (FGS)

Serra Ferrer, Marta (FGS)

Ubeda Rodenas, Jose (FGS)



### DESCRIPTION

The diagnostic hematology group's primary goal is to improve the characterization of hematologic disorders and contribute to better management of the patients, especially those with hematologic neoplasms. Our efforts focus on platform improvement (next-generation sequencing), multiparameter flow cytometry and molecular karyotyping, and unraveling the molecular mechanisms of leukemogenesis of selected genes (WT1, KMT2a, IdH1, and IdH2).

### MAIN LINES OF RESEARCH

- Predisposing alleles to myeloid neoplasms and leukemia genomics: Marta Pratcorona.
- WT1 biology and KMT2a molecular alterations: Josep Nomdedéu.
- Digital PCR utility in MRD studies: Josep Nomdedéu.

### SCIENTIFIC CHALLENGES

- To enlarge and refine NGS panels for covering all hematologic neoplasms.
- To improve genetic approaches to non-neoplastic disorders (algorithms based on hematologic findings).
- To validate bulk and scRNAseq approaches in leukemia diagnosis.
- To develop new platforms of MRD analysis in acute myeloid leukemia.

### DOCTORAL THESES DEFENDED

- Oñate Hospital, Guadalupe. Impacto de las co-mutaciones y la terapia dirigida en la leucemia



## 05.1.2 Oncohematologic Diseases Area

mieloide aguda con mutaciones. 20/10/2023. Universitat Autònoma de Barcelona. Supervisors: Sierra Gil, Jordi; Pratcorona Canela, Marta.

## SCIENTIFIC PRODUCTION

- Arguello M, Albiol N, Jara P, García I, Redondo S, Esquirol A, Novelli S, Saavedra S, Martino R, Nomdedeu J, Sierra J, Mora A, Moreno C. Evolution in the frontline treatment of patients with chronic lymphocytic leukemia: experience from one European center. *LEUKEMIA & LYMPHOMA*. 2023; 64(10). DOI:10.1080/10428194.2023.2232489. PMID:37452739. IF:2,600 (Q3/7D). Document type: Article.
- Castillo MI, Ribate VE, Muñoz CM, Santillana SG, Taboada SE, Casterá ME, Abinzano CMJ, Barranco IA, Nieto CR, Pampliega VM, Blanco ML, de Andrés AS, de Oteyza PJ, del Castillo BT, Font GI, Cayuela JA, Díez M, Sánchez AR, Vercet SC, Díaz TM, Grupo Español de Síndromes Mielodisplásicos (Incidence and prognostic impact of U2AF1 mutations and other gene alterations in myelodysplastic neoplasms with isolated 20q deletion. *Cancer Medicine*. 2023; 12(16)DOI:10.1002/cam4.6300. PMID:37403747. IF:4,000 (Q2/4D). Document type: Article.
- Marin O, Romero D, Rodríguez J, Distefano M, Lessi F, Aretini P, Liquori A, Castaño J, Kozyra E, Kotmayer L, Bueno C, Cervera J, Rodríguez JC, Nomdedeu JF, Murillo L, De Heredia CD, Pérez A, López F, Martínez C, Dorado N, Marco FM, Prósper F, Menéndez P, Valcárcel D, Ballestar E, Bödör C, Bigas A, Catalá A, Wlodarski MW, Giorgetti A. Epigenome profiling reveals aberrant DNA methylation signature in GATA2 deficiency. *HAEMATOLOGICA*. 2023; 108(9)DOI:10.3324/haematol.2022.282305. PMID:36815365. IF:10,100 (Q1/2D). Document type: Letter.
- Mosquera A, Perez M, Hernandez A, Gonzalez T, Arellano E, Martinez J, Villaverde A, Raya JM, Ayala R, Ferrer F, Fox ML, Velez P, Mora E, Xicoy B, Mata MI, García M, Angona A, Cuevas B, Senin MA, Ramirez A, Ramirez MJ, Perez R, de Villambrosia SG, Martinez C, Gomez MT, García C, Gasior M, Bellosillo B, Steegmann JL, Alvarez A, Hernandez JM, Hernandez JC, Spanish MPNGRP. Machine Learning Improves Risk Stratification in Myelofibrosis: An Analysis of the Spanish Registry of Myelofibrosis. *Hemasphere*. 2023; 7(1):e818. DOI:10.1097/HS9.0000000000000818. PMID:36570691. IF:6,600 (Q1/3D). Document type: Article.
- Mulet M, Osuna-Gómez R, Zamora C, Artesero I, Arús M, Vera-Artazcoz P, Cordón A, Vilalta N, San-José P, Abril A, Moliné A, Morán I, López-Contreras J, Vidal S. Dysregulated neutrophil extracellular traps formation in sepsis. *Immunology*. 2023; 170(3):374-387. DOI: 10.1111/imm.13676. PMID: 37381594. IF: 6,400 (Q2/3D). Document type: Article.
- Oñate G, Pratcorona M, Garrido A, Artigas A, Bataller A, Tormo M, Arnan M, Vives S, Coll R, Salamero O, Vall F, Sampol A, García A, Cervera M, Avila SG, Bargay J, Ortín X, Nomdedeu JF, Esteve J, Sierra J, Spanish Cooperative Study GRP. Survival improvement of patients with FLT3 mutated acute myeloid leukemia: results from a prospective 9 years cohort. *Blood Cancer Journal*. 2023; 13(1):69. DOI:10.1038/s41408-023-00839-1. PMID:37147301. IF:12,800 (Q1/1D). Document type: Article.
- Orgueira AM, Encinas MMP, Varela N, Mora E, Díaz M, Montoro MJ, Pomares H, Ramos F, Tormo M, Jerez A, Nomdedeu JF, Sánchez CD, Leonor A, Cárcel P, Romero MTC, Xicoy B, Rivero E, Barreto R, Díez M, Benlloch LE, Crucitti D, Valcárcel D. Machine Learning Improves Risk Stratification in Myelodysplastic Neoplasms: An Analysis of the Spanish Group of Myelodysplastic Syndromes. *Hemasphere*. 2023; 7(10):e961. DOI:10.1097/HS9.0000000000000961. PMID:37841754. IF:6,600 (Q1/3D). Document type: Article.

## Molecular Pathology of Gynaecologic Cancer

### Group leader

Lerma Puertas, Enrique (FGS)

### Researchers

Bague Rosell, Silvia (FGS)

Espinosa Mariscal, Iñigo (FGS)

Fumagalli, Caterina (FGS)

Fuste Chimisana, Victoria (FGS)

Gallardo Alcañiz, Alberto (FGS)

López Vilaro, Laura (FGS)

Manzotti, Carolina (FGS)

Mozos Rocafort, Ana (FGS)

Orellana Fernández, Ruth (FGS)

### Research Technicians

Catus Col, Lluís (FGS)

Clua Gonzalez, Agustín (FGS)

Ferre Figa, Malena (FGS)

Gonzalez Vidal, Alan (FGS)

Gutierrez Montalban, Raquel (FGS)



### DESCRIPTION

The group is focused on molecular and translational research on breast and gynecological tumors. Our research seeks the applicability of the results in the field of biomedicine, in particular, in the development of methods that help and facilitate the diagnosis, prognosis, and treatment of breast and gynecological tumors.

### MAIN LINES OF RESEARCH

- Pathogenic mechanisms of gynecological cancer (breast/endometrial/ovarian cancer).
- Molecular mechanisms of stromal response and immunosuppression in breast and endometrial cancer.
- Clinical application of prognostic factors in common cancers (breast, endometrial, ovarian, etc).
- Clinical application of tumor markers.
- Molecular biology of uterine and extra-uterine sarcomas.

### SCIENTIFIC CHALLENGES

- Progress as a productive translational gynecological cancer research group, capable of competing with other highly visible groups in Barcelona that publish regular articles in reputable journals.
- Cooperate with other groups at the national and international levels.

### DOCTORAL THESES DEFENDED

- Bagué Rosell, Sílvia. Capacitat pronòstica de l'expressió de gens relacionats amb el metabolisme de la glucosa en el control local dels pacients





## 05.1.2 Oncohematologic Diseases Area

amb carcinoma de cap i coll. 17/02/2023. Universitat Autònoma de Barcelona. Supervisors: Avilés Jurado, Francesc Xavier; Camacho Perez de Madrid, Mercedes; León i Vintró, Xavier. <http://hdl.handle.net/10803/688678>

## SCIENTIFIC PRODUCTION

- Álamo P, Parladé E, Favaro MTP, Gallardo A, Mendoza R, Ferreira LCS, Roher N, Mangues R, Villaverde A, Vázquez E. Probing the Biosafety of Implantable Artificial Secretory Granules for the Sustained Release of Bioactive Proteins. *ACS Applied Materials & Interfaces*. 2023; 15(33). DOI:10.1021/acsami.3c08643. PMID:37614001. IF:9,500 (Q1/2D). Document type: Article.
- Álvarez Álvarez R, Manzano A, Agra Pujol C, Artigas Raventós V, Correa R, Cruz Jurado J, Fernández JA, García Del Muro X, Gonzalez JA, Hindí N, Lozano Lominchar P, Martínez-Trufero J, Méndez R, Muñoz M, Muñoz Casares C, Orbis Castellanos F, Orellana Fernández R, Paniagua González M, Redondo A, Valverde Morales C, Asencio JM. Updated Review and Clinical Recommendations for the Diagnosis and Treatment of Patients with Retroperitoneal Sarcoma by the Spanish Sarcoma Research Group (GEIS). *Cancers*. 2023; 15(12):3194. DOI: 10.3390/cancers15123194. PMID: 37370803. IF:5,200 (Q2/4D). Document type: Review.
- Álvarez R, Dols O, El Bounasri S, López L, Trujillo JC, Reyes D, Suárez X, Cortés E, Illa I, Gallardo E. Reduced Number of Thymoma CTLA4-Positive Cells Is Associated With a Higher Probability of Developing Myasthenia Gravis. *Neurology-Neuroimmunology & Neuroinflammation*. 2023; 10(2):e200085. DOI:10.1212/NXI.0000000000200085. PMID:36697230. IF:8,800 (Q1/1D). Document type: Article.
- Arqueros C, Salazar J, Gallardo A, Andrés M, Tibau A, Bell OL, Artigas A, Lasa A, Cajal T, Lerma E, Barnadas A. Secreted Protein Acidic and Rich in Cysteine (SPARC) Polymorphisms in Response to Neoadjuvant Chemotherapy in HER2-Negative Breast Cancer Patients. *Biomedicine*. 2023; 11(12):3231. DOI:10.3390/biomedicine11123231. PMID:38137452. IF:4,700 (Q1/3D). Document type: Article.
- Barca EG, Tomas L, Esteve A, Rodríguez M, Gato L, Alonso R, García AM, Cordoba R, Monter A, Bastos M, Burgues JMB, Sayas MJ, Alegria MCV, Sánchez JJ, Pellicer MR, Henriquez HDL, de Ona R, Cabezudo ME, Infante MS, Hernandez J, Sanz R, Blanco O, Mozos A, Climent F, Piris MA. Extranodal natural killer/T-cell lymphoma nasal type in a western population: Molecular profiling identifies new therapeutic targets. *AMERICAN JOURNAL OF HEMATOLOGY*. 2023; 98(6):E134-E138. DOI:10.1002/ajh.26904. PMID:36882876. IF:12,800 (Q1/1D). Document type: Letter.
- Barrabes C, Arandes J, Armillas L, Posada RA, Koptseva I, Fumagalli C, Pinol D, Salleras M. Sarcomatoid transformation of a basal cell carcinoma following treatment with hedgehog inhibitors. *BRITISH JOURNAL OF DERMATOLOGY*. 2023; 189(4)DOI:10.1093/bjd/ljad206. PMID:37378960. IF:10,300 (Q1/1D). Document type: Letter.
- Carmona E, Aguado M, Tubau C, Sánchez S, Mozos A, Sullivan I, Spertino J. Epidermolysis bullosa acquisita induced by atezolizumab. *JOURNAL DER DEUTSCHEN DERMATOLOGISCHEN GESELLSCHAFT*. 2023; DOI:10.1111/ddg.15203. PMID:37658659. IF:3,600 (Q1/3D). Document type: Letter.
- Cosio BG, Shafiek H, Iglesias A, Mosteiro M, Gonzalez A, Rodríguez M, García M, Busto E, Martin J, Mejías L, Benito A, López L, Gómez C. Validation of a Pathological Score for the Assessment of Bronchial Biopsies in Severe Uncontrolled Asthma: Beyond Blood Eosinophils. *ARCHIVOS DE BRONCONEUMOLOGIA*. 2023; 59(8)DOI:10.1016/j.arbres.2023.05.014. PMID:37414638. IF:8,000 (Q1/2D). Document type: Article.
- D'Angelo E, Espinosa I, Felicioni L, Buttitta F, Prat J. Ovarian high-grade serous carcinoma with transitional-like (SET) morphology: a homologous recombination-deficient tumor. *HUMAN PATHOLOGY*. 2023; 141DOI:10.1016/j.humpath.2023.08.010. PMID:37673346. IF:3,300 (Q2/5D). Document type: Article.
- Escuin D, López L, Bell O, Mora J, García B, Moral A, Clos M, Boronat L, Arqueros C, Barnadas A. Circulating miRNA Expression Is Inversely Correlated with Tumor Tissue or Sentinel Lymph Nodes in Estrogen Receptor-Positive Early Breast Cancer Patients. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(17):13293.



## 05.1.2 Oncohematologic Diseases Area

- DOI:10.3390/ijms241713293. PMID:37686099. IF:5,600 (Q1/3D). Document type: Article.
- Español P, Rovira R, Caruana P, Luna-Guibourg R, Soler C, Teixeira N, Rodríguez F, Gallardo A, Edwards M, Porta O, Gámez M, Sánchez O, Llubra E, Corchero JL, Céspedes MV. Dopamine receptors D1 and D2 show prognostic significance and potential therapeutic applications for endometrial cancer patients. *Gynecol Oncol.* 2023 ;176:25-35. DOI:10.1016/j.ygyno.2023.06.019. PMID: 37437489. IF: 4,700 (Q1/2D). Document Type: Article.
  - Espinosa I, D'Angelo E, De Brot L, Prat J. Malignant rhabdoid tumors of the vulva versus epithelioid sarcomas: a clinicopathologic, immunohistochemical, and molecular genetics study. *HUMAN PATHOLOGY.* 2023; 135. DOI:10.1016/j.humpath.2023.02.006. PMID:36863690. IF:3,300 (Q2/5D). Document type: Article.
  - Frezza AM, Stacchiotti S, Chibon F, Coindre JM, Italiano A, Romagnosa C, Bagué S, Dei AP, Braglia L, Palmerini E, Quagliuolo V, Broto JM, Pousa AL, Grignani G, Brunello A, Blay JY, Beveridge RD, Lugowska I, Lesluyes T, Maestro R, Merlo FD, Casali PG, Gronchi A. CINSARC in high-risk soft tissue sarcoma patients treated with neoadjuvant chemotherapy: Results from the ISG-STs 1001 study. *Cancer Medicine.* 2023; 12(2)DOI:10.1002/cam4.5015. PMID:35848358. IF:4,000 (Q2/4D). Document type: Article.
  - Fumagalli C, Orellana R, Ferre M, Gonzalez A, Catusus L, Vazquez T, Sebio A, López A, Llauger J, Peiro A, Antonescu CR. Expanding the molecular landscape of undifferentiated sarcomas of bone with a novel *EWSR1-SSX3* gene fusion. *GENES CHROMOSOMES & CANCER.* 2023; 63(1)DOI:10.1002/gcc.23215. PMID:38050902. IF:3,700 (Q2/4D). Document type: Article.
  - Gené M, Cuatrecasas M, Amat I, Veiga JA, Fernández MJ, Fusté V, Tarragona J, Jurado I, Fernández R, Martínez C, Alenda C, Zac C, Ortega de la Opra P, Fernández MT, Esteller M, Musulen E. Alterations in p53, Microsatellite Stability and Lack of MUC5AC Expression as Molecular Features of Colorectal Carcinoma Associated with Inflammatory Bowel Disease. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.* 2023; 24(10):8655. DOI:10.3390/ijms24108655. PMID:37240002. IF:5,600 (Q1/3D). Document type: Article.
  - León X, Bague S, Holgado A, Quer M, Terra X, Camacho M, Aviltés FX. Relationship between transcriptional expression of pyruvate dehydrogenase and local control of disease in patients with oral cavity carcinomas. *Acta Otorrinolaringologica Española.* 2023; 74(6)DOI:10.1016/j.otorri.2023.05.001. Document type: Article.
  - Martí D, Gougol A, Gomez C, Jamali A, Abo A, Morales D, Jimenez A, Burns K, Bawa A, Hernandez A, Pujol C, Alvarado E, Szafranska J, Chiu WK, Villagrana A, Ventura M, Gandicheruvu H, Lluch P, Chen HW, Rachakonda V, Duarte A, Batailler R. Prevalence and clinical impact of alcohol withdrawal syndrome in alcohol-associated hepatitis and the potential role of prophylaxis: a multinational, retrospective cohort study. *Eclinicalmedicine.* 2023; 61:102046. DOI:10.1016/j.eclinm.2023.102046. PMID:37415844. IF:15,100 (Q1/1D). Document type: Article.
  - Martínez C, Alba L, Carrasco LI, Serna N, Imedio L, Gallardo A, Casanova I, Unzueta U, Vazquez E, Mangues R, Villaverde A. Lymphocyte infiltration and antitumoral effect promoted by cytotoxic inflammatory proteins formulated as self-assembling, protein-only nanoparticles. *BIOMEDICINE & PHARMACOTHERAPY.* 2023; 164:114976. DOI:10.1016/j.biopha.2023.114976. PMID:37276641. IF:7,500 (Q1/1D). Document type: Article.
  - Medina E, García A, Gallardo A, Álamo P, Alba L, Unzueta U, Villaverde A, Vázquez E, Casanova I, Mangues R. Potent Anticancer Activity of CXCR4-Targeted Nanostructured Toxins in Aggressive Endometrial Cancer Models. *Cancers.* 2023; 15(1):85. DOI:10.3390/cancers15010085. PMID:36612081. IF:5,200 (Q2/3D). Document type: Article.
  - Navarro M, Estadella I, Benavente A, Orellana R, Petit A, Ferreres JC, Felipe A. The Phosphorylation of Kv1.3: A Modulatory Mechanism for a Multifunctional Ion Channel. *Cancers.* 2023; 15(10):2716. DOI:10.3390/cancers15102716. PMID:37345053. IF:5,200 (Q2/3D). Document type: Review.



## 05.1.2 Oncohematologic Diseases Area

- Nunez Y, García A, Falgas A, Serna N, Sánchez L, Garrido A, Sierra J, Gallardo A, Unzueta U, Vázquez E, Villaverde A, Mangues R, Casanova I. T22-PE24-H6 Nanotoxin Selectively Kills CXCR4-High Expressing AML Patient Cells In Vitro and Potently Blocks Dissemination In Vivo. *Pharmaceutics*. 2023; 15(3):727. DOI:10.3390/pharmaceutics15030727. PMID:36986589. IF:5,400 (Q1/2D). Document type: Article.
- Revilla G, Ruiz L, Vallverdu NF, Santamaria P, Morral A, Perez JI, Li CD, Fuste V, Lerma E, Corcoy R, Pitoia F, Escola JC, Mato E. Low-Density Lipoprotein Receptor Is a Key Driver of Aggressiveness in Thyroid Tumor Cells. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(13):11153. DOI:10.3390/ijms241311153. PMID:37446330. IF:5,600 (Q1/3D). Document type: Article.
- Rusiñol L, Mozos A, Yélamos O. Disseminated Monomorphic Pink Papules. *JAMA Dermatology*. 2023; 159(12)DOI:10.1001/jamadermatol.2023.3586. PMID:37938840. IF:10,900 (Q1/1D). Document type: Editorial Material.
- Sánchez L, Paul T, Martori C, Font J, Sanjurjo L, Aran G, Tellez E, Blanco J, Carrillo J, Ito M, Tuttolomondo M, Ditzel HJ, Fumagalli C, Tapia G, Sidorova J, Masnou H, Fernández MA, Lozano JJ, Vilaplana C, Rodríguez A, Armengol C, Vallador AF, Kremer L, Sarriasa MR. Macrophage CD5L is a target for cancer immunotherapy. *EBioMedicine*. 2023; 91:104555. DOI:10.1016/j.ebiom.2023.104555. PMID:37054630. IF:11,100 (Q1/1D). Document type: Article.
- Serret Miralles P, Orellana Fernández R, Parra Parente T, García-Chamón Brígido RB, Carrera Salas R. Tumor de células gigantes óseo en arco costal, tratado con denosumab. Reporte de un caso [Giant cell tumour of bone in the rib cage treated with denosumab. A case report]. *Rev Esp Patol*. 2023; 56(2):119-123. DOI: 10.1016/j.patol.2021.04.002. PMID: 37061238. Document type: Article.
- Voltà E, Alba L, Serna N, Casanova I, López H, Gallardo A, Sánchez A, Villaverde A, Unzueta U, Vázquez E, Mangues R. High-precision targeting and destruction of cancer-associated PDGFR-β(+) stromal fibroblasts through self-assembling, protein-only nanoparticles. *Acta Biomaterialia*. 2023; 170DOI:10.1016/j.actbio.2023.09.001. PMID:37683965. IF:9,700 (Q1/1D). Document type: Article.
- Zampacorta C, Pasciuto MP, Ferro B, Lucidi A, Maestro AS, Espinosa I, D'Angelo E, Prat J. Placental site trophoblastic tumor (PSTT): a case report and review of the literature. *Pathologica*. 2023; 115(2)DOI:10.32074/1591-951X-873. PMID:37114629. Collet R, Olmedo G, Ruiz I, Martínez A, Rodríguez B, Bernal S, Kulisevsky J, Pagonabarraga J. Late-Onset Beta-Propeller Protein-Associated Neurodegeneration: A Case Report. *Movement Disorders Clinical Practice*. 2023; 10(8). DOI:10.1002/mdc3.13811. PMID:37635772. IF:4,000 (Q2/4D). Document type: Review.

## Otorhinolaryngology and Head and Neck Cancer

### Group leader

Quer Agustí, Miquel (FGS)

### Researchers

Casasayas Plass, Maria (FGS)

De Juan Beltran, Julia (FGS)

Gras Cabrerizo, Juan Ramon (FGS)

Holgado Clua, Anna (FGS)

Kolanczak, Katarzyna Alicj (FGS)

Leon Vintro, Xavier (FGS)

López Vilas, Montserrat (FGS)

Orus Dotu, César (FGS)

Pujol Olmo, Albert (FGS)

Valero Mayor, Cristina (FGS)

Vazquez López, Cristina (FGS)

Venegas Pizarro, Maria Del Prado (FGS)



### DESCRIPTION

Our group is dedicated to research related to Otorhinolaryngology and Head and Neck tumors, both at a clinical and translational level.

The main area of research of our group is Head and Neck Cancer. In this field, we have a large database of all Head and Neck Cancers treated in our Hospital since 1985. We research on clinical aspects, as well as the study of genetic, molecular, or inflammatory factors that are relevant to prognosis and/or response to different treatments. In recent years we also focused on the use of nanoparticles in the treatment of head and neck cancer. In this field, we have permanent and strong collaborations. Inside the IR we collaborate with two groups mainly: Oncogenesis and antitumour drugs (Dr. Ramon Mangues) and Genomics of Complex Diseases (Dr. Mercedes Camacho). Outside our institution we also have permanent collaborations with national and international groups.

Also, we are dedicated to clinical studies in endoscopic nasal and skull base surgery. Finally we work also on different otological problems, mainly genetic deafness with strong collaboration with the Genetic Department.

### MAIN LINES OF RESEARCH

- Head and Neck Cancer.
- Endoscopic nasal and skull base surgery.
- Otologic genetic disorders.

### ACTIVE GRANTS

- Leon Vintro, Xavier. Evaluación de nanopartículas para la entrega dirigida de fármacos contra células tumorales CXCR4+ en modelos in vitro y murinos.



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nos de Carcinoma Escamoso de Cabeza y Cuello. PI19/01661. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 125.840,00 €.

- Quer Agustí, Miquel. Nanopartículas dirigidas al estroma tumoral como nuevo tratamiento para el cáncer escamoso de cabeza y cuello. PI21/00232. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 159.720,00 €.

### DOCTORAL THESES DEFENDED

- Bagué Rosell, Sílvia. Capacitat pronòstica de l'expressió de gens relacionats amb el metabolisme de la glucosa en el control local dels pacients amb carcinoma de cap i coll. 17/02/2023. Universitat Autònoma de Barcelona. Supervisors: Avilés Jurado, Francesc Xavier; Camacho Perez de Madrid, Mercedes; León i Vintró, Xavier. <http://hdl.handle.net/10803/688678>.
- Casamitjana Claramunt, José Francisco. Detecció del carcinoma de laringe mitjançant videolaringoscopia amb imatge d'autofluorescència AFI. 25/04/2023. Universitat Autònoma de Barcelona. Supervisors: Quer Agustí, Miquel; Roca-Ribas Serdà, Francesc. <http://hdl.handle.net/10803/690354>.
- Ramírez Ruiz, Rosa Delia. La electromiografía laríngea en las alteraciones del movimiento de las cuerdas vocales. 10/02/2023. Universitat Autònoma de Barcelona. Supervisors: Quer, Miquel; Sandoval Puig, Marta. <http://hdl.handle.net/10803/688681>.

### SCIENTIFIC PRODUCTION

- Chiesa CM, González JA, Genden EM, Piazza C, Guntinas O, Vander V, Kowalski LP, López F, Quer M, Rodrigo JP, Sanabria Á, Fernández V, Suárez C, Cohen O, de Bree R, Shaha AR, Makitie AA, Ferlito A. Complications related to the Cook-Swarz implantable Doppler probe use in head and neck microvascular reconstruction: a systematic review. EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY. 2023; 280(1)DOI:10.1007/s00405-022-07577-3. PMID:35941283. IF:2,600 (Q2/3D). Document type: Review.
- Chiesa CM, González JA, Larruscain E, Sistiaga JA, Quer M, León X, Martínez P, López C, Mayo M, Medela A. Facial nerve palsy following parotid gland surgery: A machine learning prediction

outcome approach. World Journal Of Otorhinolaryngology - Head And Neck Surgery. 2023; 9(4) DOI:10.1002/wjo2.94. Document type: Article.

- Holgado A, León X, Quer M, Camacho V, Fernández A. Association between maximum standardized uptake value (SUV) and local control in patients with oropharyngeal carcinoma treated with radiotherapy. Acta Otorrinolaringologica Española. 2023; 74(4)DOI:10.1016/j.otorri.2022.05.004. PMID:37149130. Document type: Article.
- Laccourreye O, Mirghani H, Guiquerro S, Quer M, Giraud P. Perception of survival/laryngeal preservation trade-off in advanced T-stage laryngeal cancer. European Annals of Otorhinolaryngology-Head and Neck Diseases. 2023; 140(2) DOI:10.1016/j.anorl.2022.12.008. PMID:36642664. IF:2,500 (Q2/4D). Document type: Review.
- León X, Bague S, Holgado A, Quer M, Terra X, Camacho M, Avilés FX. Relationship between transcriptional expression of pyruvate dehydrogenase and local control of disease in patients with oral cavity carcinomas. Acta Otorrinolaringologica Española. 2023; 74(6)DOI:10.1016/j.otorri.2023.05.001. Document type: Article.
- León X, Farré N, Montezuma L, Holgado A, Vázquez R, Neumann E, Quer M. Results of radiotherapy in oropharyngeal carcinomas. Acta Otorrinolaringologica Española. 2023; 74(3)DOI:10.1016/j.otorri.2022.04.002. PMID:37149134. Document type: Article.
- León X, Gimenez A, de Juan J, Rodríguez C, Quer M, Pujol A. Is long-term screening for lung cancer justified in patients with head and neck carcinoma?. Acta Otorrinolaringologica Española. 2023; 74(5)DOI:10.1016/j.otorri.2022.05.005. PMID:36241026. Document type: Article.
- León X, Llansana A, Pérez L, García J, Valero C, Quer M, Camacho M. Predictive capacity of FAT1 transcriptional expression in patients with head and neck squamous cell carcinomas treated with radiotherapy. Acta Otorrinolaringologica Española. 2023; 74(6)DOI:10.1016/j.otorri.2023.03.003. PMID:37931687. Document type: Article.
- León X, Pujals G, Sauter B, Neumann E, Pujol A, Quer M. Differential characteristics of patients with squamous cell carcinoma of the head and neck with no history of tobacco or alco-



## 05.1.2 Oncohematologic Diseases Area

- hol use. *Acta Otorrinolaringologica Española*. 2023; 74(1)DOI:10.1016/j.otorri.2022.02.003. PMID:36709798. Document type: Article.
- Puiggrós IV, Moreno EG, Dotu CO, Agustí M, Díaz FL. Diagnostic Efficacy of High-Resolution Computed Tomography Densitometry for Diagnosing Otosclerosis. *OTOLOGY & NEUROTOLOGY*. 2023; 44(10)DOI:10.1097/MAO.0000000000004012. PMID:37733986. IF:2,100 (Q3/6D). Document type: Article.
  - Pujol A, Llansana A, Pérez L, Sauter B, Quer M, León X. Second esophageal neoplasms after head and neck index tumor: Incidence, risk factors and prognosis. *Acta Otorrinolaringologica Española*. 2023; 74(6)DOI:10.1016/j.otoeng.2022.10.009. PMID:37149128. Document type: Article.
  - Pujol A, Llansana A, Pérez L, Sauter B, Quer M, León X. Second esophageal neoplasms after head and neck index tumor: Incidence, risk factors and prognosis. *Acta Otorrinolaringologica Española*. 2023; 74(6)DOI:10.1016/j.otorri.2022.10.005. Document type: Article.
  - Rodrigo JP, Sánchez M, Triantafyllou A, de Bree R, Mäkitie AA, Franchi A, Hellquist H, Saba NF, Stenman G, Takes RP, Valero C, Zidar N, Ferlito A. Neutrophil to Lymphocyte Ratio in Oropharyngeal Squamous Cell Carcinoma: A Systematic Review and Meta-Analysis †. *Cancers*. 2023; 15(3):802. DOI:10.3390/cancers15030802. PMID:36765760. IF:5,200 (Q2/3D). Document type: Review.
  - Sansa A, Valero C, Holgado A, Vásquez R, Quer M, Patel SG, León X. External validation of the H-index (host index) in patients with head and neck squamous cell carcinomas. *HEAD AND NECK- JOURNAL FOR THE SCIENCES AND SPECIALTIES OF THE HEAD AND NECK*. 2023; 45(1) DOI:10.1002/hed.27224. PMID:36225167. IF:2,900 (Q1/2D). Document type: Article.

## Oncology/Haematology and Transplantation

### Group leader

Sierra Gil, Jordi (FGS)

### Researchers

Briones Meijide, Javier (FGS)  
 Caballero Gonzalez, Ana Carolina (FGS)  
 Escriba García, Laura (IR)  
 Esquirol Sanfeliu, Albert (FGS)  
 García Cadenas, Irene (FGS)  
 López Pardo, Jordi (FGS)  
 Martino Bofarull, Rodrigo (FGS)  
 Moreno Atanasio, Carolina (FGS)  
 Nuñez Amela, Yaiza (IR)  
 Oñate Hospital, Guadalupe (IR)  
 Pujol Fernández, Paula (IR)  
 Saavedra Gerosa, Silvana Daniela (FGS)

### Research Technicians

Abril García, Cintia (IR)  
 Arguello De Tomas, Miquel (IR)  
 Artigas Baleri, Alicia (IR)  
 Bober , Anna (IR)  
 Castellet Farrus, Helena (IR)  
 De La Riva Buissen, Antonio (IR)  
 De Rueda Gamboa, Maria Jessica (IR)  
 Escudero López, Eva (IR)  
 Ganuza Canals, Miriam (IR)  
 Grau Novellas, Neus (IR)  
 Guardiola Perello, Maria (IR)  
 Iranzo Ribera, Eva (IR)  
 Jara Bustamante, Paola (IR)  
 López Moreno, Sónia (IR)  
 Miqueleiz Alamos, Sara (IR)  
 Montserrat Torres, Rosanna (IR)  
 Perez García, Nuria (IR)  
 Rodríguez Fernández, Diana (IR)  
 Rosal Muntadas-Prim, Maria Josefa (IR)



### DESCRIPTION

The group develops translational and clinical research in the field of blood cancer and hematopoietic transplants, focusing on the prognostic impact of molecular markers and promoting early and late clinical trials with innovative therapies. The group also includes other well-known clinicians and scientists with prominent roles in International research groups.

The group is intensively focused on the study of innovative genetically modified T cells with antigen-specific chimeric receptors (CARs) and their clinical application in patients with hematological cancer.

### MAIN LINES OF RESEARCH

- Clinical trials of CART cells for Hodgkin and B cell non-Hodgkin Lymphoma. J. Briones, AC Caballero.
- Development of memory-enriched CART cells under GMP conditions for clinical application. L. Escribá, C. Ujaldón, J. Briones, AC Caballero.
- Preclinical development of fourth-generation CART cells for hematological malignancies. E. Escudero, L. Escriba, J. Briones.
- Study of the prognostic value of clinical and biological parameters in acute myeloid leukemia. J. Sierra, A. Garrido, G. Oñate.
- Study of the molecular and cellular pathophysiology of lymphoma, myeloma, and chronic lymphocytic leukemia. J. Briones, AC Caballero, J. López, M. Argüello, A. Muntañola.
- Design of new modalities of chemotherapy, biotherapy and drug treatment targeting molecular



### 05.1.2 Oncohematologic Diseases Area

mechanisms. J, Sierra, J. Briones, AC Caballero, J. López, M. Argüello, A Muntañola.

- Design of new modalities of haematopoietic stem-cell transplantation. R. Martino, I. García Cadenas, A. Esquirol, S. Redondo.

#### SCIENTIFIC CHALLENGES

- Development of academic CAR-T cell therapies.
- Novel CART generation with enhanced antitumor efficacy.
- Implementation and full development of Phase I/II clinical trials with In-House created CART cells.
- Identify new prognostic parameters for risk and therapeutic stratifications in leukemia and lymphoma.
- Molecularly characterize acute myeloid leukemia and determine the prognostic value of known genes and other genes of uncertain significance (with the Diagnosis Hematology Laboratory).
- Establish Liquid biopsy for monitoring hematological neoplasm: acute leukemia, lymphoma and myeloma.
- Reduce toxicity and increase availability of allogeneic transplants. New conditioning treatments.

#### ACTIVE GRANTS

- Briones Mejjide, Javier. Non-invasive tumor immunoglobulin gene next generation sequencing from circulating tumor DNA in diffuse large B cell lymphoma: prognostic implications and assessment of tumor response. GILEAD 2019-1. Gilead Sciences INC. Duration: 2019-2023. 49.995,00 €.
- Briones Mejjide, Javier. Ensayo fase I-II de inmunoterapia con células HSP-CAR30 para pacientes con linfoma de HODGKIN y linfoma T con expresión CD30 refractario o en recidiva. ICI19/00060. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 1.175.051,90 €.
- Moreno Atanasio, Carolina. Nuevas estrategias para monitorizar la enfermedad mínima residual (EMR) en la Leucemia Linfática Crónica. PI19/00753. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 99.220,00 €.
- Oñate Hospital, Guadalupe. Contractes Rio Hortega 2020. CM20/00061. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 53.732,00 €.

- Sierra Gil, Jordi. Humanized nanomedicines selectively killing CXCR4+ cancer cells for Acute Myeloid Leukemia therapy. MARATO 201941-30. Fundació La Marató de TV3. Duration: 2020-2023. 18.750,00 €.
- Pratcorona Marta/Sierra Gil, Jordi. Poblaciones subclonales de LMA y células madre leucémicas identificadas mediante secuenciación de ARN de una sola célula y citometría de flujo multiparamétrica: impacto en la respuesta al tratamiento. PI20/01621. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 304.920,00 €.
- Briones Mejjide, Javier/Sierra Gil, Jordi. RICORS TERAV. RD21/0017/0011. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 169.222,90 €.

#### GRANTS AWARDED

- Briones Mejjide, Javier. Consorcio Estatal en Red para el desarrollo de Medicamentos de Terapias Avanzadas (CERTERA). CER22/0012. Duration: 2023-2026. 1.320.633 €.

#### DOCTORAL THESES DEFENDED

- Caballero González, Ana Carolina. Immunotherapy with memory "STEM" T-cells modified with chimeric antigen-specific receptors (CARs) for patients with lymphoid neoplasms. 12/06/2023. Universitat Autònoma de Barcelona. Supervisors: Briones Mejjide, Francisco Javier; Álvarez Fernández, Carmen; Sierra Gil, Jordi. <http://hdl.handle.net/10803/690750>.
- Escudero López, Eva. Desarrollo de nuevas terapias de células T con receptor de antígeno quimérico (CAR) para linfoma. 20/11/2023. Universitat Autònoma de Barcelona. Supervisors: Briones Mejjide, Francisco Javier; Álvarez Fernández, Carmen; Vidal Alcorisa, Sílvia.
- Oñate Hospital, Guadalupe. Impacto de las co-mutaciones y la terapia dirigida en la leucemia mieloide aguda con mutaciones. 20/10/2023. Universitat Autònoma de Barcelona. Supervisors: Sierra Gil, Jordi; Pratcorona Canela, Marta.
- Redondo Velao, Sara. Nuevas estrategias en la prevención y tratamiento de la enfermedad injerto contra receptor: Ciclofosfamida postrasplante y terapia con Ruxolitinib. 16/10/2023. Universitat Autònoma de Barcelona. Supervisors: Martino Bojarull, Rodrigo; Sierra Gil, Jordi.





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## SCIENTIFIC PRODUCTION

- Albiol N, Lynton E, Aso O, Moga E, Vidal S, Gomez L, Santiago JA, Triquell M, Roch N, Lazaro E, Gonzalez I, López J, Esquirol A, Sierra J, Martino R, García I. mRNA-1273 SARS-CoV-2 vaccine in recently transplanted allogeneic hematopoietic cell transplant recipients: Dynamics of cellular and humoral immune responses and booster effect. *LEUKEMIA RESEARCH*. 2023; 132:107347. DOI:10.1016/j.leukres.2023.107347. PMID:37356281. IF:2,700 (Q3/7D). Document type: Article.
- Arguello M, Albiol N, Jara P, García I, Redondo S, Esquirol A, Novelli S, Saavedra S, Martino R, Nomdedeu J, Sierra J, Mora A, Moreno C. Evolution in the frontline treatment of patients with chronic lymphocytic leukemia: experience from one European center. *LEUKEMIA & LYMPHOMA*. 2023; 64(10)DOI:10.1080/10428194.2023.2232489. PMID:37452739. IF:2,600 (Q3/7D). Document type: Article.
- Arguello M, Albiol N, Moreno C. Frontline therapy in Chronic Lymphocytic Leukemia. *ACTA HAEMATOLOGICA*. 2023; DOI:10.1159/000534730. PMID:37899041. IF:2,400 (Q3/8D). Document type: Review.
- Bailén R, Alenda R, Herruzo B, Acosta C, Vallés A, Esquirol A, Fonseca M, Solán L, Sánchez I, Bautista G, Bento L, López O, Pérez A, Torrent A, Zanabili J, Calbacho M, Moreno MÁ, Pascual MJ, Guerra L, China A, García I, López L, Boix F, López JL, Humala K, Duarte R, Sampol A, Heras I, Vicario JL, Balas A, Oarbeascoa G, Fernández P, Anguita J, Kwon M, Grupo Español de Trasplante Hematopoyetico Terapia Celular (GETH Y. Results of haploidentical transplant in patients with donor-specific antibodies: a survey on behalf of the Spanish Group of Hematopoietic Transplant and Cell Therapy. *Frontiers in Immunology*. 2023; 14:1165759. DOI:10.3389/fimmu.2023.1165759. PMID:37304258. IF:7,300 (Q1/3D). Document type: Article.
- Barba P, Morgades M, Montesinos P, Gonzalez J, Torrent A, Gil C, Bernal T, Tormo M, Mercadal S, Novoa S, García I, de Llano MPQ, Cervera M, Coll R, Bermudez A, Amigo ML, Monsalvo S, Esteve J, García R, Novo A, Rivas JMH, Cladera A, Martinez P, Serrano J, Artola MT, Soria B, Abella E, Vall F, Bergua J, Herrera P, Barrios D, Ribera JM, Spanish GRP. Impact of Center-related Characteristics and Macroeconomic Factors on the Outcome of Adult Patients With Acute Lymphoblastic Leukemia Treated With Pediatric-inspired Protocols. *Hemasphere*. 2023; 7(1):e810. DOI:10.1097/HS9.0000000000000810. PMID:36583094. IF:6,600 (Q1/3D). Document type: Letter.
- Baron F, Nagler A, Galimard JE, Sanz J, Versluis J, Forcade E, Chevallier P, Sirvent A, Anthias C, Kuball J, Furst S, Rambaldi A, Sierra J, von dem Borne PA, Gallego MP, Cluzeau T, Robinson S, Raiola AM, Labussièrre H, Byrne JL, Malfuson JV, Ruggeri A, Mohty M, Ciceri F. Cord blood transplantation for AML: Comparable LFS in patients with de novo versus secondary AML in CR1, an ALWP/EBMT study. *BRITISH JOURNAL OF HAEMATOLOGY*. 2023; DOI:10.1111/bjh.19130. PMID:37784256. IF:6,500 (Q1/3D). Document type: Article.
- Bastos M, Gutierrez A, Iacoboni G, López L, Reguera JL, Abrisqueta P, Delgado J, Terol MJ, Hernani R, Martínez N, Ortíz V, Bailen R, Gomez I, Caballero A, Sanz J, Guerra L, Luzardo H, Mussetti A, Jiménez A, Sancho JM, Sureda A, Pérez A, Barba P, Kwon M, Martín García A. Impact of SCHOLAR-1 Criteria on Chimeric Antigen Receptor T Cell Therapy Efficacy in Aggressive B Lymphoma: A Real-World GELTAMO/GETH Study. *Transplantation And Cellular Therapy*. 2023; 29(12) DOI:10.1016/j.jtct.2023.08.026. PMID:37659694. IF:3,200 (Q2/5D). Document type: Article.
- Berengua C, Martino R. Quantitative PCR for the Diagnosis of HCMV Pneumonia in HSCT Recipients and Other Immunocompromised Hosts. *Hemato*. 2023; 4(1)DOI:10.3390/hemato4010008. Document type: Review.
- Berengua C, Miro E, Gutierrez C, Sánchez M, Mulero A, Ramos P, del Cuerpo M, Torrego A, García I, Pajares V, Navarro F, Martino R, Rabella N. Detection of cytomegalovirus in bronchoalveolar lavage fluid from immunocompromised patients with pneumonitis by viral culture and DNA quantification. *JOURNAL OF VIROLOGICAL METHODS*. 2023; 317:114743. DOI:10.1016/j.jviromet.2023.114743. PMID:37116585. IF:3,100 (Q2/5D). Document type: Article.



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- Caballero AC, Escribà L, Pujol P, Escudero E, Ujal-dón C, Montserrat R, Sierra J, Alvarez C, Briones J. High CAR intensity of expression confers enhanced antitumor effect against lymphoma without functional exhaustion. *CANCER GENE THERAPY*. 2023; 30(1)DOI:10.1038/s41417-022-00518-6. PMID:36031661. IF:6,400 (Q1/2D). Document type: Article.
- Coll CF, de la Fe MM, García LP, Vaz CP, Fernando M, Almorox RB, García I, Munoz MC, Ripa TZ, Al JZ, Novoa S, Aguado B, Catarineu AT, López O, Bofarull RM, Kwon M, Campos A, Barrigon DC, Santasusana JMR. Prognosis of patients with acute lymphoblastic leukaemia relapsing after allogeneic stem cell transplantation. *EUROPEAN JOURNAL OF HAEMATOLOGY*. 2023; 110(6) DOI:10.1111/ejh.13947. PMID:36813736. IF:3,100 (Q3/6D). Document type: Article.
- Cruz D, Rodríguez R, González M, García I, de la Cámara R, Heras I, Buño I, Santos N, Lloveras N, Velarde P, Tuset E, Martínez C, González M, Sanz GF, Ferrá C, Sampol A, Coll R, Pérez JA, López J, Jurado M, Gallardo D, the GvHD/Immunotherapy Working Party of the Spanish Group of Hematopoietic T. LAG3 genotype of the donor and clinical outcome after allogeneic transplantation from HLA-identical sibling donors. *Frontiers in Immunology*. 2023; 14:1066393. DOI:10.3389/fimmu.2023.1066393. PMID:36742309. IF:7,300 (Q1/3D). Document type: Article.
- Del Principe MI, Seidel D, Criscuolo M, Dargenio M, Racil Z, Piedimonte M, Marchesi F, Nadali G, Koehler P, Fracchiolla N, Cattaneo C, Klimko N, Spolzino A, Karapinar DY, Demiraslan H, Duarte RF, Demeter J, Stanzani M, Melillo L, Basilico CM, Cesaro S, Paterno G, Califano C, Delia M, Buz-zatti E, Busca A, Cornely OA, Pagano L, Alakel N, Arsenijević VA, Camus V, Falces I, Itzhak L, Kouba M, Martino R, Sedlacek P, Weinbergerova B, FUN-GISCOPE Global Emerging F, SEIFEM E. Clinical features and prognostic factors of Magnusiomyces (*Saprochaete*) infections in haematology. A multicentre study of SEIFEM/Fungiscope. *MYCOSES*. 2023; 66(1)DOI:10.1111/myc.13524. PMID:36064299. IF:4,900 (Q1/2D). Document type: Article.
- Dickinson MJ, Barba P, Jäger U, Shah NN, Blaise D, Briones J, Shune L, Boissel N, Bondanza A, Maricanti L, Marchal A-L, Quinn DS, Yang J, Price A, Sohoni A, Treanor LM, Orlando EJ, Mataraza J, Davis J, Lu D, Zhu X, Engels B, Moutouh L, Brogdon JL, Moschetta M, Flinn IW. A Novel Autologous CAR-T Therapy, YTB323, with Preserved T-cell Stemness Shows Enhanced CAR T-cell Efficacy in Preclinical and Early Clinical Development. *Cancer Discovery*. 2023; 13(9)DOI:10.1158/2159-8290.CD-22-1276. PMID:37249512. IF:28,200 (Q1/1D). Document type: Article.
- Esquirol A, Cadenas IG, Novelli S, Garrido A, Caballero AC, Oñate G, López J, Redondo S, Argüello M, Saavedra S, Moreno C, Briones J, Sierra J, Martino R. Outcome improvement over time in reduced intensity conditioning hematopoietic transplantation: a 20-year experience. *ANNALS OF HEMATOLOGY*. 2023; DOI:10.1007/s00277-023-05530-w. PMID:37971549. IF:3,500 (Q2/5D). Document type: Article.
- Fernández J, Valdivia E, Esquirol A, Portos JM, Rovira M, Suarez M, Diaz C, Uria ML, Ortí G, Ferra C, Mussetti A, Paviglianiti A, Marsal J, Badell I, Lozano M, Gomez D, Azqueta C, Martorell L, Rubio N, García A, Villa J, Carreras E, Querol S. Development of an in-house bone marrow collection kit: The Catalan bone marrow transplantation group experience. *VOX SANGUINIS*. 2023; 118(9) DOI:10.1111/vox.13499. PMID:37533171. IF:2,700 (Q3/7D). Document type: Article.
- García CB, Sierro B, García E, Sanoja L, Muñoz R, Ruiz V, Jimenez MR, Delgado J, Molinos Á, Guijarro B, Carrasco I, Lucena J-M, García J-R, Blázquez C, Reguera JL, González M-F, Reinoso M, Briones J, Pérez JA, Caballero T. Monitoring of kinetics and exhaustion markers of circulating CAR-T cells as early predictive factors in patients with B-cell malignancies. *Frontiers in Immunology*. 2023; 14:1152498. DOI:10.3389/fimmu.2023.1152498. PMID:37122702. IF:7,300 (Q1/3D). Document type: Article.
- García I, Redondo S, Esquirol A, Portos JM, Novelli S, Saavedra S, Moreno C, Garrido A, Oñate G, López J, Caballero AC, Miqueleiz S, Argüello M, Briones J, Sierra J, Martino R. Successful Outcome in Patients with Myelofibrosis Undergoing Allogeneic Donor Hematopoietic Cell Transplantation Using Reduced Doses of Post-Transplantation Cyclophosphamide: Challenges and



## 05.1.2 Oncohematologic Diseases Area

- Review of the Literature. *Transplantation And Cellular Therapy*. 2023; 29(7):473.e1-473.e6. DOI:10.1016/j.jtct.2023.04.008. PMID:37086849. IF:3,200 (Q2/5D). Document type: Review.
- Kwon M, Iacoboni G, Reguera JL, López L, Morales RH, Ortiz V, Guerreiro M, Caballero AC, Domínguez MLG, Pina JMS, Mussetti A, Sancho JM, Bastos M, Catala E, Delgado J, Henriquez HL, Sanz J, Calbacho M, Bailén R, Carpio C, Ribera JM, Sureda A, Briones J, Hernandez JC, Cebrián NM, Martín JLD, Martín A, Barba P, behalf of GETH T, GELTAMO (Spanish Group of Lymphoma and Autologous Stem Cell T. Axicabtagene ciloleucel compared to tisagenlecleucel for the treatment of aggressive B-cell lymphoma. *HAEMATOLOGICA*. 2023; 108(1)DOI:10.3324/haematol.2022.280805. PMID:35770532. IF:10,100 (Q1/2D). Document type: Article.
  - Martín L, García I, López S, Martínez A, Vilalta N, Plaza M, Moret C, Vinuela A, Brown AA, Panousis NI, Buil A, Dermitzakis ET, Corrales I, Souto JC, Vidal F, Soria JM. Multiallelic Copy Number Variation in ORM1 is Associated with Plasma Cell-Free DNA Levels as an Intermediate Phenotype for Venous Thromboembolism. *THROMBOSIS AND HAEMOSTASIS*. 2023; 123(04)DOI:10.1055/s-0043-1760844. PMID:36696913. IF:6,700 (Q1/2D). Document type: Article.
  - Moia R, Dondolin R, De Propriis MS, Talotta D, Mouhssine S, Perutelli F, Reda G, Mattiello V, Rigolin GM, Motta M, Olivieri J, Fanin R, Perbellini O, Ferrarini I, Mauro FR, Del Giudice I, Laurenti L, Tomasso A, Gentile M, Frustaci AM, Tedeschi A, Gozzetti A, Stelitano C, Visco C, Moreno C, Forconi F, Marasca R, Coscia M, Rossi D, Foà R, Gaidano G. Long-term benefit of IGHV mutated patients in a real-life multicenter cohort of FCR-treated chronic lymphocytic leukemia. *HEMATOLOGICAL ONCOLOGY*. 2023; 41(3)DOI:10.1002/hon.3080. PMID:36190298. IF:3,300 (Q2/5D). Document type: Letter.
  - Moreno C, Solman IG, Tam CS, Grigg A, Scarfò L, Kipps TJ, Srinivasan S, Mali RS, Zhou C, Dean JP, Szafer E, Choi M. Immune restoration with ibrutinib plus venetoclax in first-line chronic lymphocytic leukemia: the phase 2 CAPTIVATE study. *Blood Advances*. 2023; 7(18)DOI:10.1182/bloodadvances.2023010236. PMID:37315225. IF:7,500 (Q1/2D). Document type: Article.
  - Munir T, Moreno C, Owen C, Follows G, Benjamini O, Janssens A, Levin MD, Osterborg A, Robak T, Simkovic M, Stevens D, Voloshin S, Vorobyev V, Yagci M, Ysebaert L, Qi KQ, Qi QY, Parisi L, Srinivasan S, Schuier N, Baeten K, Howes A, Caces DB, Niemann CU, Kater AP. Impact of Minimal Residual Disease on Progression-Free Survival Outcomes After Fixed-Duration Ibrutinib-Venetoclax Versus Chlorambucil-Obinutuzumab in the GLOW Study. *JOURNAL OF CLINICAL ONCOLOGY*. 2023; 41(21)DOI:10.1200/JCO.22.02283. PMID:37279408. IF:45,300 (Q1/1D). Document type: Article.
  - Muñoz A, Ay C, Grilz E, López S, Font C, Pachón V, Castellón V, Martínez V, Salgado M, Martínez E, Calzas J, Ortega L, Rupérez A, Salas E, Pabinger I, Soria JM. A Clinical-Genetic Risk Score for Predicting Cancer-Associated Venous Thromboembolism: A Development and Validation Study Involving Two Independent Prospective Cohorts. *JOURNAL OF CLINICAL ONCOLOGY*. 2023; 41(16)DOI:10.1200/JCO.22.00255. PMID:36730884. IF:45,300 (Q1/1D). Document type: Article.
  - Murthy HS, Zhang MJ, Chen K, Ahmed S, Deotare U, Ganguly S, Kansagra A, Michelis FV, Nishihori T, Patnaik MM, Abid MB, Aljurf M, Arai Y, Bacher U, Badar T, Badawy SM, Ballen K, Battiwalla M, Beitinjaneh A, Bejanyan N, Bhatt VR, Brown VI, Martino R, Cahn JY, Castillo P, Cerny J, Chhabra S, Copelan EA, Daly A, Dholaria B, Diaz MA, Freytes CO, Grunwald MR, Hashmi S, Hildebrandt GC, Jamy O, Joseph J, Kanakry CG, Khera N, Krem MM, Kuwatsuka Y, Lazarus HM, Lekakis LJ, Liu H, Modi D, Munshi P, Mussetti A, Palmisiano N, Patel SS, Rizzieri DA, Seo S, Shah MV, Sharma A, Solh MM, Solomon SR, Ulrickson ML, Ustun C, van der Poel MWM, Verdonck LF, Wagner JL, Wang TP, Wirk B, Zeidan AM, Litzow MR, Kebriaei P, Hourigan CS, Weisdorf DJ, Saber W, Kharfan MA. Allogeneic Hematopoietic Cell Transplantation for Blastic Plasmacytoid Dendritic Cell Neoplasm: a CIBMTR analysis. *Blood Advances*. 2023; 7(22)DOI:10.1182/bloodadvances.2023011308.



## 05.1.2 Oncohematologic Diseases Area

- PMID:37792849. IF:7,500 (Q1/2D). Document type: Article.
- Mussetti A, Bento L, Bastos M, Sansalvador BR, Albo C, Bailen R, Barba P, Benzaquen A, Briones J, Caballero AC, Campos A, Español I, Ferra C, López SG, Sierra P, Guerra LM, Hernani R, Iacoboni G, Ubieto A, Kwon M, Corral LL, López O, Munoz MCM, Martinez N, Gomez JM, Perez L, Ortf G, Ortiz V, Pascual MJ, Perera M, Perez A, Reguera JL, Sánchez JM, Sanz J, Torrent A, Yanez L, Varela R, Echechipia IC, Caballero D, Sureda A. Role of allogeneic hematopoietic cell transplant for relapsed/refractory aggressive B-cell lymphomas in the CART era. *BONE MARROW TRANSPLANTATION*. 2023; 58(6)DOI:10.1038/s41409-023-01949-x. PMID:36918682. IF:4,800 (Q1/2D). Document type: Article.
  - Nunez Y, García A, Falgas A, Serna N, Sánchez L, Garrido A, Sierra J, Gallardo A, Unzueta U, Vazquez E, Villaverde A, Mangues R, Casanova I. T22-PE24-H6 Nanotoxin Selectively Kills CXCR4-High Expressing AML Patient Cells In Vitro and Potently Blocks Dissemination In Vivo. *Pharmaceutics*. 2023; 15(3):727. DOI:10.3390/pharmaceutics15030727. PMID:36986589. IF:5,400 (Q1/2D). Document type: Article.
  - Onate G, Pratcorona M, Garrido A, Artigas A, Bataller A, Tormo M, Arnan M, Vives S, Coll R, Salamero O, Vall F, Sampol A, García A, Cervera M, Avila SG, Bargay J, Ortín X, Nomdedéu JF, Esteve J, Sierra J, Spanish Cooperative Study GRP. Survival improvement of patients with FLT3 mutated acute myeloid leukemia: results from a prospective 9 years cohort. *Blood Cancer Journal*. 2023; 13(1):69. DOI:10.1038/s41408-023-00839-1. PMID:37147301. IF:12,800 (Q1/1D). Document type: Article.
  - Perl AE, Larson RA, Podoltsev NA, Strickland S, Wang ES, Atallah E, Schiller GJ, Martinelli G, Neubauer A, Sierra J, Montesinos P, Recher C, Yoon S-S, Maeda Y, Hosono N, Onozawa M, Kato T, Kim H-J, Hasabou N, Nuthethi R, Tiu R, Levis MJ. Outcomes in Patients with FLT3-Mutated Relapsed/ Refractory Acute Myelogenous Leukemia Who Underwent Transplantation in the Phase 3 ADMIRAL Trial of Gilteritinib versus Salvage Chemotherapy. *Transplantation And Cellular Therapy*. 2023; 29(4):265.e1-265.e10. DOI:10.1016/j.jtct.2022.12.006. PMID:36526260. IF:3,200 (Q2/5D). Document type: Article.
  - Piñana JL, Heras I, Aiello TF, García I, Vazquez L, López J, Choraó P, Aroca C, García C, Arroyo I, Soler E, López L, Avendaño A, Arrufat A, García V, Arellano E, Hernández L, González C, Morell J, Hernández JA, Rodríguez P, Mico M, Guerreiro M, Campos D, Navarro D, Cedillo A, Martino R, Solano C, Infect Complications Subcomm S. Remdesivir or Nirmatrelvir/Ritonavir Therapy for Omicron SARS-CoV-2 Infection in Hematological Patients and Cell Therapy Recipients. *Viruses-Basel*. 2023; 15(10):2066. DOI:10.3390/v15102066. PMID:37896843. IF:4,700 (Q2/5D). Document type: Article.
  - Pinana JL, Martino R, Vazquez L, López L, Perez A, Choraó P, Avendano A, Pascual MJ, Sánchez A, Sanz G, Olave MT, Arroyo I, Tormo M, Villalon L, Conesa V, Gago B, Terol MJ, Villalba M, García V, Cabero A, Hernandez JA, Ferrer E, García I, Teruel A, Navarro D, Cedillo A, Sureda A, Solano C. SARS-CoV-2-reactive antibody waning, booster effect and breakthrough SARS-CoV-2 infection in hematopoietic stem cell transplant and cell therapy recipients at one year after vaccination. *BONE MARROW TRANSPLANTATION*. 2023; 58(5)DOI:10.1038/s41409-023-01946-0. PMID:36854892. IF:4,800 (Q1/2D). Document type: Article.
  - Pinana JL, Perez A, Choraó P, Guerreiro M, García I, Solano C, Martino R, Navarro D, Infect Complications Subcomm S. Respiratory virus infections after allogeneic stem cell transplantation: Current understanding, knowledge gaps, and recent advances. *Transplant Infectious Disease*. 2023; :e14117. DOI:10.1111/tid.14117. PMID:37585370. IF:2,600 (Q3/6D). Document type: Review.
  - Pinana JL, Vazquez L, Calabuig M, López L, Martin G, Villalon L, Sanz G, Conesa V, Sánchez A, Gago B, Facal A, Risco I, Olave MT, Espigado I, López J, Hernandez JA, Avendano A, Arroyo I, Ferrer E, García I, Gonzalez C, Roldan A, Ferrer B, Guerreiro M, Suarez M, Camara A, Campos D, Navarro D, Cedillo A, Sureda A, Solano C, Martino R, Spanish Hematopoietic Stem Cell TR. One-year breakthrough SARS-CoV-2 infection and correlates of protection in fully vaccinated hematological patients. *Blood Cancer Journal*.



## 05.1.2 Oncohematologic Diseases Area

- 2023; 13(1):8. DOI:10.1038/s41408-022-00778-3. PMID:36599843. IF:12,800 (Q1/1D). Document type: Article.
- Puertas B, González V, Sureda A, Moreno MJ, Oriol A, González E, Rosiñol L, López J, Escalante F, Martínez J, Carrillo E, Clavero E, Ríos R, Rey B, González AP, Dourdil V, De Arriba F, González S, Pérez J, Hernández MT, García A, Bargay J, Bladé J, Lahuerta JJ, San Miguel JF, Ocio EM, Mateos MV. Randomized phase II study of weekly carfilzomib 70 mg/m<sup>2</sup> and dexamethasone with or without cyclophosphamide in relapsed and/or refractory multiple myeloma patients. *HAEMATOLOGICA*. 2023; 108(10)DOI:10.3324/haematol.2022.282490. PMID:37102598. IF:10,100 (Q1/2D). Document type: Article.
  - Rafii H, Ruggeri A, Kenzey C, Sanz J, Peffault de Latour R, Esquirol A, Michel G, Chevallier P, Rubio MT, Cornelissen JJ, Michallet M, Volt F, Rivera MM, Scigliuolo GM, Cappelli B, Rocha V, Gluckman E. Outcomes of subsequent neoplasms after umbilical cord blood transplantation in Europe. *Blood Advances*. 2023; 7(10)DOI:10.1182/bloodadvances.2022007941. PMID:36350759. IF:7,500 (Q1/2D). Document type: Article.
  - Rampotas A, Sockel K, Panitsas F, Theuser C, Bornhauser M, Hernani R, Hernandez JC, Esquirol A, Avenoso D, Tsigotis P, Robin M, Czerw T, Helbig G, Roddie C, Lambert J, McLornan DP. Adoptive Immunotherapy via Donor Lymphocyte Infusions following Allogeneic Hematopoietic Stem Cell Transplantation for Myelofibrosis: A Real-World, Retrospective Multicenter Study. *Transplantation And Cellular Therapy*. 2023; 29(11)DOI:10.1016/j.jtct.2023.08.020. PMID:37633414. IF:3,200 (Q2/5D). Document type: Article.
  - Redondo S, De Dios A, Gomis M, Esquirol A, Aso O, Triquell M, Moreno ME, Riba M, Ruiz J, Blasco A, Tobajas E, Gonzalez I, Sierra J, Martino R, García I. Feasibility of a New Model of Care for Allogeneic Stem Cell Transplantation Recipients Facilitated by eHealth: The MY-Medula Pilot Study. *Transplantation And Cellular Therapy*. 2023; 29(6):385.e1-385.e8. DOI:10.1016/j.jtct.2023.03.016. PMID:36948273. IF:3,200 (Q2/5D). Document type: Article.
  - Redondo S, García I, Vila A, Esquirol A, Portos JM, Novelli S, Saavedra S, Moreno C, Garrido A, Arguello M, Onate G, López J, Caballero AC, Miqueleiz S, Briones J, Sierra J, Sancho G, Martino R. Sequence matters: Total body irradiation (TBI)-based myeloablative conditioning with post-transplant cyclophosphamide may reduce the early non relapse mortality compared with pretransplant cyclophosphamide plus TBI. *EUROPEAN JOURNAL OF HAEMATOLOGY*. 2023; 111(1)DOI:10.1111/ejh.13978. PMID:37058419. IF:3,100 (Q3/6D). Document type: Article.
  - Regalado I, García M, Medina L, Fernández J, Esquirol A, García I, Martino R, Briones J, Sierra J, Novelli S. Age, CD34+cell dose, conditioning, and pre-transplant cytopenias can help predict transfusion support in lymphoma patients undergoing autologous stem cell transplantation. *VOX SANGUINIS*. 2023; 118(8)DOI:10.1111/vox.13486. PMID:37356813. IF:2,700 (Q3/7D). Document type: Article.
  - Sierra J, Montesinos P, Thomas X, Griskevicius L, Cluzeau T, Caillot D, Legrand O, Minotti C, Luppi M, Farkas F, Bengoudifa BR, Gilotti G, Hodzic S, Rambaldi A, Venditti A. Midostaurin plus daunorubicin or idarubicin for young and elderly adults with FLT3-mutated AML: a Phase 3b trial. *Blood Advances*. 2023; 7(21)DOI:10.1182/bloodadvances.2023009847. PMID:37581981. IF:7,500 (Q1/2D). Document type: Article.
  - Socié G, Barba P, Barlev A, Sanz J, García I, Chevallier P, Fagioli F, Guzman N, Kumar D, Ljungman P, Pigneux A, Sadetsky N, Yáñez San Segundo L, Shadman M, Storek J, Thirumalai D, Xing B, Mohty M. Outcomes for patients with EBV-positive PTLD post-allogeneic HCT after failure of rituximab-containing therapy. *BONE MARROW TRANSPLANTATION*. 2023; DOI:10.1038/s41409-023-02127-9. PMID:37865719. IF:4,800 (Q1/2D). Document type: Article.
  - Solano C, Castro P, Pérez A, López L, Barba P, Kwon M, Ortiz V, Sanz J, Caballero AC, Martínez J, Cedillo Á, Sureda A. Quantifying the available capacity and resource needs for provision of CAR-T therapies in the National Health Service in Spain: A survey-based study. *BMJ Open*. 2023; 13(7):e071371. DOI:10.1136/bmjopen-2022-071371.



## 05.1.2 Oncohematologic Diseases Area

PMID:37491085. IF:2,900 (Q2/5D). Document type: Article.

- Velao SR, Cadenas IG, Cuesta MA, Sánchez I, Fernández F, Roldan E, Torrent A, Viguria MC, Villar S, Bento L, Yanez L, Martino R, Pina-na JL, Español Trasplante Hematopoyet GRP. Low rate of infectious enterocolitis in allogeneic stem cell transplant recipients with acute diarrhea: A prospective study by the GE-TH-TC. ACTA HAEMATOLOGICA. 2023; 146(2) DOI:10.1159/000528242. PMID:36446336. IF:2,400 (Q3/8D). Document type: Article.
- Woyach JA, Ghia P, Byrd JC, Ahn IE, Moreno C, O'Brien SM, Jones D, Cheung LWK, Chong E, Kwei K, Dean JP, James DF, Wiestner A. B-cell Receptor Pathway Mutations Are Infrequent in Patients with Chronic Lymphocytic Leukemia on Continuous Ibrutinib Therapy. CLINICAL CANCER RESEARCH. 2023; 29(16)DOI:10.1158/1078-0432.CCR-22-3887. PMID:37314786. IF:11,500 (Q1/1D). Collet R, Olmedo G, Ruiz I, Martinez A, Rodríguez B, Bernal S, Kulisevsky J, Pagonabarraga J. Late-Onset Beta-Propeller Protein-Associated Neurodegeneration: A Case Report. Movement Disorders Clinical Practice. 2023; 10(8). DOI:10.1002/mdc3.13811. PMID:37635772. IF:4,000 (Q2/4D). Document type: Article.

## Cancer Predisposition and DNA Repair Syndromes

### Group leader

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### DESCRIPTION

This research group works in the field of genetic diseases characterized by a high predisposition to cancer. Many of these syndromes are caused by mutations in DNA repair genes. These genes are important to avoid the accumulation of mutations and prevent cancer transformation. Research on these syndromes is crucial to unravel the mechanisms that protect us from cancer.

In the past few years, the team has identified and studied several genes involved in such syndromes and performed therapeutic research leading to two orphan drug designations by the European Medicines Agency.

Their researchers are also involved in several clinical trials on gene therapy and drug repurposing and investigate DNA repair genes involved in these syndromes as therapeutic targets against cancer in the general population.

There are an increasing number of novel therapeutic strategies based on the deep knowledge of the genetic causes of the disease. Therefore, a proper genetic diagnosis is important not only to provide adequate genetic counseling and clinical management to the patients and their families but also to provide personalized medicine based on genomic information.

### MAIN LINES OF RESEARCH

- Genetics and molecular biology of cancer-prone genetic syndromes with a focus on familial breast cancer and Fanconi Anemia and related chromosome fragility syndromes such as ataxia telangiectasia.



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- Development of new diagnostic and therapeutic tools in Fanconi anemia, including gene therapy, regenerative medicine, and drug repurposing.
- Mechanism of genomic instability and predisposition to cancer. Study of DNA repair mechanism and biological and clinical consequences of DNA repair failure.
- Fanconi/BRCA pathway in cancer. Implications of Fanconi genes in cancer and their use as therapeutic targets against cancer. Development of DNA repair inhibitors against cancer by synthetic lethality.
- Application of next-generation sequencing, genome medicine, and genome editing to better identify pathogenic mutations and perform functional studies of variants of known significance in rare diseases.

### SCIENTIFIC CHALLENGES

- Optimization of our drug candidate to inhibit FA pathway in a valorization process under the financial help of a Proof of Concept Grant by the Spanish Ministry.
- Follow up of functional assay to classify variants of unknown significance in cancer predisposing genes.
- As we signed a collaboration agreement with US based Rocket Pharma Ltd for 10 years follow-up of FA patients undergoing gene therapy, we will continue to do so.
- Initiation of our AFAN clinical trial for the repurposing of afatinib to treat Fanconi anemia patients with advanced head-and-neck cancer.
- Performing a drug screening to find drugs reactivating the Fanconi pathway in cells expressing a FANCA mutant protein.
- Develop and apply advanced genomic medicine tools and pipelines for the detection of pathogenic mutations in genes involved in rare diseases.
- Validation of gene candidates identified and prioritized in a genome-wide CRISPR-Cas screen to identify synthetic lethal and viable interactions with the Fanconi/BRCA pathway.

### ACTIVE GRANTS

- NIH Center Comprehensive Program for Natural History of Development of Squamous Cell

Carcinoma in Fanconi Anemia Co-PI: Neelam Giri, MD and Sharon A Savage, MD (National Institute of Health). Co-IP Spanish team: Jordi Surrallés. Fanconi Anemia Research Fund. 2022-2025. Total Funds Awarded (USD): \$ 1,107,464. Surrallés team Budget: \$ 80.000.

- Infraestructura de Medicina de Precisión asociada a la Ciencia y Tecnología (IMPACT). Acción Estratégica en Salud 2017-2020, Programa de Medicina Genómica. Ref. IMP/00009. Proyecto coordinado por el Consorcio Centro de Investigación Biomédica en red M.P. CIBER. Duración 2021-2023. 7.249.990 €.
- The Fanconi anemia/BRCA pathway :Genomic medicine and advanced therapies. (FABRAT). Ref. PID2021-122411OB-I00. Proyectos de Generación de Conocimiento 2021. Modalidad: Investigación Orientada Tipo B. Ministerio de Ciencia e Innovación. (1set.2022-31set.2025). IP Jordi Surrallés. 417.000 €.
- Ayudas Programa Investigo 2022. Ref. 100048TG2. Agència de Gestió d'Ajuts Universitaris i de Recerca AGAUR. (2022-2024) IP Jordi Surrallés. 66.217,84 €.
- ACCI 29-Cellular models for high-content drug screening in Fanconi anemia therapeutics. Ref. ER22P7AC745. Acciones Cooperativas y Complementarias Intramurales Conv.2021 (ACCI). CIBERER. (01/10/2022-29/02/2024) IP Jordi Surrallés. 52.600 €.
- Federated network for functional genomics of undiagnosed and rare diseases-rarefunction. Acciones Cooperativas y Complementarias Intramurales 2021 (ACCI).Ref. ER22P4AC7322/2023 / CB06/07/0001. CIBERER. Coordinador Francisco Palau. PI grupo Jordi Surrallés/ Massimo Bogliolo). 73.500 €.
- Reposicionamiento de afatinib para HNSCC en pacientes con anemia de Fanconi. Ref. ICI22/00076. Proyectos de Investigación Clínica Independiente de la convocatoria 2022. Acción Estratégica en Salud. Instituto de Investigación Carlos III. (ene2023-dic2026) IP Jordi Surrallés. 396.101,20 €.
- Valorización y prueba de concepto de un inhibidor de la reparación del DNA por la via Fanconi/BRCA para el tratamiento del cáncer por letalidad



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- sintética (Fanconinib). Ref. PDC2022-1333233-100. Ministerio de Ciencia e Innovación. Proyectos I+D+i Pruebas de Concepto 2022. (2023-2024). IP Jordi Surrallés. 150.000 €.
- Precision Medicine in FA: drug screening to identify a mutation specific drug. (Fanconi-cure). Convocatoria "Proyectos Colaborativos" en Cataluña (IBEC.Institute for Bioengineering of Catalonia). Plan Complementario de Biotecnología aplicada a la Salud del programa NextGeneration Europe. 2022. IP Jordi Surrallés. 178.650 €.
  - Catalan Interhospital web of genetic variants to improve genetic diagnosis in rare diseases. Agència financadora: Fundació La Marató de TV3. Financiació (en milers d'euros): 399.932,70 euros. Duració: 2021-2023. Codi Expedient: FLMTv3 202040. IP Benjamín Rodríguez.

## GRANTS AWARDED

- AFAN trial. Phase Ib/II study to investigate the safety and efficacy of Afatinib when administered as therapy in Fanconi anemia patients with unresectable and / or metastatic locoregionally advanced squamous cell carcinoma of the oral cavity, oropharynx or hypopharynx or larynx. (FARF) Fanconi Anemia Research Fund. Conv. FARF Research Grant Award (RGA) Program. (30/04/2023-29/04/2027). PI Jordi Surrallés. 296.303 €.
- Development and implementation of a functional genomics platform for undiagnosed hereditary cancer. (IMPaCT\_VUSCan). Convocatoria proyectos de investigación de medicina personalizada (2022). Subdirección General de Evaluación y Fomento de la Investigación. Ministerio de Ciencia e Innovación. Ref. PMP22/00064. Multicéntrico. IP Coordinadora Concepción Lázaro García (IDIBELL).01/01/2023-31/12/2025. Presupuesto global 3.182.544 €. Presupuesto grupo Surrallés 144.320 €.
- SGR-Cat 2021 (AGAUR). Genomic medicine and rare diseases group. Ref. 2021-SGR-00835. (2023-2025) IP Jordi Surrallés. 40.000 €.
- Inestabilidad Genómica. Proyecto colaborativo. Ref. RED2022-134164-T. REDES DE INVESTIGACIÓN. Plan Estatal de Investigación Científica, Técnica y de Innovación. Ministerio de Ciencia e Innovación (2023-2024). IP Coordinador Andrés Aguilera (CABIMER) / Jordi Surrallés. 20.000 €.
- Grupo de Bioinformática: Actualización en el análisis de datos de NGS para el diagnóstico. Convocatoria Grupos de Trabajo (GdT) 2023. CIBERER.

## DOCTORAL THESES DEFENDED

- Moreno Niño, Olga Maria. Caracterización genética de la anemia de fanconi en población colombiana, relación con el fenotipo clínico y citogenético. Universitat Autònoma de Barcelona. 09/09/2023. Supervisors: Benítez, Javier; Surrallés, Jordi.
- Pérsico, Ilaria. Dealing with the main challenges of fanconi anemia molecular diagnosis and therapy. 24/03/2023. Universitat Autònoma de Barcelona. Supervisors: Surrallés Calonge, Jordi; Bogliolo, Massimo; D'Adamo, Adamo Pio. <http://hdl.handle.net/10803/689721>

## SCIENTIFIC PRODUCTION

- Collet R, Olmedo G, Ruiz I, Martinez A, Rodríguez B, Bernal S, Kulisevsky J, Pagonabarraga J. Late-Onset Beta-Propeller Protein-Associated Neurodegeneration: A Case Report. *Movement Disorders Clinical Practice*. 2023; 10(8). DOI:10.1002/mdc3.13811. PMID:37635772. IF:4,000 (Q2/4D). Document type: Article.
- Dobarro D, Donoso V, Sole E, Moliner C, García JM, López S, Ruiz S, Diez C, Castrodeza J, Mendez AB, Vaqueriza D, Cobo M, Tobar J, Sagasti I, Rodríguez M, Escolar V, Abecia A, Codina P, Gomez I, Pastor F, Marzoa R, Gonzalez E, de Juan J, Melendo M, de Frutos F, Gonzalez J. Intermittent inotropic support with levosimendan in advanced heart failure as destination therapy: The LEVO-D registry. *ESC Heart Failure*. 2023; 10(2). DOI:10.1002/ehf2.14278. PMID:36655614. IF:3,800 (Q2/4D). Document type: Article.
- Esmel R, Valenzuela I, Riaza L, Rodríguez B, Rosés F, Boronat S, Sabaté A. Arterial tortuosity syndrome: Phenotypic features and cardiovascular manifestations in 4 newly identified patients. *European Journal of Medical Genetics*. 2023; 66(9):104823. DOI:10.1016/j.ejmg.2023.104823. PMID:37619836. IF:1,900 (Q4/8D). Document type: Article.
- Lasaga M, Río P, Vilas A, Planell N, Navarro S, Alignani D, Fernández B, Mouzo D, Zubicaray J, Pujol RM, Nicoletti E, Schwartz JD, Sevilla J, Ainciburi M, Ullate A, Surrallés J, Perona R,



## 05.1.2 Oncohematologic Diseases Area

Sastre L, Prosper F, Gomez D, Bueren JA. Gene therapy restores the transcriptional program of hematopoietic stem cells in Fanconi anemia. *HAEMATOLOGICA*. 2023; 108(10). DOI:10.3324/haematol.2022.282418. PMID:37021532. IF:10,100 (Q1/2D). Document type: Article.

- Lee EM, Verma M, Palaniappan N, Pope EM, Lee S, Blacher L, Neerumalla P, An W, Campbell T, Brown C, Hurst S, Marshall B, Hershey T, Nunes V, de Heredia ML, Urano F. Genotype and clinical characteristics of patients with Wolfram syndrome and WFS1-related disorders. *Frontiers in Genetics*. 2023; 14:1198171. DOI:10.3389/fgene.2023.1198171. PMID:37415600. IF:3,700 (Q2/4D). Document type: Article.
- López D, Roldán G, Fernández JL, Bostelmann G, Carmona R, Aquino V, Perez J, Ortuño F, Pita G, Núñez R, González A, Alonso A, Salgado J, Pasalodos S, Ayuso C, Minguez P, Avila A, Corton M, Artuch R, Borrego S, Antiñolo G, Carracedo A, Amigo J, Castaño LA, Tejada I, Delmiro A, Espinos C, Grinberg D, Guillén E, Lapunzina P, López JA, Gallego A, Martí R, Rovira E, Millán JM, Moreno MA, Morin M, Moreno A, Fernández M, Morte B, Mulero V, García D, Nunes V, Palau F, Perez B, Jurado LP, Perona R, Pujol A, Ramos F, López E, Ribes A, Rosell J, Surrallés J, Peña M, Dopazo J, Crowdsourcing CSVS. A crowdsourcing database for the copy-number variation of the Spanish population. *Human Genomics*. 2023; 17(1):20. DOI:10.1186/s40246-023-00466-8. PMID:36894999. IF:4,500 (Q1/3D). Document type: Article.
- Persico I, Fontana G, Faleschini M, Zanchetta ME, Ammeti D, Cappelli E, Corsolini F, Mosa C, Guarina A, Bogliolo M, Surrallés J, Dufour C, Farruggia P, Savoia A, Bottega R. A self-repair history: compensatory effect of a de novo variant on the FANCA c.2778+83C & gt;G splicing mutation. *Frontiers in Genetics*. 2023; 14:1209138. DOI:10.3389/fgene.2023.1209138. PMID:37547463. IF:3,700 (Q2/4D). Document type: Article.

## Gynecologic and Peritoneal Oncology

### Group leader

Cespedes Navarro, Maria Virtudes (IR)

### Researchers

Caruana Santiago, Pablo (IR)

Edwards , Maria Charlotte (IR)

Luna Guibourg, Rocio (FGS)

Martin Lorente, Cristina (FGS)

Muñoz Sánchez, Raquel (FGS)

Rovira Negre, Ramon (FGS)

Soler Moreno, Cristina (FGS)

Teixera , Natalia (FGS)

### Research Technicians

Llimos Aubach, Julia (IR)

Zapater Enrique, Oscar (FGS)



### DESCRIPTION

The Gynecologic and Peritoneal Oncology research group (GOGYP), coordinated by Dr. Maria Virtudes Céspedes, is an emerging group, led by a Miguel Servet investigator. We belong to the onco-hematological diseases research area and joined both, the biomarkers, prognostic, and diagnostic Programs and in the Advanced therapies Program within the transversal research Programs in the IR-HSCSP. Recently, the GOGYP was accredited as an emergent group with financial support by the AGAUR agency [2021 SGR-00976]. We are a multidisciplinary and translational research team, composed of physicians from the Gynecology-Oncology & Laparoscopy Unit from the Obstetrics and Gynecology dept. and of clinical staff of the Medical Oncology Dept. at Hospital Sant Pau as well as basic and translational researchers from IR-Sant Pau. We are active in surgical technical advances, diagnostic tools, and innovative therapies based on nanotechnology, preclinical development of drugs, and clinical assays. Our research comprises patient sample screening to in vitro and in vivo models of experimentation.

### MAIN LINES OF RESEARCH

- Identificación de nuevos marcadores pronóstico y nuevas dianas terapéuticas para la estratificación del riesgo de recaída en pacientes con cáncer de endometrio.
- Estudio del efecto del sistema nervioso en la progresión y diseminación tumoral de cánceres ginecológicos y peritoneales de alto grado.
- Modelización en animales de los cánceres ginecológicos y peritoneales de alto grado, para



### 05.1.2 Oncohematologic Diseases Area

el estudio de la progresión y diseminación tumoral.

- Evaluación y desarrollo preclínico de nuevos compuestos antitumorales, mediante nanotecnología, dirigidos al tratamiento de las metástasis en cánceres ginecológicos de alto grado.

#### SCIENTIFIC CHALLENGES

- Potenciar la colaboración con otros grupos clínicos y de investigación en Sant Pau y otros hospitales, y captar talento predoctoral y posdoctoral.
- Promover la investigación clínica y traslacional en cánceres ginecológicos de alto grado, aportando soluciones diagnósticas, pronósticas y terapéuticas.
- Obtener financiación pública nacional, regional y privada.
- Identificación y validación de nuevas dianas terapéuticas relacionadas con la neuromodulación en la progresión tumoral de cánceres ginecológicos de alto grado.
- Modelado de cánceres peritoneales de alto grado en animales para estudiar la fisiopatología tumoral y para su uso en la evaluación preclínica de compuestos antineoplásicos.
- Desarrollo de nuevos fármacos antitumorales, utilizando nanotecnología, para su aplicación en terapia dirigida a cánceres ginecológicos.

#### ACTIVE GRANTS

- Caruana Santiago, Pablo. Contractes predoctorals PFIS 2021. FI21/00146. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2025. 119.567,00 €.
- Cespedes Navarro, Maria Virtudes. Innovative nanotherapy for highly-metastatic peritoneal cancers: activating neuroreceptors to kill cancer stem cells. PI20/00623. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 173.030,00 €.
- Cespedes Navarro, Maria Virtudes. Genomic signatures for the prediction of recurrence and metastasis in Endometrial Cancers. MARATO 201911-30. Fundació La Marató de TV3. Duration: 2020-2023. 190.000,00 €.
- Cespedes Navarro, Maria Virtudes. GRUP D'ONCOLOGIA GINECOLOGICA I PERITONEAL

(GOGyP). 2022 INV-1 00048. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 66.217,84 €.

- Cespedes Navarro, Maria Virtudes. Contractes "Miguel Servet II" 2020. CPII20/00007. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 101.250,00 €.
- Edwards, Maria. InPHINIT 22. Fundació La Caixa. Duration: 2022-2025. 115.092,00 €.

#### GRANTS AWARDED

- Cespedes Navarro, Maria Virtudes. Grup d'Oncologia Ginecológica i peritoneal (GOGYP). 2021 SGR 00976. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2025. 36.000 €.

#### SCIENTIFIC PRODUCTION

- Cueva JF, Palacio I, Churruca C, Herrero A, Pardo B, Constenla M, Santaballa A, Manso L, Estévez P, Maximiano C, Legerén M, Marquina G, de Juan A, Quindós M, Sánchez L, Barquin A, Fernández I, Martín C, Juárez A, Martín T, García Y, Yubero A, Gallego A, Martínez Bueno A, Guerra E, González-Martín A. Real-world safety and effectiveness of maintenance niraparib for platinum-sensitive recurrent ovarian cancer: A GEICO retrospective observational study within the Spanish expanded-access program. *Eur J Cancer*. 2023; Mar;182:3-14. DOI: 10.1016/j.ejca.2022.12.023. PMID:36706655. IF: 8,400 (Q1/D2). Document type: Article.
- Español P, RAMON N, Caruana P, Luna R, Soler C, Teixeira N, Rodríguez F, Gallardo A, Edwards M, Porta O, Gamez M, Sánchez O, Llurba E, Corchero JL, Cespedes MV. Dopamine receptors D1 and D2 show prognostic significance and potential therapeutic applications for endometrial cancer patients. *GYNECOLOGIC ONCOLOGY*. 2023; 176DOI:10.1016/j.ygyno.2023.06.019. PMID:37437489. IF:4,700 (Q1/2D). Document type: Article.
- Español P, Luzarraga A, Teixeira N, Soler C, Luna R, RAMON N. An institutional study: Does Body Mass Index influence surgical approach, surgical morbidities, and outcomes in endometrial cancer patients?. *Facts Views And Vision In Obgyn*. 2023; 15(3)DOI:10.52054/FVVO.15.3.081. PMID:37742203. Document type: Article.



## 05.1.2 Oncohematologic Diseases Area

- García NG, Moreno CS, Teixeira N, Lloret PE, Guibourg R, RAMON N. Comparison of laparoscopy and laparotomy in the management of early-stage ovarian cancer. *Gynecology And Minimally Invasive Therapy*. 2023; 12(2)DOI:10.4103/gmit.gmit\_99\_22. PMID:37416098. Document type: Article.
- Habib N, Moufawad G, Hayek J, Fatcher F, Chiantera V, RAMON N, Devassy R, Centini G, Mereu L. A Reappraisal of Lymphadenectomy in Common Gynecological Cancers. *Clinical and Experimental Obstetrics & Gynecology*. 2023; 50(9):181. DOI:10.31083/j.ceog5009181. IF:0,200 (Q4/10D). Document type: Review.
- Hernansanz A, RAMON N, Basomba J, Comas R, Casals A. EndoTrainer: a novel hybrid training platform for endoscopic surgery. *International Journal of Computer Assisted Radiology and Surgery*. 2023; 18(5)DOI:10.1007/s11548-023-02837-x. PMID:36781742. IF:3,000 (Q2/3D). Document type: Article.
- Labidi SI, Rodrigues M, Sandoval JL, Kurtz JE, Heitz F, Mosconi AM, Romero I, Denison U, Nagao S, Vergote I, Parma G, Nøttrup TJ, Rouleau E, Garnier G, El A, Zamagni C, Martín C, Pujade E, Fiévet A, Ray IL. Association of location of BRCA1 and BRCA2 mutations with benefit from olaparib and bevacizumab maintenance in high-grade ovarian cancer: phase III PAOLA-1/ENGOT-ov25 trial subgroup exploratory analysis. *ANNALS OF ONCOLOGY*. 2023; 34(2)DOI:10.1016/j.annonc.2022.11.003. PMID:36564284. IF:50,500 (Q1/1D). Document type: Article.
- Pujade E, Brown J, Barnicle A, Wessen J, Lao P, Criscione SW, du A, Lorusso D, Romero I, Petru E, Yoshida H, Vergote I, Colombo N, Hietanen S, Provansal M, Schmalfeldt B, Pignata S, Martín C, Berton D, Runnebaum IB, Ray I. Homologous Recombination Repair Gene Mutations to Predict Olaparib Plus Bevacizumab Efficacy in the First-Line Ovarian Cancer PAOLA-1/ENGOT-ov25 Trial. *JCO Precision Oncology*. 2023; 7:e2200258. DOI:10.1200/PO.22.00258. PMID:36716415. IF:4,600 (Q2/4D). Document type: Article.
- Revilla G, Al Qtaish N, Caruana P, Sainz M, López T, Rodríguez F, Paez V, Li CD, Vallverdú NF, Edwards M, Moral A, Pérez JI, Escolà JC, Pedraz JL, Gallego I, Corcoy R, Céspedes MV, Puras G, Mato E. Lenvatinib-Loaded Poly(lactic-co-glycolic acid) Nanoparticles with Epidermal Growth Factor Receptor Antibody Conjugation as a Preclinical Approach to Therapeutically Improve Thyroid Cancer with Aggressive Behavior. *Biomolecules*. 2023; 13(11):1647. DOI:10.3390/biom13111647. PMID:38002329. IF:5,500 (Q1/3D). Document type: Article.
- Rodríguez A, Maroto P, Font A, Martín C, Mellado B, Corbera A, Orrillo M, Reig O, Querol R, Rios A, Cano L, Alonso J, Martínez G, Galtes S, Taus A, Martínez M, Juanpere N, Juan O, Bellmunt J. Safety and efficacy of avelumab plus carboplatin in patients with metastatic castration-resistant prostate cancer in an open-label Phase Ib study. *BRITISH JOURNAL OF CANCER*. 2023; 128(1)DOI:10.1038/s41416-022-01991-4. PMID:36289372. IF:8,800 (Q1/2D). Document type: Article.
- Tarrie JE, Capo JP, Sánchez RM. Update on the possibilities of hormonal medical treatment for heavy menstrual bleeding. *CLINICA E INVESTIGACION EN GINECOLOGIA Y OBSTETRICIA*. 2023; 50(1). DOI: 10.1016/j.gine.2022.100819. Document type: Review.

## Clinical Research in Transfusion Medicine

### Group leader

Medina Marrero, Laura (BST)

Salinas Argente, Ramon (BST) until 2023/09/28

### Researchers

Bosch Llobet, M. Alba (BST)

Casanovas López, Enric Lluís (BST)

Ene, Gabriela Simona (BST)

Ferrer Garrido, Gonzalo Jose (BST)

Salinas Argente, Ramon (BST)

Sanz Linares, Gabriela (BST)

Subira Casellas, Maricel (BST)



### DESCRIPTION

This group has moved to the Onco-Hematologic Diseases Area because of our sense of belonging and daily clinical work, procedures and projects.

Key highlights are directed towards developing strategies to assess and improve Patient Blood Management, encourage novel Cellular Therapy projects like CAR-T lines, and approach collaborations with other departments or research groups in therapeutic apheresis issues.

Our knowledge dissemination spirit has been shown throughout an increasingly active participation at the Transfusion Hospital Commission, communications to congresses, and accredited courses.

### MAIN LINES OF RESEARCH

The objectives of this group will focus on the following fields of study:

- Coagulation disorders and bleeding, especially those involving platelets and coagulation factors.
- Blood transfusion and haemovigilance.
- Good use and efficiency of blood components: patient blood management, product quality, patient safety, etc.
- Therapeutic apheresis: replacement of blood components, extracorporeal photopheresis, and therapeutic cytopheresis.

### SCIENTIFIC CHALLENGES

Among the challenges and study proposals planned for the achievement of the objectives, it is worth noting:



### 05.1.2 Oncohematologic Diseases Area

- Cooperation with other groups within the framework of transfusion and cell therapy research, such as the CAR-T group (Dr. Javier Briones).
  - Progress as a productive group of translational research in the fields of blood transfusion and cell therapy, it is intended to be carried out by analyzing the impact of therapeutic plasma exchange in autoimmune diseases of the neurology service (Dr. Luis Querol).
  - Analyzing the effective use of blood transfusion and the main causes of its variability, is done with the collaboration of the massive transfusion subcommittee (Dr. Pilar Paniagua).
  - Recent enrollment from members of the group in research training projects such as master's or doctoral theses, will also have a positive result in our research group, encouraging us to achieve new goals and generate scientific impact with them.
- PMID:37986640. IF:2,700 (Q3/7D). Document type: Article.
- Pascual C, Salmeron PP, Ruiz FT, Ferreiras DV, Hernandez SJ, Argente RS, Galan CD, Comos JD. Immune thrombotic thrombocytopenic purpura: clinical suspicion and basic management in emergency departments - an expert review and consensus statement from the Spanish societies of hematology and hemotherapy (SEHH) and emergency medicine (SEMES). *Emergencias*. 2023; 35(1)PMID:36756916. IF:5,500 (Q1/2D). Document type: Review.
  - Regalado I, García M, Medina L, Fernández J, Esquirol A, García I, Martino R, Briones J, Sierra J, Novelli S. Age, CD34+cell dose, conditioning, and pre-transplant cytopenias can help predict transfusion support in lymphoma patients undergoing autologous stem cell transplantation. *VOX SANGUINIS*. 2023; 118(8)DOI:10.1111/vox.13486. PMID:37356813. IF:2,700 (Q3/7D). Document type: Article.

### DOCTORAL THESES DEFENDED

- Medina Marrero, Laura. Proposal for a new consensus on the administration of Plerixafor, to decrease the percentage of failures of mobilization of hematopoietic progenitors. 12/06/2023. Universitat Autònoma de Barcelona. Supervisors: Querol Giner, Sergi; Sierra Gil, Jordi.

### SCIENTIFIC PRODUCTION

- Fernández J, Delgadillo J, Vives J, Rodríguez L, Mendoza A, Azqueta C, García A, Valdivia E, Martorell L, Rubio N, Linares M, Alonso S, Ancochea A, Garcfa E, García N, Medina L, Querol S. A hub-and-spoke model to deliver effective access to chimeric antigen receptor T-cell therapy in a public health network: the Catalan Blood and Tissue Bank experience. *CYTOTHERAPY*. 2023; 25(1) DOI:10.1016/j.jcyt.2022.07.011. PMID:36041984. IF:4,500 (Q2/3D). Document type: Article.
- Martínez IR, Avendaño C, Da CV, Llobet AB, Erce J, Fraile M, Domínguez LG, Andrés IV, Velasco JA, Rodríguez VPG, Contreras E, Uranga SU, Herraiz A, Jimenez T, Pérez A, Rodríguez J, Pérez M, Ramos A, Velasco A, Cabrera JLB, Duarte RF. Factors related to the development of high antibody titres against SARS-CoV-2 in convalescent plasma donors from the ConPlas-19 trial. *VOX SANGUINIS*. 2023; 119(1)DOI:10.1111/vox.13561.

# 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area



**Juan Fortea**  
Area Director

This area covers research in neurological, neurodevelopmental and mental disorders. Among these are diseases such as stroke, neuromuscular conditions, neurodegenerative diseases, schizophrenia, depression, or chronic pain. A large variety of neuroscience techniques are used in the area. Some groups work on the genetic bases of neurological diseases, the identification of biomarkers, brain imaging, neurosurgical methods, deep-brain stimulation or omics sciences, while other groups work with models of pain, in the biology of synapses or neuropharmacology. Large population cohorts of patients with clinical follow-ups are analyzed in this area.

## RESEARCH GROUPS

### Cerebrovascular Diseases

Marti Fabregas, Joan

### Neuromuscular Diseases

Olive Plana, Montserrat

### Parkinson's Disease and Movement Disorder

Kulisevsky Bojarski, Jaime

### Molecular Neuropharmacology

Pol Rigau, Olga

### Pharmacological Research in Humans

Antonijoan Arbos, Rosa

### Mental Health

Portella Moll, Maria

### Neurobiology of Dementias

Fortea Ormaechea, Juan

### Molecular Physiology of the Synapse

Bayes Puig, Alejandro

### Stroke Pharmacogenomics and Genetics

Fernández Cadenas, Israel

### Genetic Diseases

Gallano Petit, Maria Pia

### Neurosurgery

Muñoz Hernandez, Fernando

### Molecular Neurodegeneration

Belbin, Olivia Elizabeth

### Epilepsy

Boronat Guerrero, Susana



## Cerebrovascular Diseases

### Group leader

Marti Fabregas, Joan (FGS)

### Researchers

Camps Renom, Pol (FGS)

Gallego Fabrega, Cristina (IR)

Lambea Gil, Álvaro (IR)

Martinez Domeño, Alejandro (FGS)

Prats Sánchez, Luis Antonio (FGS)

Puig Grifol, Nuria (IR)

Ramos Pachon, Anna (FGS)

### Research Technicians

Aguilera Simon, Ana (IR)

Ezcurra Diaz, Garbiñe (IR)

Guasch Jimenez, Marina (IR)

Marin Bueno, Rebeca (IR)



### DESCRIPTION

Our research has a strong clinical basis and focuses on non-traumatic vascular diseases of the central nervous system, both ischemic stroke (cerebral infarction, transient ischemic attack) and hemorrhagic stroke (spontaneous intracerebral hemorrhage and subarachnoid hemorrhage). We are also interested in translational research applied to stroke.

### MAIN LINES OF RESEARCH

- Reperfusion treatments in acute ischemic stroke: Intravenous thrombolysis, endovascular treatment (mechanical thrombectomy).

Factors associated with the degree and maintenance of collateral circulation.

Blood pressure management after endovascular treatment.

Mechanisms, prevention and clinical significance of hemorrhagic complications.

Reperfusion injury.

Intra and extracranial stenting during mechanical thrombectomy.

Relevance of progenitor endothelial cell counts.

- Vulnerability of the atheromatous carotid plaque. Positron emission tomography, plasma, and ultrasonographic markers of inflammation. Variables associated with stroke recurrence.

Asymptomatic carotid stenosis.

- Acute spontaneous intracerebral hemorrhage: Factors related to hematoma growth.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

Logistical aspects (type of hospital, time to treatment, inter-hospital transfer).

Relevance of the microbiota in clinical, radiological, and prognostic variables.

Frequency, markers, and prognostic relevance of perihematoma edema.

Inflammatory factors associated with recurrence.

Prevention of recurrence in patients with atrial fibrillation and cerebral hemorrhage.

Treatment with statins in patients with cerebral hemorrhage.

Benefits and risks of antithrombotics and statins in the secondary prevention of stroke.

Influence of microbleeds, hyperintense white matter lesions and cortical superficial siderosis in the risk of intracerebral hemorrhage associated with oral anticoagulants.

tras el tratamiento endovascular en pacientes con ictus isquémico (Estudio HOPE). ICI20/00137.

Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 362.939,50 €.

- Marti Fabregas, Joan. PREVICTUS:Farmacogenética para prevenir los efectos adversos del tratamiento del ictus. pmp21/00165. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2025. 1.067.000,00 €.
- Marti Fabregas, Joan. Red de Enfermedades Vasculares Cerebrales. INVICTUS PLUS. RD16/0019/0010. Instituto de Salud Carlos III (ISCIII). Duration: 2017-2022. 137.522,00 €
- Marti Fabregas, Joan. RICORS-ICTUS. RD21/0006/0006. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 249.005,90 €.
- Marti Fabregas, Joan. Edema cerebral en la hemorragia intracerebral: variables asociadas y estudio evolutivo de su implicación clínica y pronóstica. PI22/01156. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 196.020,00 €.
- Prats Sánchez, Luis Antonio. Proyecto MISTIC: papel del Microbioma inteStinal en la evolución neurològica de pacienTes con hemorragia IntraCerebral espontánea. PI20/00925. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 87.120,00 €.
- Puig Grifol, Nuria. Contractes Predoctorals PFIS 2020. FI20/00252. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 82.400,00 €.

### SCIENTIFIC CHALLENGES

- To enhance cooperation with other groups in the framework of Spanish stroke research (Spanish research network (RICORS/ICTUS) and also intra-hospital and extra-hospital cooperation.
- To obtaining funding from national calls (Instituto de Salud Carlos III), European community calls, regional authorities, and private companies.
- To increase the number of hired and grant-aided researchers and professional development of existing researchers.
- To obtain patents.

### ACTIVE GRANTS

- Camps Renom, Pol. Impacto de la Inflamación en la Progresión de la Aterosclerosis Carotidea y el Riesgo de Ictus (estudio INCREASE). PI22/01659. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 141.570,00 €.
- Gallego Fabrega, Cristina. CD20/00043. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 80.598,00 €.
- Lambea Gil, Álvaro. Contratos Rio Hortega 2022. CM22/00265. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2024. 65.000,00 €.
- Marti Fabregas, Joan. Ensayo clínico sobre optimización hemodinámica de la perfusión cerebral

### DOCTORAL THESES DEFENDED

- Guisado Alonso, Daniel. Estratègies per optimitzar el tractament endovascular en l'íctus agut: anàlisi dels criteris de selecció i de la relació entre la circulació col·lateral i la pressió arterial. 28/04/2023. Universitat Autònoma de Barcelona. Supervisors: Martí Fàbregas, Joan; Delgado Mederos, Raquel; Granell Moreno, Esther.
- Cárcel Márquez, Jara. Study of genetic risk factors associated with ischemic stroke. 24/01/2023. Universitat Autònoma de Barcelona. Supervisors: Fernández Cadenas, Israel; Martí i Fàbregas, Joan. <http://hdl.handle.net/10803/688764>
- Puig Grifol, Núria. Lipoprotein-related biomarkers and carotid plaque inflammation in ischemic



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

ictus". 30/11/2023. Universitat Autònoma de Barcelona. Supervisors: Benítez González, Sónia; Sánchez Quesada, José Luis; Camps Renom, Pol.

## SCIENTIFIC PRODUCTION

- Benitez S, Puig N, Rives J, Sole A, Sánchez JL. Can Electronegative LDL Act as a Multienzymatic Complex?. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(8):7074. DOI:10.3390/ijms24087074. PMID:37108253. IF:5,600 (Q1/3D). Document type: Review.
- Bonaterra A, Benítez S, Pancorbo O, Rodríguez D, Vert C, Rovira A, Freijo MM, Tur S, Martínez M, Portela PC, Vera R, Lebrato L, Arenillas JF, Pérez S, Domínguez A, Fabregas JM, Mauri G, Montaner J, Sánchez JL, Hernández M. Association of candidate genetic variants and circulating levels of ApoE/ApoJ with common neuroimaging features of cerebral amyloid angiopathy. *Frontiers in Aging Neuroscience*. 2023; 15:1134399. DOI:10.3389/fnagi.2023.1134399. PMID:37113571. IF:4,800 (Q2/3D). Document type: Article.
- García E, Camps P, Puig N, Fernández A, Aguilera A, Benitez A, Solé A, Vilades D, Sánchez JL, Martí J, Jiménez E, Benitez S, Llorente V. Soluble low-density lipoprotein receptor-related protein 1 as a surrogate marker of carotid plaque inflammation assessed by 18F-FDG PET in patients with a recent ischemic stroke. *Journal of Translational Medicine*. 2023; 21(1):131. DOI:10.1186/s12967-022-03867-w. PMID:36805772. IF:7,400 (Q1/3D). Document type: Article.
- Gorey S, McCabe JJ, Camps P, Giannotti N, McNulty JP, Barry M, Cassidy T, Cronin S, Dolan E, Fernández A, Foley S, Harbison J, O'Connell M, Williams DJ, Marnane M, Martí J, Kelly PJ. Symptomatic Carotid Atheroma Inflammation Lumen-stenosis score compared with Oxford and Essen risk scores to predict recurrent stroke in symptomatic carotid stenosis. *European Stroke Journal*. 2023:23969873231186911. DOI:10.1177/23969873231186911. PMID:37480278. IF:6,100 (Q1/2D). Document type: Article.
- Lambea A. Neurology teaching difficulties and the academic consequences of the COVID-19 pandemic. Reply. *REVISTA DE NEUROLOGIA*. 2023; 77(5). DOI:10.33588/rn.7705.2023189. PMID:37612831. IF:1,200 (Q4/10D). Document type: Letter.
- Lledós M, Prats L, Lluçà L, Cárcel J, Muino E, Cullèll N, Gallego C, Martín JM, Aguilera A, Guasch M, Guisado D, Ramos A, Martínez A, Izquierdo A, Marín R, Camps P, Martí J, Fernández I. Ischaemic stroke patients present sex differences in gut microbiota. *EUROPEAN JOURNAL OF NEUROLOGY*. 2023; 30(11). DOI:10.1111/ene.15931. PMID:37329328. IF:5,100 (Q1/3D). Document type: Article.
- Lluçà L, Muiño E, Cullèll N, Cárcel J, Lledós M, Gallego C, Martín J, Martí J, Aguilera A, Planas AM, DeDiego ML, de Felipe A, Masjuan J, García S, Segura T, González E, Serrano G, Domínguez A, Menéndez P, Montaner J, Migeotte I, Rahmouni S, Darcis G, Bernardo D, Rojo S, Schulte EC, Protzer U, Fricke L, Winter C, Niemi M, Cordioli M, Delgado P, Fernández I. Genetic Architecture of Ischaemic Strokes after COVID-19 Shows Similarities with Large Vessel Strokes. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(17):13452. DOI:10.3390/ijms241713452. PMID:37686257. IF:5,600 (Q1/3D). Document type: Article.
- Martí J, Camps P, Best JG, Ramos A, Guasch M, Martínez A, Guisado D, Gomez BM, Ambler G, Wilson D, Lee KJ, Lim JS, Bae HJ, Shiozawa M, Koga M, Toyoda K, Hennerici MG, Chabriat H, Jouvent E, Wong DYK, Mak H, Lau KK, Kim YD, Song TJ, Heo JH, Eppinger S, Gattringer T, Uysal E, Demirelli DS, Bornstein N, Ben E, Halleivi H, Molad JA, Nishihara M, Tanaka J, Hara H, Yakushiji Y, Coutts SB, Smith E, Polymeris AA, Wagner B, Seiffge D, Lyrer PA, Peters N, Engelter ST, Salman RA, Jager HR, Lip GYH, Goeldlin M, Panos L, Karayiannis CC, Phan TG, Srikanth VK, Christ N, Gunkel S, Fluri F, Leung TW, Soo Y, Chu WN, Abrigo J, Barbato C, Browning S, Simister R, Mendyk AM, Bordet R, Hlal S, Gyanwali B, Chen CSP, Jung SM, Orken DN, Werring D, Prats L, Microbleeds Int Collaborative N. Stroke Risk and Antithrombotic Treatment During Follow-up of Patients With Ischemic Stroke and Cortical Superficial Siderosis. *NEUROLOGY*. 2023; 100(12):e1267-e1281. DOI:10.1212/WNL.00000000000201723. PMID:36535778. IF:9,900 (Q1/1D). Document type: Article.
- Martínez A, Xuclà T, Collet R, Olmedo G, Martí J, Izquierdo A, Martínez A, Prats L, Guasch M,



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- Guisado D, Ramos A, Camps P. Clinical characteristics and outcome of amaurosis fugax due to transient retinal ischemia: Results from a contemporary cohort. *Journal of Stroke & Cerebrovascular Diseases*. 2023; 32(11):107335. DOI:10.1016/j.jstrokecerebrovasdis.2023.107335. PMID:37748428. IF:2,500 (Q3/7D). Document type: Article.
- Meinel TR, Wilson D, Gensicke H, Scheitz JF, Ringleb P, Goganau I, Kaesmacher J, Bae H-J, Kim DY, Kermer P, Suzuki K, Kimura K, Macha K, Koga M, Wada S, Altersberger V, Salerno A, Palanikumar L, Zini A, Forlivesi S, Kellert L, Wischmann J, Kristoffersen ES, Beharry J, Barber PA, Hong JB, Cereda C, Schlemm E, Yakushiji Y, Poli S, Leker R, Romoli M, Zedde M, Curtze S, Ikenberg B, Uphaus T, Giannandrea D, Portela PC, Veltkamp R, Ranta A, Arnold M, Fischer U, Cha J-K, Wu TY, Purruicker JC, Seiffge DJ, Kägi G, Engelter S, Nolte CH, Kallmünzer B, Michel P, Kleinig TJ, Fink J, Rønning OM, Campbell B, Nederkoorn PJ, Thomalla G, Kunieda T, Poli K, Béjot Y, Soo Y, García C, Ntaios G, Cordonnier C, Marto JP, Bigliardi G, Lun F, Choi PMC, Steiner T, Ustrell X, Werring D, Wegener S, Pezzini A, Du H, Martí J, Cánovas D, Strbian D, Padjen V, Yaghi S, Stretz C, Kim J-T. Intravenous Thrombolysis in Patients With Ischemic Stroke and Recent Ingestion of Direct Oral Anticoagulants. *JAMA Neurology*. 2023; 80(3)DOI:10.1001/jama-neurol.2022.4782. PMID:36807495. IF:29,000 (Q1/1D). Document type: Article.
  - Munoz SS, Campillo M, Borrega CS, Azeli Y, Gil SQ, Ruiz A, Albacete G, Peral OM, Lluch S, Delgado SA, Blas YS, Urra X, Calderon DC, Fabregas JM, Jacobi MR, Portela PC, García FP, Oller ED, Benitez VH, Flores A, Rubiera M, Palomerias E, García A, Soler RS, Roquet DV, Salvat M, Pachon AR, Herrero NPD, Fabrega XJ. Prehospital care process and hospital outcomes in stroke-code cases: comparison of basic and advance life support ambulance attendance. *Emergencias*. 2023; 35(3). PMID:37350599. IF:5,500 (Q1/2D). Document type: Article.
  - Olive M, de la Ossa NP, Jovin T, Abilleira S, Jimenez X, Cardona P, Chamorro A, Flores A, Silva Y, Purroy F, Martí J, Rodríguez A, Zaragoza J, Krupinski J, Canovas D, Choco MG, Mas N, Palomerias E, Cocho D, Aragones JM, Repullo C, Sanjurjo E, Carrion D, Catena E, Costa X, Almendros MC, Barcelo M, Monedero J, Rybyeva M, Diaz G, Ribo M, Catalan Stroke Code Reperfusion CO. Evolution of quality indicators in acute stroke during the RACECAT Trial: Impact in the general population. *International Journal of Stroke*. 2023; 18(2):17474930221093523. DOI:10.1177/17474930221093523. PMID:35373657. IF:6,700 (Q1/2D). Document type: Article.
  - Puig N, Camps P, Sole A, Aguilera A, Jimenez E, Fernández A, Camacho M, Guasch M, Marin R, Martí J, Martínez A, Prats L, Casoni F, Perez B, Jimenez F, Sánchez JL, Benitez S. Electronegative LDL Is Associated with Plaque Vulnerability in Patients with Ischemic Stroke and Carotid Atherosclerosis. *Antioxidants*. 2023; 12(2):438. DOI:10.3390/antiox12020438. PMID:36829998. IF:7,000 (Q1/1D). Document type: Article.
  - Puig N, Rives J, Estruch M, Aguilera A, Rotllan N, Camacho M, Colomé N, Canals F, Sánchez JL, Benitez S. Presence of Ceramidase Activity in Electronegative LDL. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(1):165. DOI:10.3390/ijms24010165. PMID:36613609. IF:5,600 (Q1/3D). Document type: Article.
  - Puig N, Solé A, Aguilera A, Griñán R, Rotllan N, Camps P, Benitez S. Novel Therapeutic Approaches to Prevent Atherothrombotic Ischemic Stroke in Patients with Carotid Atherosclerosis. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(18):14325. DOI:10.3390/ijms241814325. PMID:37762627. IF:5,600 (Q1/3D). Document type: Review.
  - Ramos A, Rodríguez D, Martí J, Millán M, Bustamante A, Martínez M, Serena J, Terceño M, Vera C, Camps P, Prats L, Rodríguez N, Cardona P, Urra X, Solà S, Del Mar M, Salvat M, Ribó M, Abilleira S, Pérez de la Ossa N, Silva Y, RACECAT I. Effect of Bypassing the Closest Stroke Center in Patients with Intracerebral Hemorrhage: A Secondary Analysis of the RACECAT Randomized Clinical Trial. *JAMA Neurology*. 2023; 80(10). DOI:10.1001/jamaneurol.2023.2754. PMID:37603325. IF:29,000 (Q1/1D). Document type: Article.
  - Saldaña I, Cisneros AI, Lambea Á. Neurophobia among resident physicians in the emergency service. *REVISTA DE NEUROLOGIA*. 2023;



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- 77(12). DOI:10.33588/rn.7712.2023249. IF:1,200 (Q4/10D). Document type: Article.
- Silva Y, Sánchez L, Terceno M, Dorado L, Valls A, Martínez M, Abilleira S, Rubiera M, Quesada H, Llull L, Rodríguez A, Martí J, Sero L, Purroy F, Payo I, García S, Canovas D, Krupinski J, Mas N, Palomeras E, Cocho D, Font MA, Catena E, Puiggros E, Pedroza C, Marin G, Carrion D, Costa X, Almendros MC, Torres I, Colom C, Velasquez JA, Diaz G, JimTnez X, Subirats T, Deulofeu A, Hidalgo V, Salvat M, de la Ossa NP, Catalan Stroke Code R. Sex and gender differences in acute stroke care: metrics, access to treatment and outcome. A territorial analysis of the Stroke Code System of Catalonia. *European Stroke Journal*. 2023; 8(2). DOI:10.1177/23969873231156260. PMID:37231687. IF:6,100 (Q1/2D). Document type: Article.
  - Soo Y, Zietz A, Yiu B, Mok VCT, Polymeris AA, Seiffge D, Ambler G, Wilson D, Leung TWH, Tsang SF, Chu W, Abrigo J, Cheng C, Lee KJ, Lim JS, Shiozawa M, Koga M, Chabriat H, Hennerici M, Wong YK, Mak H, Collet R, Inamura S, Yoshifuji K, Arsava EM, Horstmann S, Purrucker J, Lam BYK, Wong A, Kim YD, Song TJ, Lemmens R, Eppinger S, Gattringer T, Uysal E, Demirelli DS, Bornstein NM, Ben E, Halleli H, Molad J, Nishihara M, Tanaka J, Coutts SB, Kappelle LJ, Salman RA, Jager R, Lip GYH, Goeldlin MB, Panos LD, Mas JL, Legrand L, Karayiannis C, Phan T, Bellut M, Chappell F, Makin S, Hayden D, Williams D, van Dam DHK, Nederkoorn PJ, Barbato C, Browning S, Wiegertjes K, Tuladhar AM, Mendyk AM, Kohler S, van R, Zhou Y, Xu C, Hilal S, Gyanwali B, Chen C, Lou M, Staals J, Bordet R, Kandiah N, de Leeuw FE, Simister R, Hendrikse J, Wardlaw J, Kelly P, Fluri F, Srikanth V, Calvet D, Jung S, Kwa V, Smith EE, Hara H, Yakushiji Y, Orken DN, Fazekas F, Thijs V, Heo JH, Veltkamp R, Ay H, Imaizumi T, Lau KK, Jouvent E, Toyoda K, Yoshimura S, Bae HJ, Martí J, Prats L, Lyrer P, Best J, Werring D, Engelter ST, Peters N, Microbleeds Int Collaborative N. Impact of Cerebral Microbleeds in Stroke Patients with Atrial Fibrillation. *ANNALS OF NEUROLOGY*. 2023; 94(1). DOI:10.1002/ana.26642. PMID:36928609. IF:11,200 (Q1/1D). Document type: Article.
  - Terceno M, Silva Y, Bashir S, Chamorro A, de la Ossa NP, Hernandez M, Castano C, Camps P, Wenger D, Cardona P, Molina C, Rodríguez A, Canovas D, Purroy F, Salvat M, Serena J, Catalan Stroke Code Reperfusion CO. First pass effect in posterior circulation occlusions: Analysis from the CICAT registry. *International Journal of Stroke*. 2023; 18(2):17474930221089772. DOI:10.1177/17474930221089772. PMID:35272563. IF:6,700 (Q1/2D). Document type: Article.
  - Toscano C, Martínez JP, Guasch M, Ramos A, Martí J, Blanco N, Coronel MF, Domine MC, Martínez A, Prats L, Marín R, Aguilera A, Lambea A, Ezcurra G, Camps P. Asymptomatic parenchymal haemorrhage following endovascular treatment: Impact on functional outcome in patients with acute ischaemic stroke. *EUROPEAN JOURNAL OF NEUROLOGY*. 2023; DOI:10.1111/ene.16112. PMID:37909802. IF:5,100 (Q1/3D). Document type: Article.

## Neuromuscular Diseases

### Group leader

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Querol Gutierrez, Luis Antonio (FGS)

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Vidal Fernández, Maria Nuria (IR)



### DESCRIPTION

The Neuromuscular Diseases Unit is a multidisciplinary unit with extensive experience in the diagnosis, treatment and research of neuromuscular diseases. It is a team in which clinical and research activity are perfectly overlapped and in which clinical problems are addressed in the laboratory to find new biomarkers and diagnostic tools, new pathological mechanisms of disease, and new therapeutic targets. The Unit is composed of neurologists, biologists, and laboratory technicians who are all experts in basic and translational research and the organization and management of sample collections.

### MAIN LINES OF RESEARCH

- Autoimmune neuromuscular diseases (myasthenia, neuropathies, and myopathies).
  - Characterization of new target antigens in Myasthenia Gravis (MG), and immune neuropathies (CIDP, GBS, MMN). Their use as diagnostic and therapeutic biomarkers.
  - Nerve damage biomarkers.
  - Pathogenesis of newly recognized antigens both in MG and in CIDP.
  - Collaborators of the IGOS database for Guillain Barre syndrome.
  - Coordinators of the INCBBase (international database for CIDP).
  - NMD-ES Spanish registry for neuromuscular diseases.
- Muscular dystrophies.



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- Muscle MRI analysis as a biomarker of different muscular dystrophies.
- Natural history of Dysferlinopathies. The international COS-study Jain Foundation.
- Development of cell models of NMD diseases to study pathogenic.
- Pathogenic mechanisms in inflammatory myopathies (DM, necrotizing myopathies).
- Clinical, pathological, and molecular characterization of rare myopathies.
- Amyotrophic lateral sclerosis.
  - Gene profile of ALS patients in Spain.
  - Biomarkers profile in different phenotypes of ALS.
- Advance in the knowledge of the pathogenetic mechanisms involved in ALS.
- Use of the NMD.ES registry to perform research in different NMD.
- Search for new myopathy causative genes.
- Characterization of new muscle disorders.

### ACTIVE GRANTS

### SCIENTIFIC CHALLENGES

- Advance in the knowledge of the immunological mechanisms involved in the pathogenesis of autoimmune neuromuscular diseases (MG, CIDP, MMN).
- Evaluate the use of Nfl and myelin proteins as biomarkers of nerve damage in inflammatory neuropathies.
- To develop 2D and 3D cell-based assays to understand the effect of autoantibodies in Myasthenia gravis.
- To develop mouse models to demonstrate the pathogenic effect of antibodies to new antigens in MG.
- Advance in the knowledge of the pathogenetic mechanisms of inflammatory myopathies (DM, necrotizing myopathies).
- Search for new antigens and develop diagnostic tests with known and new biomarkers in immune-mediated neuropathies, myasthenia gravis, and inflammatory myopathies.
- Implement new diagnostic and disease follow-up methods for muscular dystrophies resulting from dysferlinopathy and other myopathies research (biomarkers (miRNA, proteome), MRI, etc).
- Advance in the knowledge of the pathogenetic mechanisms involved in muscular dystrophies.
- Search for new genes and biomarkers in the different phenotypes of ALS.
- Gallardo Vigo, Eduard & Diaz Manera, Jorge Alberto. Aproximaciones terapéuticas en distrofias musculares mediante modelos celulares y animales. GEMIO 2019. Fundacion Isabel Gemio para la investigación de distrofias musculares y otras enfermedades raras. Duration: 2019-2024. 150.000,02 €.
- Gallardo Vigo, Eduard & Cortés Vicente, Elena. Estudio exhaustivo de la miastenia "seronegativa": de la clínica al descubrimiento de nuevos autoantígenos y su validación in vitro e in vivo. PI22/01786. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 135.520,00€.
- Gallardo Vigo, Eduard. Valorización de una terapia antígeno-específica para el tratamiento disruptivo de la diabetes tipo 1; esclerosis múltiple, miastenia gravis, enfermedad celíaca y artritis reumatoide. CPP2021-008475. Ministerio de Ciencia e Innovacion (MICINN). Duration: 2023-2025. 138.873,88 €.
- E.Gallardo. Validació de l'eficàcia dels PS-Liposomes-haAChR-EP per el tractament de la Miastènia Gravis: estudi de generació de tolerancia antígen específica en un model murí de Miastènia Gravis. Ahead Therapeutics. Non-competitive. Duration: 2020- 2024. 50.000 €.
- Olive Plana, Montserrat. Abordaje multidisciplinar para el diagnóstico y caracterización de enfermedades musculares raras. PI21/01621. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 123.420,00 €.
- Pascual Goñi, Elba. Biomarkers in the diagnosis and follow-up of CIDP. GBS-CDIP-ELBA. GBS CDIP Foundation International. Duration: 2022-2025. 337.563,00 €.
- Pascual Goñi, Elba. IMAGiNe study. IMAGiNe. Foundation for Peripheral Neuropathy . Duration: 2022-2023. 12.654,00 €.



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- Querol Gutierrez, Luis Antonio. Precision medicine in chronic inflammatory neuropathy assessment. GBS/CIDP 2020. GBS CDIP Foundation International. Duration: 2020-2023. 50.245,70 €.
- Querol Gutierrez, Luis Antonio. Nuevos marcadores serológicos en enfermedades neuroinmunes raras. ER22PA2C762. CIBERER. Duration: 2023-2024. 45.000,00 € (CIBER).
- Querol Gutierrez, Luis Antonio. Medicina de precisión en neuropatías autoinmunes. PI22/00387. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 135.520,00 €.
- Rojas García, Ricardo. Validación de biomarcadores candidatos para el diagnóstico y la progresión de la Esclerosis Lateral Amiotrófica y estudio de las vías fisiopatogénicas implicadas. PI19/01543. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 123.420,00 €.

#### GRANTS AWARDED

- Gallardo Vigo, Eduard. Characterization and optimization of myasthenia gravis care. OptiMyG. Competitiu. EJPR23-104 European Joint Programme of Rare Diseases. AC23\_2/00030 EJP-RD ISCIII. 2024-2026. 174.918,00 €.
- Roja García, Ricardo. Caracterización del perfil transcriptómico en el espectro completo de Esclerosis Lateral Amiotrófica-Demencia frontotemporal (ELADFT) para la investigación y validación de biomarcadores en biofluidos. PI23/00845. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 127.500,00€.

#### DOCTORAL THESES DEFENDED

- Alonso Pérez, Jorge. Caracterización clínica, genética y de las vías de degeneración muscular de la distrofia muscular por déficit de sarcoglicano. 22/05/2023. Universitat Autònoma de Barcelona. Supervisors: Díaz Manera, Jorge Alberto; Suárez Calvet, Xavier; Querol Gutiérrez, Luis Antonio. <http://hdl.handle.net/10803/690666>
- Álvarez Velasco, Rodrigo. Detección de marcadores clínicos e inmunológicos para diagnóstico y pronóstico en miastenia gravis. 21/09/2023. Universitat Autònoma de Barcelona. Supervisors: Gallardo Vigo, Eduard; Querol Gutiérrez, Luis Antonio.

#### SCIENTIFIC PRODUCTION

- Al H, Doets AY, Stino AM, Zivkovic SA, Andersen H, Willison HJ, Cornblath DR, Gorson KC, Islam Z, Mohammad QD, Sindrup SØH, Kusunoki S, Davidson A, Casasnovas C, Bateman K, Miller JAL, Van Den Berg B, Verboon C, Roodbol J, Leonhard SE, Arends S, Luijten LWG, Benedetti L, Kuwabara S, Van Den Bergh P, Monges S, Marfia GA, Shahrizaila N, Galassi G, Pereon Y, Burmann J, Kuitwaard K, Kleyweg RP, Marchesoni C, Tous MJS, Querol L, Martin L, Wang Y, Nobile E, Rinaldi S, Schenone A, Pardo J, Vermeij FH, Waheed W, Lehmann HC, Granit V, Stein B, Cavaletti G, Gutierrez G, Barroso FA, Visser LH, Katzberg HD, Dardiotis E, Attarian S, Van Der Kooij AJ, Eftimov F, Wirtz PW, Samijn JPA, Jacobus H, Hadden RDM, Holt JKL, Sheikh KA, Kolb N, Karafiath S, Vytopil M, Antonini G, Feasby TE, Faber C, Kramers H, Busby M, Roberts RC, Silvestri NJ, Fazio R, Van GW, Garssen MPJ, Verschuuren J, Harbo T, Jacobs BC. CSF Findings in Relation to Clinical Characteristics, Subtype, and Disease Course in Patients With Guillain-Barré Syndrome. NEUROLOGY. 2023; 100(23):e2386-e2397. DOI:10.1212/WNL.0000000000207282. PMID:37076309. IF:9,900 (Q1/1D). Document type: Article.
- Álvarez R, Dols O, El Bounasri S, López L, Trujillo JC, Reyes D, Suárez X, Cortés E, Illa I, Gallardo E. Reduced Number of Thymoma CT-LA4-Positive Cells Is Associated With a Higher Probability of Developing Myasthenia Gravis. Neurology-Neuroimmunology & Neuroinflammation. 2023; 10(2):e200085. DOI:10.1212/NXI.0000000000200085. PMID:36697230. IF:8,800 (Q1/1D). Document type: Article.
- Artola M, Hernando A, Vidal O, Vidal N, Cuenca E, Horno R, Robles MA, Oriol C, Peralta S, Solana M, Rubio M, Montero C, Lleixa M, Zabay C, Martín M, Leon I, Molinos C, Matamoros M, Mercade L, Fornali O, Montero L, Saiz A, Sola N. The role of specialist nurses in detecting spasticity and related symptoms in multiple sclerosis. JOURNAL OF CLINICAL NURSING. 2023; 32(13-14)DOI:10.1111/jocn.16421. PMID:35799407. IF:4,200 (Q1/1D). Document type: Article.
- Bermejo L, Fernández CPD, González L, Segarra A, Nedkova V, Gallano P, Martín P, Hernández A, Olivé M, Arteché A, Domínguez C. Distal myopa-





## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- thy due to digenic inheritance of *TIA1* and *SQSTM1* variants in two unrelated Spanish patients. *NEUROMUSCULAR DISORDERS*. 2023; 33(12)DOI:10.1016/j.nmd.2023.10.016. PMID:38016875. IF:2,800 (Q3/6D). Document type: Article.
- Blanco Y, Escudero D, Lleixà C, Llufríu S, Egri N, García RR, Alba M, Aguilar E, Artola M, Aldea M, Alvarez S, Caballero E, Cabrera JM, Fonseca E, Guasp M, Hernando A, Martínez E, Olivé G, López J, Martín L, Martínez L, Rombauts A, Rodés M, Sabater L, Sepulveda M, Solana E, Tejada C, Vidal N, Vilella A, Fortuny C, Armangué T, Dalmau JO, Querol L, Saiz A. mRNA COVID-19 Vaccination Does Not Exacerbate Symptoms or Trigger Neural Antibody Responses in Multiple Sclerosis. *Neurology-Neuroimmunology & Neuroinflammation*. 2023; 10(6)DOI:10.1212/NXI.0000000000200163. PMID:37679040. IF:8,800 (Q1/1D). Document type: Article.
  - Broers MC, Wieske L, Erdag E, Gürlek C, Bunschoten C, van PA, Eftimov F, Kuitwaard K, de Vries JM, de Wit MCY, Nagtzaam MMP, Franken SC, Zhu L, Paunovic M, de Wit M, Schreurs MWJ, Lleixà C, Martín L, Pascual E, Querol L, Jacobs BC, Huizinga R, Titulaer MJ. Clinical relevance of distinguishing autoimmune nodopathies from CIDP: longitudinal assessment in a large cohort. *JOURNAL OF NEUROLOGY NEUROSURGERY AND PSYCHIATRY*. 2023; 95(1)DOI:10.1136/jnnp-2023-331378. PMID:37879898. IF:11,000 (Q1/1D). Document type: Article.
  - Collet R, Caballero M, Querol L. Clinical and pathophysiological implications of autoantibodies in autoimmune neuropathies. *REVUE NEUROLOGIQUE*. 2023; 179(8)DOI:10.1016/j.neurol.2023.02.064. PMID:36907709. IF:3,000 (Q3/6D). Document type: Review.
  - Davies AJ, Lleixà C, Siles AM, Gourlay DS, Berridge G, Dejnirattisai W, Ramírez C, Anaya J-M, Falconar AK, Romero CM, Osorio L, Parra B, Screatton GR, Mongkolsapaya J, Fischer R, Pardo CA, Halstead SK, Willison HJ, Querol L, Rinaldi S. Guillain-Barré Syndrome Following Zika Virus Infection Is Associated With a Diverse Spectrum of Peripheral Nerve Reactive Antibodies. *Neurology-Neuroimmunology & Neuroinflammation*. 2023; 10(1):e200047. DOI:10.1212/NXI.0000000000200047. PMID:36411078. IF:8,800 (Q1/1D). Document type: Article.
  - de Bruyn A, Montagnese F, Holm S, Poulsen NS, Stojkovic T, Behin A, Palmio J, Jokela M, De Bleecker JL, de Visser M, van der Kooij AJ, ten L, Gonzalez CD, Maggi L, Gallone A, Kostera A, Macias A, Lusakowska A, Nedkova V, Olive M, Alvarez R, Wanschitz J, Paradas C, Mavillard F, Querin G, Fernández G, Quinlivan R, Walter MC, Depuydt CE, Udd B, Vissing J, Schoser B, Claeys KG. Anoctamin-5 related muscle disease: clinical and genetic findings in a large European cohort. *BRAIN*. 2023; 146(9)DOI:10.1093/brain/awad088. PMID:36913258. IF:14,500 (Q1/1D). Document type: Article.
  - de Frutos F, Ochoa JP, Gómez C, Reyes D, Aróstegui JI, Casasnovas C, Barriales R, Sevilla T, Gonzalez E, Ramil E, Galan L, González J, García A, Rojas R, Espinosa MA, García P. Phenotype and clinical outcomes of Glu89Lys hereditary transthyretin amyloidosis: a new endemic variant in Spain. *AMYLOID-JOURNAL OF PROTEIN FOLDING DISORDERS*. 2023; 30(2)DOI:10.1080/13506129.2022.2142110. PMID:36343383. IF:5,500 (Q1/3D). Document type: Article.
  - De Luna N, Carbayo Á, Dols O, Turon J, Reyes D, Illan I, Jericó I, Pagola I, Lleixà C, Querol L, Rubio S, Alcolea D, Fortea J, Lleó A, Cortés E, Rojas R. Neuroinflammation-Related Proteins NOD2 and Spp1 Are Abnormally Upregulated in Amyotrophic Lateral Sclerosis. *Neurology-Neuroimmunology & Neuroinflammation*. 2023; 10(2):e200072. DOI:10.1212/NXI.0000000000200072. PMID:36460480. IF:8,800 (Q1/1D). Document type: Article.
  - Dou J, Bakulski K, Guo K, Hur J, Zhao L, Saez S, Stark A, Chia R, García A, Rojas R, Vázquez JF, Fernández R, BAndrés S, Gómez P, Periñán MT, Mir P, Pérez J, Cardona F, Menéndez M, Riancho J, Borrego D, Galán L, Infante J, Pastor P, Paradas C, Dols O, Traynor BJ, Feldman EL, Goutman SA, Spanish C. Cumulative Genetic Score and C9orf72 Repeat Status Independently Contribute to Amyotrophic Lateral Sclerosis Risk in 2 Case-Control Studies. *Neurology-Genetics*. 2023; 9(4):e200079. DOI:10.1212/NXG.0000000000200079. PMID:37293291. IF:3,100 (Q2/5D). Document type: Article.



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- El L, Amara A, Sanson B, Lacatus O, Belhouchet AA, Kroneman M, Claeys K, Plancon JP, Rodolico C, Primiano G, Trojsi F, Filosto M, Mongini TE, Bortolani S, Monforte M, Carraro E, Maggi L, Ricci F, Silani V, Orsucci D, Créange A, Péréon Y, Stojkovic T, van der Beek N, Toscano A, Pareyson D, Attarian S, Van den Bergh PYK, Remiche G, Hoeijmakers JGJ, Badrising U, Voermans NC, Kaindl AM, Schara U, Schoser B, Gazzero E, Haberlová J, Vohanka S, Pál E, Molnar MJ, Leonardis L, Tournev IL, Osorio AN, Olivé M, Muelas N, Alonso J, Plá F, De Visser M, Siciliano G, Sacconi S. Telemedicine in Neuromuscular Diseases During Covid-19 Pandemic: ERN-NMD European Survey. *Journal Of Neuromuscular Diseases*. 2023; 10(2)DOI:10.3233/JND-221525. PMID:36373291. IF:3,300 (Q2/5D). Document type: Article.
- Esteller D, Morrow J, Alonso J, Reyes D, Carbayo A, Bisogni G, Cateruccia M, Monforte M, Tasca G, Alangary A, Marini C, Sabatelli M, Laura M, Ramdharry G, Bolaño C, Turon J, Töpf A, Guglieri M, Rossor AM, Olive M, Bertini E, Straub V, Reilly MM, Rojas R, Díaz J. Muscle magnetic resonance imaging of a large cohort of distal hereditary motor neuropathies reveals characteristic features useful for diagnosis. *NEUROMUSCULAR DISORDERS*. 2023; 33(10)DOI:10.1016/j.nmd.2023.08.010. PMID:37704504. IF:2,800 (Q3/6D). Document type: Article.
- Esteller D, Schiava M, Villar RN, Dibowski B, Venturelli N, Laforet P, Alonso J, Olive M, Domínguez C, Paradas C, Vélez B, Kostera A, Kierdaszuk B, Rodolico C, Claeys K, Pál E, Malfatti E, Souvannanorath S, Alonso A, de Ridder W, De Smet E, Papadimas G, Papadopoulos C, Xirou S, Luo S, Muelas N, Vilchez JJ, Ramos A, Monforte M, Tasca G, Udd B, Palmio J, Sri S, Krause S, Schoser B, Fernández R, de Munain AL, Pegoraro E, Farrugia ME, Vorgerd M, Manousakis G, Chanson JB, Nadaj A, Cetin H, Badrising U, Warman J, Bevilacqua J, Earle N, Campero M, Díaz J, Ikenaga C, Lloyd TE, Nishino I, Nishimori Y, Saito Y, Oya Y, Takahashi Y, Nishikawa A, Sasaki R, Marini C, Guglieri M, Straub V, Stojkovic T, Carlier RY, Díaz J. Analysis of muscle magnetic resonance imaging of a large cohort of patient with VCP-mediated disease reveals characteristic features useful for diagnosis. *JOURNAL OF NEUROLOGY*. 2023; DOI:10.1007/s00415-023-11862-4. PMID:37603075. IF:6,000 (Q1/2D). Document type: Article.
- Fehmi J, Davies AJ, Antonelou M, Keddie S, Pikkupeura S, Querol L, Delmont E, Cortese A, Franciotta D, Persson S, Barratt J, Pepper R, Farinha F, Rahman A, Canetti D, Gilbertson JA, Rendell NB, Radunovic A, Minton T, Fuller G, Murphy SM, Carr AS, Reilly MR, Eftimov F, Wieske L, Teunissen CE, Roberts I, Ashman N, Salama AD, Rinaldi S. Contactin-1 links autoimmune neuropathy and membranous glomerulonephritis. *PLoS One*. 2023; 18(3):e0281156. DOI:10.1371/journal.pone.0281156. PMID:36893151. IF:3,700 (Q2/4D). Document type: Article.
- Fionda L, Lauletta A, Leonardi L, Perez JA, Morino S, Merlonghi G, Alfieri G, Costanzo R, Tufano L, Vanoli F, Rossini E, Vigo EG, Tartaglione T, Salvetti M, Antonini G, Diaz J, Garibaldi M. Muscle MRI in immune-mediated necrotizing myopathy (IMNM): implications for clinical management and treatment strategies. *JOURNAL OF NEUROLOGY*. 2023; 270(2)DOI:10.1007/s00415-022-11447-7. PMID:36329184. IF:6,000 (Q1/2D). Document type: Article.
- Ingelfinger F, Sparano C, Bamert D, Reyes-Leiva D, Sethi A, Rindlisbacher L, Zwicky P, Kreutmair S, Widmer CC, Mundt S, Cortés-Vicente E, Tugues S, Becher B, Schreiner B. Azathioprine therapy induces selective NK cell depletion and IFN- $\gamma$  deficiency predisposing to herpesvirus reactivation. *J Allergy Clin Immunol*. 2023; 151(1):280-286.e2. DOI: 10.1016/j.jaci.2022.09.010. PMID: 36122787. IF:14,200 (Q1/1D) Document type: Article.
- Jericó I, Vicuña J, Blanco I, Macias M, Martínez L, Roldán M, Rojas R, Pagola I, Carbayo A, De Luna N, Zelaya V, Mendioroz M. Profiling TREM2 expression in amyotrophic lateral sclerosis. *BRAIN BEHAVIOR AND IMMUNITY*. 2023; 109DOI:10.1016/j.bbi.2023.01.013. PMID:36681358. IF:15,100 (Q1/1D). Document type: Review.
- Mackenbach MJ, Willemse EAJ, Van Den Dorpel JJA, Van Der Beek NAME, Díaz J, Rizopoulos D, Teunissen C, Van Der Ploeg AT, Van Den Hout JMP. Neurofilament Light and Its Association With CNS Involvement in Patients With Classic Infantile Pompe Disease. *NEURO-*



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- LOGY. 2023; 101(6):e594-e601. DOI:10.1212/WNL.0000000000207482. PMID:37336766. IF:9,900 (Q1/1D). Document type: Article.
- Meca JE, Prieto JM, Caminero AB, Olascoaga J, Alonso AM, Durán E, Espinosa R, Dotor J, Romero M, Ares A, Pérez D, Calles C, Hernández MA, Hervás M, Mendoza A, Berdei Y, Téllez N, Herrera N, Sotoca J, Presas S, Querol LA, Hervás M, Batlle J, Martín G, Gubieras L, Martínez S, Ramió L, Mallada J, Belenguer A, Gascón F, Casanova B, Landete L, Berenguer L, Navarro L, Gómez M, Durán C, Rodríguez A, Álvarez E, García DA, López AM, Llaneza MA, Marzo ME, Sánchez JL, Oterino A, Villaverde R, Castillo T, Álvarez de Arcaya A, Larena C. Effectiveness and Safety of Teriflunomide in Relapsing–Remitting Multiple Sclerosis and Improvements in Quality of Life: Results from the Real-World TERICARE Study. *Neurology and Therapy*. 2023; DOI:10.1007/s40120-023-00557-7. PMID:37861931. IF:3,700 (Q2/4D). Document type: Article.
  - Moore U, Fernández E, Schiava M, Cox D, Gordish H, James MK, Mayhew A, Wilson I, Guglieri M, Rufibach L, Blamire A, Carlier PG, Mori M, Day JW, Jones KJ, Bharucha DX, Salort E, Pestronk A, Walter MC, Paradas C, Stojkovic T, Bravver E, Pegoraro E, Mendell JR, Bushby K, Diaz J, Straub V, Jain C. Myostatin and follistatin as monitoring and prognostic biomarkers in dysferlinopathy. *NEUROMUSCULAR DISORDERS*. 2023; 33(2) DOI:10.1016/j.nmd.2023.01.001. PMID:36689846. IF:2,800 (Q3/6D). Document type: Article.
  - Palones E, Curto E, Plaza V, Gonzalez L, Segarra A, Querol L, Bertoletti F, Rodríguez MJ, Gallano P, Crespo A. Clinical and functional characteristics, possible causes, and impact of chronic cough in patients with cerebellar ataxia, neuropathy, and bilateral vestibular areflexia syndrome (CANVAS). *JOURNAL OF NEUROLOGY*. 2023; DOI:10.1007/s00415-023-12001-9. PMID:37917234. IF:6,000 (Q1/2D). Document type: Article.
  - Querol L, Delmont E, Lleixa C. The autoimmune vulnerability of the node of Ranvier. *JOURNAL OF THE PERIPHERAL NERVOUS SYSTEM*. 2023; 28:S12-S22. DOI:10.1111/jns.12570. PMID:37272737. IF:3,800 (Q2/4D). Document type: Review.
  - Querol L, Lewis RA, Hartung HP, Van PA, Wallstroem E, Luo XD, Alonso M, Atassi N, Hughes R. An innovative phase 2 proof-of-concept trial design to evaluate SAR445088, a monoclonal antibody targeting complement C1s in chronic inflammatory demyelinating polyneuropathy. *JOURNAL OF THE PERIPHERAL NERVOUS SYSTEM*. 2023; 28(2)DOI:10.1111/jns.12551. PMID:37119056. IF:3,800 (Q2/4D). Document type: Article.
  - Saccà F, Salort E, Jacob S, Cortés E, Schneider C. Refocusing generalized myasthenia gravis: Patient burden, disease profiles, and the role of evolving therapy. *EUROPEAN JOURNAL OF NEUROLOGY*. 2023; DOI:10.1111/ene.16180. PMID:38117543. IF:5,100 (Q1/3D). Document type: Review.
  - Schiava M, Ikenaga C, Topf A, Caballero M, Chou TF, Li S, Wang F, Daw J, Stojkovic T, Villar R, Nishino I, Inoue M, Nishimori Y, Saito Y, Katsuno M, Noda S, Ito C, Otsuka M, Nahir S, Manousakis G, Walk D, Quinn C, Alfano L, Sahenk Z, Tasca G, Monforte M, Sabatelli M, Bisogni G, Oldfors A, Rydeliu A, Pal E, Paradas C, Velez B, De Bleecker JL, Farugia ME, Longman C, Harms MB, Ralston S, Zanoteli E, Macedo Serafim da Silva A, Sotoca J, Juntas R, Bevilacqua J, Balart M, Talbot S, Straub V, Guglieri M, Marini C, Diaz J, Weihi CC. Clinical Classification of Variants in the Valosin-Containing Protein Gene Associated With Multisystem Proteinopathy. *Neurology-Genetics*. 2023; 9(5):e200093. DOI:10.1212/NXG.0000000000200093. PMID:37588275. IF:3,100 (Q2/5D). Document type: Article.
  - Segarra A, Collet R, Gonzalez L, Vesperinas A, Caballero M, Carbayo A, Diaz J, Rodríguez MJ, Gallardo E, Gallano P, Olive M. A new homozygous missense variant in LMOD3 gene causing mild nemaline myopathy with prominent facial weakness. *NEUROMUSCULAR DISORDERS*. 2023; 33(4) DOI:10.1016/j.nmd.2023.02.006. PMID:36893608. IF:2,800 (Q3/6D). Document type: Article.
  - Suárez X, Fernández E, Natera D, Jou C, Pinol P, Villalobos E, Ortez C, Monceau A, Schiava M, Codina A, Verdu J, Clark J, Laidler Z, Mehra P, Gokul R, Alonso J, Marini C, Tasca G, Straub V, Guglieri M, Nascimento A, Diaz J. Decoding the transcriptome of Duchenne muscular dystrophy



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- to the single nuclei level reveals clinical-genetic correlations. *Cell Death & Disease*. 2023; 14(9):596. DOI:10.1038/s41419-023-06103-5. PMID:37673877. IF:9,000 (Q1/2D). Document type: Article.
- Taieb G, Jentzer A, Vegezzi E, Lleixà C, Illa I, Querol L, Devaux JJ. Effect of monovalency on anti-contactin-1 IgG4. *Frontiers in Immunology*. 2023; 14:1021513. DOI:10.3389/fimmu.2023.1021513. PMID:36999029. IF:7,300 (Q1/3D). Document type: Article.
  - van PA, Van den Bergh PYK, Hadden RDM, Avau B, Vankrunkelsven P, Attarian S, Blomkwist PH, Cornblath DR, Goedee HS, Harbo T, Jacobs BC, Kusunoki S, Lehmann HC, Lewis RA, Lunn MP, Nobile E, Querol L, Rajabally YA, Umapathi T, Topaloglu HA, Willison HJ. European Academy of Neurology/Peripheral Nerve Society Guideline on diagnosis and treatment of Guillain–Barré syndrome. *JOURNAL OF THE PERIPHERAL NERVOUS SYSTEM*. 2023; 28(4)DOI:10.1111/jns.12594. PMID:37814551. IF:3,800 (Q2/4D). Document type: Review.
  - van PA, Van den Bergh PYK, Hadden RDM, Avau B, Vankrunkelsven P, Attarian S, Blomkwist PH, Cornblath DR, Goedee HS, Harbo T, Jacobs BC, Kusunoki S, Lehmann HC, Lewis RA, Lunn MP, Nobile E, Querol L, Rajabally YA, Umapathi T, Topaloglu HA, Willison HJ. European Academy of Neurology/Peripheral Nerve Society Guideline on diagnosis and treatment of Guillain–Barré syndrome. *EUROPEAN JOURNAL OF NEUROLOGY*. 2023; 30(12)DOI:10.1111/ene.16073. PMID:37814552. IF:5,100 (Q1/3D). Document type: Review.
  - Vazquez JF, Borrego D, Paradas C, Gomez MT, Rojas R, Varona L, Povedano M, García T, Pascual IJ, Gutierrez A, Riancho J, Turon J, Assialioui A, Perez J, Sevilla T, Perez JE, García A, A. Characterizing SOD1 mutations in Spain: The impact of genotype, age and sex in the natural history of the disease. *EUROPEAN JOURNAL OF NEUROLOGY*. 2023; 30(4)DOI:10.1111/ene.15661. PMID:36484631. IF:5,100 (Q1/3D). Document type: Article.
  - Vázquez JF, Branás M, Medina J, Povedano M, Pitarch I, López M, Fernández JA, Lafuente M, Rojas R, Caballero JM, Málaga I, Eirís J, De Lemus M, Cattinari MG, Cabello R, Díaz P, Sánchez V, Rebollo P, Maurino J, Madruga M. Validation of a Set of Instruments to Assess Patient- and Caregiver-Oriented Measurements in Spinal Muscular Atrophy: Results of the SMA-TOOL Study. *Neurology and Therapy*. 2023; 12(1)DOI:10.1007/s40120-022-00411-2. PMID:36269538. IF:3,700 (Q2/4D). Document type: Article.
  - Vesperinas A, Cortés E. Rituximab treatment in myasthenia gravis. *Frontiers in Neurology*. 2023; 14:1275533. DOI:10.3389/fneur.2023.1275533. PMID:37849836. IF:3,400 (Q2/5D). Document type: Review.
  - Wehl CC, Topf A, Bengoechea R, Duff J, Charlton R, García SK, Domínguez C, Alsaman A, Hernández A, Franco LV, Sánchez M, Beecroft SJ, Goulee H, Daw J, Bhadra A, True H, Inoue M, Findlay AR, Laing N, Olivé M, Ravenscroft G, Straub V. Loss of function variants in DNAJB4 cause a myopathy with early respiratory failure. *ACTA NEUROPATHOLOGICA*. 2023; 145(1)DOI:10.1007/s00401-022-02510-8. PMID:36264506. IF:12,700 (Q1/1D). Document type: Article.
  - Xucla T, Turon J, Caballero M, Cortés E, Rojas R. Leptospirosis-induced acute acquired inflammatory neuropathy. *JOURNAL OF THE PERIPHERAL NERVOUS SYSTEM*. 2023; 28(1)DOI:10.1111/jns.12525. PMID:36567442. IF:3,800 (Q2/4D). Document type: Article.

## Parkinson's Disease and Movement Disorder

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### DESCRIPTION

Led by Jaime Kulisevsky MD, PhD, and based at the Movement Disorders Unit of Sant Pau Hospital and Sant Pau Biomedical Research Institute, the group focuses its interest on Parkinson's disease, Huntington's disease, atypical parkinsonisms, tremor, and other movement disorders research.

The priority lines include the study of neuronal mechanisms related to cognitive impairment development and neuropsychiatric symptoms in movement disorders, the development of specific instruments for these symptoms' diagnosis and the study of different pharmacological agents' responses.

To meet the challenge of deepening our knowledge of the mechanisms involved in these symptoms' development, the group works with neuroimaging techniques, neuropsychology, clinical assessment, brain stimulation, genetics, and biomarkers, among others.

### MAIN LINES OF RESEARCH

- Cognitive Impairment, Behavioural Dysfunctions and other non-motor symptoms in Parkinson Disease (PD):
  - Study of the neural correlates of cognitive performance, mild cognitive impairment, dementia, and behavioral alterations (apathy, visual hallucinations and impulse control disorders) in PD using neurophysiological techniques (event related brain potentials), structural, functional, and molecular neuroimaging.
  - Characterization of the neurodegenerative process underlying cognitive impairment in PD through the study of cortical atrophy patterns related to genetic and biomarker indicators.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- Development and validation of PD-specific tools for cognitive and functional assessment to detect subtle changes in cognitive performance and treatment response.
- Prospective follow-up study of cognition and mood in PD patients with deep-brain stimulation of the subthalamic nucleus.
- Identification of blood-based, cognitive, and neurophysiological biomarkers of cognitive deterioration in PD.
- Identification of genetic and neurophysiological biomarkers of apathy and impulse control disorders in PD.
- Data science applied to large PD databases such as PPMI.
- Surgery and treatments of continuous infusion of intraduodenal levodopa.
- Study of the effects of continuous infusion of intraduodenal levodopa on cognition and mood.
- Follow-up and etiologic study of weight loss in patients treated with continuous infusion of intraduodenal levodopa.
- Huntington's disease (HD):
  - Characterization of the natural course HD in large and international cohort and studies (Enroll-HD).
  - Study of the neural correlates of clinical progression, cognitive performance, mild cognitive impairment, dementia and behavioral alterations in HD using neurophysiological techniques (event-related brain potentials), structural, functional and molecular neuroimaging.
  - Identification of potential neuroimaging, blood-based, muscular tissue, CSF, and clinical biomarkers of disease progression in premanifest and manifest HD.
  - Study of the prevalence and neural substrates of behavioral alterations in premanifest and manifest HD.
  - Development and validation of HD-specific tools for cognitive and functional assessment to detect subtle changes in cognitive performance and treatment response.
- Study of the effect of intermediate alleles and homozygous on the clinical presentation of HD.
- Data science applied to large HD databases such as Enroll-HD and Registry.
- Identification of different cognitive phenotypes in HD.
- Study of the role of TAU in the heterogeneity of cognitive deterioration and trajectory of neurodegeneration in HD.
- Progressive supranuclear palsy (PSP):
  - Development of a PSP-specific cognitive rating scale.
  - Development of a standardized eye movement evaluation.
  - Study of the neural correlates of clinical progression, cognitive performance and behavioral alterations in PSP using structural and functional neuroimaging.
- Essential tremor:
  - Molecular neuroimaging in essential tremor.
  - Clinical, neurophysiological and neuroimaging assessment of patients with FXTAS (fragile X-associated tremor/ataxia syndrome).

## SCIENTIFIC CHALLENGES

### Parkinson's Disease (PD)

- General
  - COPPADIS: Cohort of Patients with Parkinson's Disease in Spain (national collaborative study).
  - Intensification for Specialist Physicians of the "Strategic Research and Innovation Plan" (PERIS) Expedient Number: SLT008 / 18.
- Cognition
  - DuoCog: randomized, double blind and crossed study (immediate levodopa vs. intraduodenal in cognition and mood).
  - Neuropsychiatric disorders.
  - Prospective study: new method of music therapy in apathy and depression.
  - Choral singing in patients with PD. Study on its effects on apathy and depression.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- Effects of mindfulness on the presence and development of TCI.
- Natural history and neural correlates of psychotic symptoms in PD patients.
- Advanced PD
  - Nutritional analysis in patients with intraduodenal levodopa.
  - Prospective study of cognitive, behavioral, sleep and quality of life in patients with deep brain stimulation (DBS) and intraduodenal levodopa.
  - Prospective study of patient satisfaction after DBS.
  - Subthalamic DBS study in PD: functional reorganization of brain networks and repercussions on postsurgical complications.
  - Monitoring the mobility using a sensor in fluctuating PD for therapeutic purposes. Multicenter Clinical Trial (INV-PROC-A118).

#### Huntington Disease (HD)

- Coordination of the "Cognitive Phenotype Working Group" (European Huntington's Disease Network).
- Spanish Coordination of Enroll-HD: A Prospective Registry Study in a Global Huntington's Disease Cohort (PI in Spain: J. Kulisevsky)
- Validation of cognitive (HD-CRS) and functionality (HD-CFRS) scales.
- Development and validation of new tools for cognitive and functional assessment of cognitive impairment in HD.

#### Tremor

- Development of a tremor diagnostic system using a mobile app and software. Joint project with Mediktor company
- Perampanel in essential tremor. "Real life" study.

#### Other neurodegenerative diseases

- Neural correlates of hypofrontality in different subtypes of progressive supranuclear palsy (PSP).
- Neuropsychiatric and behavioral symptoms in PSP subtypes.
- FXTAS: collaborative research with Genetics

from Hospital Clínic (Barcelona) and Associació Catalana X Fràgil (ACXF).

- Collaboration with GEMT-CAT (Movement Disorders Group Catalan Neurology Society) in the Consensus Document on Genetics in Movement Disorders.

#### Neuroimaging and data engineering

- Dynamic connectivity models in cognitive impairment in PD. In collaboration with the Center for Brain and Cognition, Pompeu Fabra University, Barcelona.
- Neuroimaging and neurophysiology of hallucinations in PD: Project: "Unraveling dysfunctional brain networks in patients with Parkinson's disease suffering from hallucinations", in collaboration with Prof. Blanke, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland.
- Effects of dopaminergic treatment of PD on neurocognitive networks. Collaborative study with Hospital del Mar, Barcelona.
- Functional and structural brain correlates in HD: cognition, apathy, depression, irritability, biomarkers, oxytocin levels. Collaborative study with Hospital de Burgos (HUBU).
- Analysis of collaborative databases ("big-data"): ENROLL (EH), PPMI (EP), COPPADIS (EP).
- Analysis of local databases: PSP, EH, EP.

#### Parkinson's disease and other movement disorders' laboratory

- Processing, biobanking and biomarker analyses of human liquid biological samples (plasma, serum, CSF, and urine) from different movement disorders.
- Development and optimization of methods for extracellular vesicle isolation from different biofluids in movement disorders.
- Identification of molecular signatures in brain, plasma, CSF, and urine extracellular vesicles in Huntington's disease to improve disease prognosis and stratification of patients in clinical trials.
- To explore the clinical utility of the determination of tau and phosphorylated alpha-synuclein in skin tissue, for the early and di-

## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

Differential diagnosis of Atypical Parkinsonian Syndromes.

## ACTIVE GRANTS

- Aracil Bolanos, Ignacio. Contratos Juan Rodés 2022. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2026. 180.000,00 €.
- Kulisevsky Bojarski, Jaime. Historia natural y correlatos neuronales de los síntomas psicóticos en pacientes con enfermedad de Parkinson. PI18/01717. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 93.170,00 €.
- Kulisevsky Bojarski, Jaime. Desarrollo y validación de instrumentos específicos de evaluación cognitiva basados en la biología de la enfermedad de Huntington. PI21/01758. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 244.420,00 €.
- Kulisevsky Bojarski, Jaime. ParkinsonAID. ParkinsonAID. Unión Europea. Duration: 2022-2023. 30.000,00 €.
- Kulisevsky Bojarski, Jaime. MALALTIA DE PARKINSON I TRANSTORNOS DEL MOVIMENT. 2022 INV-1 00048. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 66.217,84 €.
- Kulisevsky Bojarski, Jaime. Ensayo clínico multicéntrico, aleatorizado, doble ciego y controlado por placebo, de evaluación de la eficacia y la seguridad del donepezilo versus placebo en el deterioro cognitivo leve asociado a la Enfermedad de Parkinson. ICI22/00082. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2026. 575.328,45 €.
- Ruiz Barrio, Iñigo. Contratos Rio Hortega 2022. CM22/00072. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2024. 65.000,00 €.

## GRANTS AWARDED

- Kulisevsky Bojarski, Jaime. Investigación y desarrollo de una nueva terapia para el tratamiento de la enfermedad de Huntington. CPP2022-009575. Ministerio de Ciencia e Innovación (MICIIN). Duration: 2023-2026. 312.446,20 €.

## SCIENTIFIC PRODUCTION

- Alonso A, Kurtis MM, Gomez V, Macias D, Viedma AG, Rezola EM, Pagonabarraga J, Orgaz LA,

Masjuan J, Martinez JC, Parees I. Functional neurological disorders after COVID-19 and SARS-CoV-2 vaccines: a national multicentre observational study. JOURNAL OF NEUROLOGY NEUROSURGERY AND PSYCHIATRY. 2023; 94(9) DOI:10.1136/jnnp-2022-330885. PMID:36889911. IF:11,000 (Q1/1D).Document type: Article.

- Aracil I, Pérez J, Martínez S, Horta A, Puig A, García J, Olmedo G, Campolongo A, Pagonabarraga J, Kulisevsky J. Baseline Large-Scale Network Dynamics Associated with Disease Progression in Huntington's Disease. MOVEMENT DISORDERS. 2023; DOI:10.1002/mds.29655. PMID:38148511. IF:8,600 (Q1/1D).Document type: Letter.
- Barrio IR, Miki Y, Jaunmuktane ZT, Warner T, De Pablo E. Association Between Orthostatic Hypotension and Dementia in Patients With Parkinson Disease and Multiple System Atrophy. NEUROLOGY. 2023; 100(10):e998-e1008. DOI:10.1212/WNL.0000000000201659. PMID:36526431. IF:9,900 (Q1/1D).Document type: Article.
- Brandao PRD, Pereira DA, Grippe TC, Bispo DDD, Maluf FB, Yunes MP, Nunes G, Alves CHL, Pagonabarraga J, Kulisevsky J, da A, Serafim CFD, Ferreira A, Bastos A, Belchior A, de Almeida BLC, Castro B, Matos MS, de Matos RC, Rios GD, Carneiro LO, da BCC, Castro L, Rocha VLS, Tavares MCH, Cardoso F. Parkinson's Disease-Cognitive Rating Scale (PD-CRS): Normative Data and Mild Cognitive Impairment Assessment in Brazil. Movement Disorders Clinical Practice. 2023; 10(3)DOI:10.1002/mdc3.13657. PMID:36949793. IF:4,000 (Q2/4D).Document type: Article.
- Calabria M, Ciongoli F, Grunden N, Ordás C, García C. Background Music and Memory in Mild Cognitive Impairment: The Role of Interindividual Differences. JOURNAL OF ALZHEIMERS DISEASE. 2023; 92(3)DOI:10.3233/JAD-221051. PMID:36806508. IF:4,000 (Q2/4D).Document type: Article.
- Cattaneo C, Kulisevsky J. The Effects of Safinamide in Chinese and Non-Chinese Patients with Parkinson's Disease. ADVANCES IN THERAPY. 2023; DOI:10.1007/s12325-023-02736-2. PMID:38070039. IF:3,800 (Q2/4D).Document type: Article.
- Collerton D, Barnes J, Diederich NJ, Dudley R, Ffytche D, Friston K, Goetz CG, Goldman JG,





## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- Jardri R, Kulisevsky J, Lewis SJG, Naral S, O'Callaghan C, Onofrij M, Pagonabarraga J, Parr T, Shine JM, Stebbins G, Taylor JP, Tsuda I, Weil RS. Understanding visual hallucinations: A new synthesis. *NEUROSCIENCE AND BIOBEHAVIORAL REVIEWS*. 2023; 150:105208. DOI:10.1016/j.neubiorev.2023.105208. PMID:37141962. IF:8,200 (Q1/1D). Document type: Article.
- Collet R, Olmedo G, Ruiz I, Martinez A, Rodríguez B, Bernal S, Kulisevsky J, Pagonabarraga J. Late-Onset Beta-Propeller Protein-Associated Neurodegeneration: A Case Report. *Movement Disorders Clinical Practice*. 2023; 10(8)DOI:10.1002/mdc3.13811. PMID:37635772. IF:4,000 (Q2/4D). Document type: Article.
  - Constantin VA, Szász JA, Dulamea AO, Valkovic P, Kulisevsky J. Impact of Infusion Therapies on Quality of Life in Advanced Parkinson's Disease. *Neuropsychiatric Disease and Treatment*. 2023; 19DOI:10.2147/NDT.S422717. PMID:37727253. IF:3,200 (Q2/5D). Document type: Article.
  - Gamez J, Calopa M, Munoz E, Ferre A, Huertas O, McAllister K, Reig N, Scart C, Insa R, Kulisevsky J. A proof-of-concept study with SOM3355 (bevantolol hydrochloride) for reducing chorea in Huntington's disease. *BRITISH JOURNAL OF CLINICAL PHARMACOLOGY*. 2023; 89(5) DOI:10.1111/bcp.15635. PMID:36494329. IF:3,400 (Q2/5D). Document type: Correction.
  - García M, Castany C, Golbano A, Perez J, Brito V, Kulisevsky J, Perez E. Lamin B1 and nuclear morphology in peripheral cells as new potential biomarkers to follow treatment response in Huntington's disease. *Clinical and Translational Medicine*. 2023; 13(2):e1154. DOI:10.1002/ctm2.1154. PMID:36781300. IF:10,600 (Q1/2D). Document type: Article.
  - Gil C, Martinez SI, Santalo FS, Martin M, Gundin S, Alvarez P, Maza L, Calvo S, Collazo C, Alonso E, Rinones E, Arrabal A, Rodríguez JN, Saiz M, Aguado L, Mariscal N, Munoz I, Pineiro D, Rivadeneyra J, Diez M, Miguel I, Cubo E. Association Between Insulin-Like Growth Factor-1 and Social Cognition in Huntington's Disease. *Movement Disorders Clinical Practice*. 2023; 10(2)DOI:10.1002/mdc3.13613. PMID:36825059. IF:4,000 (Q2/4D). Document type: Letter.
  - Gironell A, Pascual B, Marín J, Pérez J, Pagonabarraga J. Non-Persistence of Tremorolytic Effect of Perampanel in Essential Tremor: Real-World Experience with 50 Patients. *Movement Disorders Clinical Practice*. 2023; 10(1)DOI:10.1002/mdc3.13576. PMID:36704076. IF:4,000 (Q2/4D). Document type: Article.
  - Gironell A. Essential tremor: are we just splitting hairs? Non-motor symptoms and essential tremor-plus. *REVISTA DE NEUROLOGIA*. 2023; 76(12)DOI:10.33588/rn.7612.2023083. PMID:37303101. IF:1,200 (Q4/10D). Document type: Article.
  - Gonzalez B, Morgante F, Pagonabarraga J, Stanton B, Edwards MJ. Autism Spectrum Disorder May Be Highly Prevalent in People with Functional Neurological Disorders. *Journal of Clinical Medicine*. 2023; 12(1):299. DOI:10.3390/jcm12010299. PMID:36615098. IF:3,900 (Q2/4D). Document type: Review.
  - Horta A, Martinez S, Perez J, Puig A, de Lucia N, de Michele G, Salvatore E, Kehrer S, Priller J, Migliore S, Squitieri F, Castaldo A, Mariotti C, Mananes V, López JL, Rodríguez N, Martinez A, Julio F, Januaario C, Delussi M, de Tommaso M, Noguera S, Ruiz J, Sitek EJ, Wallner R, Nuzzi A, Pagonabarraga J, Kulisevsky J. Measuring cognitive impairment and monitoring cognitive decline in Huntington's disease: a comparison of assessment instruments. *JOURNAL OF NEUROLOGY*. 2023; 270(11)DOI:10.1007/s00415-023-11804-0. PMID:37462754. IF:6,000 (Q1/2D). Document type: Article.
  - Horta A, Martinez S, Sampedro F, Pérez J, Pagonabarraga J, Kulisevsky J. Structural and metabolic brain correlates of arithmetic word-problem solving in Huntington's disease. *JOURNAL OF NEUROSCIENCE RESEARCH*. 2023; 101(6) DOI:10.1002/jnr.25174. PMID:36807154. IF:4,200 (Q2/4D). Document type: Article.
  - Jost WH, Kulisevsky J, LeWitt PA. Inhaled levodopa for threatening impending OFF episodes in managing Parkinson's disease. *JOURNAL OF NEURAL TRANSMISSION*. 2023; 130(6)DOI:10.1007/s00702-023-02636-3. PMID:37087697. IF:3,300 (Q2/5D). Document type: Article.
  - Kulisevsky J, Esquivel A, Freire E, Gómez JC, Legarda I, Mata M. SYNAPSES. A European observa-



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- tional study to evaluate the safety and the effectiveness of safinamide in routine clinical practice: post-hoc analysis of the Spanish study population. *REVISTA DE NEUROLOGIA*. 2023; 77(s02) DOI:10.33588/rn.77s02.2023217. PMID:37752685. IF:1,200 (Q4/10D). Document type: Review.
- Kulisevsky J, Falup C, Santens P, Jost WH. Towards improved access to device-aided therapies in advanced PD: the importance of cooperation of different disciplines. *JOURNAL OF NEURAL TRANSMISSION*. 2023; 130(11)DOI:10.1007/s00702-023-02664-z. PMID:37439943. IF:3,300 (Q2/5D). Document type: Article.
  - Kulisevsky J, Martinez S, Campolongo A, Pascual B, Marin J, Bejr H, Labandeira JL, Lanciego JL, Puig A, Horta A, Pagonabarraga J, Rodríguez J. A randomized clinical trial of candesartan for cognitive impairment in Parkinson's disease. *PARKINSONISM & RELATED DISORDERS*. 2023; 110:105367. DOI:10.1016/j.parkreldis.2023.105367. PMID:36963339. IF:4,100 (Q2/3D). Document type: Review.
  - Martinez A, Xuclà T, Collet R, Olmedo G, Martí J, Izquierdo A, Martínez A, Prats L, Guasch M, Guisado D, Ramos A, Camps P. Clinical characteristics and outcome of amaurosis fugax due to transient retinal ischemia: Results from a contemporary cohort. *Journal of Stroke & Cerebrovascular Diseases*. 2023; 32(11):107335. DOI:10.1016/j.jstrokecerebrovasdis.2023.107335. PMID:37748428. IF:2,500 (Q3/7D). Document type: Article.
  - Martínez M, Ariz M, Alvarez I, Castellanos G, Aguilar M, Hernández J, Caballol N, Garrido A, Bayés À, Vilas D, Martí MJ, Pascual B, Marin J, Avila A, Buongiorno M, Tartari JP, Puente V, Ezquerra M, Valdeoriola F, Compta Y, Tolosa E, Pont C, Pastor P, de Solórzano CO, Pastor MA, the Catalan Neuroimaging Parkinson's disease C. Brainstem neuromelanin and iron MRI reveals a precise signature for idiopathic and LRRK2 Parkinson's disease. *npj Parkinsons Disease*. 2023; 9(1):62. DOI:10.1038/s41531-023-00503-2. PMID:37061532. IF:8,700 (Q1/1D). Document type: Article.
  - Martinez S, Aracil I, Perez J, Perez L, García J, Campolongo A, Aibar JA, Rodríguez R, Pascual B, Kulisevsky J. Theta/Alpha Band Suppression and Clinical Outcomes During Globus Pallidus Internus Deep Brain Stimulation in Huntington's Disease. *Movement Disorders Clinical Practice*. 2023; 10(3)DOI:10.1002/mdc3.13644. PMID:36949795. IF:4,000 (Q2/4D). Document type: Article.
  - Martinez S, Marzal CN, Cuso S, Aracil I, Kulisevsky J. Reduplicative paramnesia as an atypical form of presentation of a Heidenhain variant of Creutzfeldt-Jakob disease: A case report. *JOURNAL OF THE INTERNATIONAL NEUROPSYCHOLOGICAL SOCIETY*. 2023; 29(6):PII S1355617722000583. DOI:10.1017/S1355617722000583. PMID:36062534. IF:2,600 (Q2/5D). Document type: Letter.
  - Martinez S, Perez J, Oltra J, Sampedro F, Horta A, Puig A, Pagonabarraga J, Kulisevsky J. Divergent cognitive trajectories in early stage Huntington's disease: A 3-year longitudinal study. *EUROPEAN JOURNAL OF NEUROLOGY*. 2023; 30(7) DOI:10.1111/ene.15806. PMID:36994811. IF:5,100 (Q1/3D). Document type: Article.
  - Olmedo G, Perez J, Xucla T, Collet R, Martinez A, Kulisevsky J. Cerebellar Syndrome Induced by Hypomagnesemia: A Treatable Cause of Ataxia Not to be Missed. Report of Three Cases and a Review of the Literature. *Movement Disorders Clinical Practice*. 2023; 10(6)DOI:10.1002/mdc3.13739. PMID:37332648. IF:4,000 (Q2/4D). Document type: Article.
  - Olszewska DA, Shetty A, Rajalingam R, Rodríguez J, Hamed M, Huang JA, Breza M, Rasheed A, Bahr N, Madoev H, Westenberger A, Trinh J, Lohmann K, Klein C, Marras C, Waln O. Genotype-phenotype relations for episodic ataxia genes: MDS-Gene systematic review. *EUROPEAN JOURNAL OF NEUROLOGY*. 2023; 30(10)DOI:10.1111/ene.15969. PMID:37422902. IF:5,100 (Q1/3D). Document type: Review.
  - Pagonabarraga J, Alamo C, Castellanos M, Diaz S, Manzano S. Depression in Major Neurodegenerative Diseases and Strokes: A Critical Review of Similarities and Differences among Neurological Disorders. *Brain Sciences*. 2023; 13(2):318. DOI:10.3390/brainsci13020318. PMID:36831861. IF:3,300 (Q3/6D). Document type: Review.
  - Rossi M, Hamed M, Rodríguez J, Cornejo M, Breza M, Lohmann K, Klein C, Rajalingam R, Marras C,



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- van de Warrenburg BP. Genotype-Phenotype Correlations for ATX-TBP (SCA17): MDSGene Systematic Review. *MOVEMENT DISORDERS*. 2023; 38(3)DOI:10.1002/mds.29278. PMID:36374860. IF:8,600 (Q1/1D).Document type: Review.
- Sampedro F, Puig A, Martinez S, Pagonabarraga J, Horta A, Aracil I, Kulisevsky J. Cortical macro and microstructural correlates of cognitive and neuropsychiatric symptoms in Parkinson's disease. *CLINICAL NEUROLOGY AND NEUROSURGERY*. 2023; 224:107531. DOI:10.1016/j.clineuro.2022.107531. PMID:36455303. IF:1,900 (Q3/6D).Document type: Review.
  - Sampedro F. The success of assessing cortical microstructure through surface-based diffusion-weighted neuroimaging. *CLINICAL NEUROLOGY AND NEUROSURGERY*. 2023; 234:107990. DOI:10.1016/j.clineuro.2023.107990. PMID:37806052. IF:1,900 (Q3/6D).Document type: Article.
  - Santos D, Cores C, Feal MJ, García I, Íñiguez MC, Paz JM, García J, Hernández J, Cabo I, López L, González I, Ávila MA, Gómez V, Dotor García J, Borrué C, Solano B, Álvarez M, Mendoza Z, Martínez JC, Sánchez P, Alonso MG, López N, Alonso R, Menéndez M, Adarmes AD, Almeria M, Losada MGA, Cánovas AA, Frech FA, Redondo RA, Álvarez I, Saucó MÁ, Díaz AA, Arnáiz S, Arribas S, Vidondo AA, Aguilar M, Ávila MA, Lambrich NN, Bejr H, Estrada MB, Botí M, Borrue C, Buongiorno MT, González CC, López IC, Caballol N, Lorenzo AC, Medina HC, Pendón EC, Carrillo F, Padilla FJC, Casas E, Catalán MJ, Clavero P, Fernández AC, Cosgaya M, Foraster AC, Cuevas AC, Cubo E, de Deus T, de Fábregues O, Díez M, García JD, Erro E, Escalante S, Peyret EE, Guillán NF, Gámez P, Gallego M, Caldentey JG, Campos CG, Díez CG, Moreno JMG, Gastón I, Garre MPG, Mayordomo VG, Aloy JG, González I, Ardura JG, García BG, Palmás MJG, Toledo GRG, Díaz AG, Solá MG, Guardia G, Vara JH, Horta A, Calderón DI, Infante J, Jesús S, Kulisevsky J, Kurtis M, Labandeira C, Labrador MA, Lacruz F, Castro ML, Gómez SL, Legarda I, Ariztegui NL, Díaz LML, Domínguez DL, Manzanares LL, Seoane BL, del Pozo SL, Macías Y, Mata M, Andrés GM, Martí MJ, Castrillo JCM, Martínez P, McAfee D, Meitín MT, Plasencia ZM, González MM, del Barrio CM, Mir P, Santiago JM, Casado MIM, Diéguez AM, García IM, Nogueira V, Amado AN, Ponte SN, Ordás C, Pagonabarraga J, Pareés I, Pascual B, Pastor P, Fuertes AP, Noguera RP, Planas A, Planellas L, Prats MA, Jurczynska CP, Puente V, Morlans MP, Daví AP, Rafeles NR, Méndez LR, Pérez ABR, Roldán F, De Arcos MR, Martínez JR, Alonso PS, Sánchez M, Díez GS, Rodríguez AS, Santacruz P, García DS, Rodríguez JCS, Seijo M, Peña MS, Vila BS, Castro ES, Tartari JP, Valero C, Vargas L, Vela L, Villanueva C, COPPADIS G. Cognitive impairment and dementia in young onset Parkinson's disease. *JOURNAL OF NEUROLOGY*. 2023; DOI:10.1007/s00415-023-11921-w. PMID:37578489. IF:6,000 (Q1/2D). Document type: Letter.
  - Santos D, de Deus T, Cores C, Castro ES, Hernández J, Jesús S, Mir P, Cosgaya M, Martí MJ, Pastor P, Cabo I, Seijo M, Legarda I, Vives B, Caballol N, Rúaiz J, Croitoru I, Cubo E, Miranda J, Alonso MG, Labandeira C, López N, Morales M, González I, Infante J, Escalante S, Bernardo N, Blázquez M, Menéndez M, Caldentey JG, Borrué C, Vela L, Catalán MJ, Gómez V, Kurtis M, Prieto C, Ordás C, Nogueira V, López L, Ávila MA, Puente V, García JM, Solano B, Álvarez M, Carrillo F, Carlos Martínez Castrillo J, Sánchez P, Gastón I, Kulisevsky J, Valero C, de Fábregues O, González J, López LM, Martínez P, COPPADIS G. Falls Predict Acute Hospitalization in Parkinson's Disease. *Journal of Parkinsons Disease*. 2023; 13(1)DOI:10.3233/JPD-212539. PMID:33843696. IF:5,200 (Q1/3D). Document type: Article.
  - Santos D, Fonticoba TD, Bartolomé CC, Paineiras MJF, Díaz IG, Alvarado M, Paz JM, Jesús S, Cosgaya M, Caldentey JG, Caballol N, Legarda I, Vara JH, Cabo I, Manzanares LL, Aramburu IG, Rivera M, Mayordomo VG, Nogueira V, García JD, Borrué C, Vila BS, Saucó MA, Vela L, Escalante S, Cubo E, Mendoza Z, Castrillo JCM, Alonso PS, Losada M, Ariztegui NL, Gastón I, Kulisevsky J, Seijo M, Valero C, Redondo RA, Buongiorno MT, Ordás C, Menéndez M, McAfee D, Martínez P, Mir P, COPPADIS GRP. Staging Parkinson's disease according to the MNCD classification correlates with caregiver burden. *Brain and Behavior*. 2023; 13(12)DOI:10.1002/brb3.3295. PMID:37939322. IF:3,100 (Q2/3D).Document type: Article.
  - Santos D, Fonticoba TD, Bartolome CC, Paineiras MJF, Gonzalez JMP, Miro CM, Jesus S, Aguilar



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- M, Pastor P, Planellas L, Cosgaya M, Caldentey JG, Caballol N, Legarda I, Vara JH, Cabo I, Manzanares LL, Aramburu IG, Rivera M, Mayordomo VG, Nogueira V, Puente V, García JD, Borrue C, Vila BS, Sauco MA, Vela L, Escalante S, Cubo E, Padilla FC, Castrillo JCM, Alonso PS, Losada M, Ariztegui NL, Gaston I, Kulisevsky J, Estrada MB, Seijo M, Martinez JR, Valero C, Kurtis M, de Fabregues O, Ardura JG, Redondo RA, Ordas C, Diaz LMLL, McAfee D, Martinez P, Mir P, COPPADIS GRP. Risk of Cognitive Impairment in Patients With Parkinson's Disease With Visual Hallucinations and Subjective Cognitive Complaints. *Journal of Clinical Neurology*. 2023; 19(4)DOI:10.3988/jcn.2022.0186. PMID:36647231. IF:3,100 (Q2/5D). Document type: Article.
- Santos D, Fonticoba TD, Bartolome CC, Panceiras MJF, Iniguez MC, Diaz IG, Jesus S, Buongiorno MT, Planellas L, Cosgaya M, Caldentey JG, Caballol N, Legarda I, Vara JH, Cabo I, Manzanares LL, Aramburu IG, Rivera M, Mayordomo VG, Nogueira V, Puente V, García JD, Borrue C, Vila BS, Sauco MA, Vela L, Escalante S, Cubo E, Padilla FC, Castrillo JCM, Alonso PS, Losada M, Ariztegui NL, Gastón I, Kulisevsky J, Estrada MB, Seijo M, Martinez JR, Valero C, Kurtis M, De Fábregues O, Ardura JG, Redondo RA, Ordás C, Diaz LMLL, McAfee D, Martinez P, Mir P, Coppadis SG. Prevalence and Factors Associated with Drooling in Parkinson's Disease: Results from a Longitudinal Prospective Cohort and Comparison with a Control Group. *Parkinsons Disease*. 2023; 2023:3104425. DOI:10.1155/2023/3104425. PMID:37065970. IF:3,200 (Q2/5D). Document type: Article.
  - Santos D, Fonticoba TD, Bartolome CC, Panceiras MJF, Diaz IG, Alvarado M, Jesus S, Boungiorno MT, Planellas L, Cosgaya M, Caldentey JG, Caballol N, Legarda I, Vara JH, Cabo I, Manzanares LL, Aramburu IG, Rivera M, Mayordomo VG, Nogueira V, Puente V, García JD, Borrue C, Vila BS, Sauco MA, Vela L, Escalante S, Cubo E, Padilla FC, Castrillo JCM, Alonso PS, Losada M, Ariztegui NL, Gaston I, Kulisevsky J, Gonzalez MM, Seijo M, Martinez JR, Valero C, Kurtis M, Ardura JG, Redondo RA, Ordas C, Diaz LML, McAfee D, Calopa M, Carrillo F, Sevilla FE, Freire E, Esteban JCG, Ramos RG, Luquin M, Martinez I, Ignacio AS, Martinez P, Mir P, COPPADIS GRP. Staging Parkinson's Disease According to the MNCD (Motor/ Non-motor/Cognition/ Dependency) Classification Correlates with Disease Severity and Quality of Life. *Journal of Parkinsons Disease*. 2023; 13(3)DOI:10.3233/JPD-225073. PMID:36911948. IF:5,200 (Q1/3D). Document type: Article.
  - Santos D, Fonticoba TD, Bartolome CC, Panceiras MJF, Iniguez MC, Diaz IG, Jesús S, Buongiorno MT, Planellas L, Cosgaya M, Caldentey JG, Caballol N, Legarda I, Vara JH, Cabo I, Manzanares LL, Aramburu IG, Rivera M, Mayordomo VG, Nogueira V, Puente V, García JD, Borrue C, Vila BS, Sauco MA, Vela L, Escalante S, Cubo E, Padilla FC, Castrillo JCM, Alonso PS, Losada M, Ariztegui NL, Gastón I, Kulisevsky J, Gonzalez MM, Seijo M, Martinez JR, Valero C, Kurtis M, Ardura JG, Redondo RA, Ordás C, Diaz LML, McAfee D, Martinez P, Mir P, COPPADIS GRP. Changes in Principal Caregiver Mood Affects the Mood of the Parkinson's Disease Patient: The Vicious Cycle of Illness. *Journal of Parkinsons Disease*. 2023; 13(2)DOI:10.3233/JPD-225014. PMID:36683517. IF:5,200 (Q1/3D). Document type: Article.
  - Santos D, Fonticoba TD, Bartolome CC, Panceiras MJF, Iniguez MC, Jesús S, Buongiorno MT, Planellas L, Cosgaya M, Caldentey JG, Caballol N, Legarda I, Vara JH, Cabo I, Manzanares LL, Aramburu IG, Rivera M, Mayordomo VG, Nogueira V, Puente V, García JD, Borrue C, Vila BS, Sauco MA, Vela L, Escalante S, Cubo E, Padilla FC, Castrillo JCM, Alonso PS, Losada M, Ariztegui NL, Gastón I, Kulisevsky J, Estrada MB, Seijo M, Martinez JR, Valero C, Kurtis M, De Fábregues O, Ardura JG, Redondo RA, Ordás C, Diaz LMLL, McAfee D, Martinez P, Mir P, Coppadis SG. Prevalence and Factors Associated with Drooling in Parkinson's Disease: Results from a Longitudinal Prospective Cohort and Comparison with a Control Group. *Parkinsons Disease*. 2023; 2023:3104425. DOI:10.1155/2023/3104425. PMID:37065970. IF:3,200 (Q2/5D). Document type: Article.
  - Santos D, Fonticoba TD, Bartolome CC, Panceiras MJF, Diaz IG, Alvarado M, Jesus S, Boungiorno MT, Planellas L, Cosgaya M, Caldentey JG, Caballol N, Legarda I, Vara JH, Cabo I, Manzanares LL, Aramburu IG, Rivera M, Mayordomo VG, Nogueira V, Puente V, García JD, Borrue C, Vila BS, Sauco MA, Vela L, Escalante S, Cubo E, Padilla FC, Castrillo JCM, Alonso PS, Losada M, Ariztegui NL, Gaston I, Kulisevsky J, Estrada MB, Seijo M, Martinez JR, Valero C, Kurtis M, de Fabregues O, Ardura JG, Redondo RA, Ordas C, Diaz LML, McAfee D, Martinez P, Mir P, COPPADIS GRP. Suicidal ideation among people with Parkinson's disease and comparison with a control group. *INTERNATIONAL JOURNAL OF GERIATRIC PSYCHIATRY*. 2023; 38(5):e5919. DOI:10.1002/gps.5919. PMID:37147900. IF:4,000 (Q2/3D). Document type: Article.
  - Santos D, Laguna A, Hernandez J, Fonticoba TD, Bartolome CC, Panceiras MJF, Iniguez MC, Diaz IG, Jesus S, Boungiorno MT, Planellas L, Cosgaya M, Caldentey JG, Caballol N, Legarda I, Cabo I, Manzanares LL, Aramburu IG, Rivera M, Mayordomo VG, Nogueira V, Puente V, García JD, Borrue C, Vila BS, Sauco MA, Vela L, Escalante S, Cubo E, Padilla FC, Castrillo JCM, Alonso PS, Losada



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

M, Ariztegui NL, Gaston I, Kulisevsky J, Gonzalez MM, Seijo M, Martinez JR, Valero C, Kurtis M, Ardura JG, Redondo RA, Ordas C, Diaz LML, McAfee D, Martinez P, Mir P, COPPADIS GRP. Sex Differences in Motor and Non-Motor Symptoms among Spanish Patients with Parkinson's Disease. *Journal of Clinical Medicine*. 2023; 12(4):1329. DOI:10.3390/jcm12041329. PMID:36835866. IF:3,900 (Q2/4D). Document type: Article.

## Molecular Neuropharmacology

### Group leader

Pol Rigau, Olga (IR)

### Researchers

Bai, Xue (UAB)

Batalle Melgarejo, Gerard (UAB)

Martinez Martel, Ignacio (UAB)

Negrini Ferrari, Sylmara Esther (UAB)



### DESCRIPTION

Chronic pain is an important clinical problem due to the low efficacy of conventional treatments and their numerous side effects. Chronic pain is also accompanied by emotional disorders such as depression, anxiety, and memory loss, which negatively influence the perception of pain, creating a vicious circle that contributes to the deterioration of the patients' quality of life. Our main objective is to find new treatments that effectively relieve chronic pain and the associated comorbidities by using pharmacological, molecular, and genetic techniques.

### MAIN LINES OF RESEARCH

- New strategies for the treatment of chronic pain.  
Identification of new compounds that effectively inhibit inflammatory, osteoarthritic, and/or neuropathic pain induced by nerve injury or chemotherapy and its underlying mechanisms of action.
- New therapies for the emotional disorders associated with chronic pain  
Investigation of the role played by different gaseous neurotransmitters in the modulation of the anxiety- and depressive-like behaviors and/or cognitive deficits accompanying persistent pain.
- Neuropharmacology of opioids and cannabinoids  
Development of new strategies to potentiate the analgesic effects of opioids and cannabinoids during chronic pain, minimizing the adverse effects of these drugs.
- Sex-related differences in chronic pain and mood disorders



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

Evaluation of the impact of sex on pain sensitivity and tolerance, and on the effectiveness of treatments used for chronic pain and related mental illnesses.

- New stratagems for the treatment of diabetic neuropathy

Identification of new approaches to inhibit oxidative stress and neuropathy two major complications of diabetes.

#### SCIENTIFIC CHALLENGES

- Identify new pharmacological compounds that effectively abolish chronic pain with few side effects whose can be transferred to clinical practice and/or be patentable.
- Evaluate the antidepressant, anxiolytic and pain-relieving effects of novel nanoparticles capable of liberating one or more gasses and study their actions on the functional disability and memory loss linked with chronic pain.
- Identify new antioxidant compounds as potential therapeutic targets and study their effects on proinflammatory signals and plasticity changes provoked by nerve injury, chemotherapeutic agents, or metabolic disorders.
- Evaluate the neuroprotective, anti-apoptotic, and antioxidant mechanisms implicated in the modulation of inflammatory pain induced by the Nrf2/heme oxygenase 1 signaling pathway activation and its interaction with the endogenous cannabinoid and opioid systems.
- Analyze differences between sexes in pain sensitivity and in the efficacy of molecular hydrogen in modulating the allodynia and anxiety-like behaviors accompanying chemotherapy-induced neuropathic pain.
- Develop new strategies to enhance the effectiveness of opioids and cannabinoids on relieving chronic pain with few side effects.
- Identify new pharmacological targets for treating nociplastic pain and comorbidities associated and assess their mechanism of action.

#### ACTIVE GRANTS

- Pol Rigau, Olga. Nuevos enfoques para el tratamiento del dolor crónico y comorbilidades

asociadas. PI18/00645. Instituto de Salud Carlos III (ISCIII). Duration: 2019–2023. 117.370,00 €.

- Pol Rigau, Olga. Nuevas dianas moleculares para el tratamiento del dolor crónico. PI21/00592. Instituto de Salud Carlos III (ISCIII). Duration: 2022–2024. 166.980,00 €.

#### DOCTORAL THESES DEFENDED

- Bai, Xue. New modalities for treating neuropathic pain and associated emotional disorders. 25/07/2023. Universitat Autònoma de Barcelona. Supervisors: Pol Rigau, Olga; Pol Rigau, Olga.
- Batallé Melgarejo, Gerard. New strategies for the treatment of osteoarthritis pain and associated comorbidities. 12/07/2023. Universitat Autònoma de Barcelona. Supervisors: Pol Rigau, Olga; Pol Rigau, Olga.

#### SCIENTIFIC PRODUCTION

- Bai X, Batalle G, Martinez I, OLGA R. Hydrogen Sulfide Interacting with Cannabinoid 2 Receptors during Sciatic Nerve Injury-Induced Neuropathic Pain. *Antioxidants*. 2023; 12(6):1179. DOI:10.3390/antiox12061179. PMID:37371911. IF:7,000 (Q1/1D). Document type: Article.
- Batallé G, Bai X, Balboni G, OLGA R. The Impact of UFP-512 in Mice with Osteoarthritis Pain: The Role of Hydrogen Sulfide. *Antioxidants*. 2023; 12(12):2085. DOI:10.3390/antiox12122085. PMID:38136204. IF:7,000 (Q1/1D). Document type: Article.
- Martinez I, Olga R. A Novel Therapy for Cisplatin-Induced Allodynia and Dysfunctional and Emotional Impairments in Male and Female Mice. *Antioxidants*. 2023; 12(12):2063. DOI:10.3390/antiox12122063. PMID:38136183. IF:7,000 (Q1/1D). Document type: Article.
- Pérez M, Suárez I, Bai X, Martínez I, Ciaffaglione V, Pittalà V, Salerno L, OLGA R. Novel Heme Oxygenase-1 Inducers Palliate Inflammatory Pain and Emotional Disorders by Regulating NLRP3 Inflammasome and Activating the Antioxidant Pathway. *Antioxidants*. 2023; 12(10):1794. DOI:10.3390/antiox12101794. PMID:37891874. IF:7,000 (Q1/1D). Document type: Article.
- Suárez I, Pérez M, Bai X, Martínez I, Intagliata S, Pittalà V, Salerno L, OLGA R. The Inhibition of



### 5.1.1.3 Neurological Diseases, Neuroscience & Mental Health Area

Neuropathic Pain Incited by Nerve Injury and Accompanying Mood Disorders by New Heme Oxygenase-1 Inducers: Mechanisms Implicated. Antioxidants. 2023; 12(10):1859. DOI:10.3390/antiox12101859. PMID:37891937. IF:7,000 (Q1/1D). Document type: Article.



## Pharmacological Research in Humans

### Group leader

Antonijuan Arbos, Rosa (FGS)

### Research Technicians

Ayala Oliveros, Johan Humberto (IR)

Castillo Ocaña, Marta (IR)

Coimbra Hurtado, Maria Jimena (IR)

Filippi Arriaga, Maria Francesca Eugenia (IR)

Fraga Varela, Angela (IR)

Garrido Sánchez, Maria Teresa (IR)

Gonzalez Cuadros, Mireia (IR)

Gonzalez Gomez, Luis (IR)

Martinez Bonifacio, David (IR)

Martinez Colomer, Joan (IR)

Martinez Martinez, Maria Isabel (IR)

Molina Perello, Pol (IR)

Peri Laviga, Jordi (IR)

Puntes Rodríguez, Montserrat (IR)

Ruiz Barbera, Montserrat (IR)

Sánchez Nuñez, Isabel (IR)



### DESCRIPTION

The main objective (CIM) is to perform clinical drug trials and/or clinical research with the assurance of compliance with the legal, ethical, and methodological requirements stated in international standards.

Clinical trials (phase I): Activity is focused on the evaluation of systemic and local tolerability, pharmacokinetics, bioavailability, and bioequivalence (generics), and pharmacological effects.

Studies are also performed in healthy volunteers and special populations with specific characteristics, such as the healthy elderly, obesity, post-menopausal women, or renal or hepatic insufficiency.

Clinical trials (phases Ib, IIa): Specific interventions are performed in this phase, and controlled monitoring of the patient's response is required.

Furthermore, support from the integration of administrative, computer, and statistical systems enables optimal performance of clinical studies.

### MAIN LINES OF RESEARCH

- Phase I clinical trials (healthy volunteers) whose main objectives include: first-time-in-humans, safety and tolerability, pharmacokinetics, bioavailability and bioequivalence (generic drugs), pharmacodynamics, interactions (drug-drug, drug-food), evaluation and characterization of biomarkers, proofs of concept, acceptability and preference studies.
- Follow-up studies in populations with the same or different characteristics: the elderly, obese volunteers, postmenopausal volunteers, the patients with liver, or kidney failure.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- Collaboration with clinical services to conduct phase II or phase III studies.

#### SCIENTIFIC CHALLENGES

- Consolidate and strengthen leadership in this field in Spain, conserve relationships with the pharmaceutical industry on a national level, and strengthen and extend relations abroad with multinational enterprises and industries from other sectors.
- Broaden the range of questions to address in research projects.
- Promote dissemination of our activity with a double objective: to return the knowledge generated to society and to demystify research in humans, bringing it closer to the community to foster participation in clinical trials (particularly in specific sectors of the populations, such as the elderly).
- Set up educational activities related to the two main research lines, i.e., the application of good clinical practices (GCPs) in clinical research (pathology and treatment) and social (quality of life, prevention of accident risk) consequences.

#### ACTIVE GRANTS

- Antonijoan Arbos, Rosa. Investigación del potencial de nuevas moléculas para el tratamiento de enfermedades fibróticas (DEFIBER III). CPP2021-008747. Ministerio de Ciencia e Innovación (MICINN). Duration: 2022-2025. 243.536,44 €.
- Antonijoan Arbos, Rosa. ERA4TB (European Accelerator of Tuberculosis Regime) project. ERA4TB GA 853989. Unión Europea. Duration: 2022-2025. 277.500,00 €.

#### DOCTORAL THESES DEFENDED

- Espinosa Guerrero, Alejandra Nallely. Estudio farmacoeconómico del uso de albúmina humana en pacientes sometidos a cirugía cardiaca bajo circulación extracorpórea sobre el desarrollo de Lesión renal aguda en el Hospital de la Santa Creu i Sant Pau. 18/12/2023. Universitat Autònoma de Barcelona. Supervisors: Antonijoan Arbós, Rosa Maria.

#### SCIENTIFIC PRODUCTION

- Mas E, Ferreri L, Cardona G, Zatorre RJ, Pla F, Antonijoan RM, Riba J, Valle M, Rodríguez A. The role

of opioid transmission in music-induced pleasure. ANNALS OF THE NEW YORK ACADEMY OF SCIENCES. 2023; 1520(1)DOI:10.1111/nyas.14946. PMID:36514207. IF:5,200 (Q1/3D). Document type: Article.

- Moraga P, Prieto P, Conradie A, Benhayoun M, Rousell V, Davy M, Fuhr U, Antonijoan Arbos R, Abad F, Portolés A, Van Duinen J, Carcas AJ, Borobia AM. Academia and industry agreement on a feasibility tool for first-time-in-human clinical trial units. CTS-Clinical and Translational Science. 2023; 16(12)DOI:10.1111/cts.13655. PMID:37818923. IF:3,900 (Q3/6D). Document type: Article.

## Mental Health

### Group leader

Portella Moll, Maria (IR)

### Researchers

Abad García, Sergi (FGS)  
 Alemany Santamaria, Carlo (FGS)  
 Almenta Gallego, David (FGS)  
 Alvarado Carrera, Pedro Jose (FGS)  
 Avila Parcet, Aina (FGS)  
 Batlle Batlle, Francesca (FGS)  
 Bauza Ramis, Joana Maria (FGS)  
 Cano Catala, Marta (IR)  
 Carceller Sindreu, Maria Del Mar (FGS)  
 Cardoner Alvarez, Narcis (FGS)  
 Carmona Farres, Cristina (FGS)  
 Carrasco Hernandez, Julia (IR)  
 Casellas Pujol, Elisabet (FGS)  
 Catalan Martinez, Anna (FGS)  
 Corripio Collado, Iluminada (IR)  
 Costa Juste, Silvia Maria (FGS)  
 De Diego Adeliño, Francisco Javier (FGS)  
 De La Peña Arteaga, Victor (IR)  
 Diaz Perez, Anna Maria (FGS)  
 Dinamarca Caceres, Fernando Nicolas (FGS)  
 Espeso Gonzalez, Rocio (FGS)  
 Farre Martinez, Adriana (FGS)  
 Faustino Bosch, Gloria (IR)  
 Gawron , Leonor Patricia (FGS)  
 Grasa Bello, Eva Maria (CIBER)  
 Isern Tena, Clara (FGS)  
 Jaramillo Muñumer, Maria (CIBER)  
 López Castro, Maria (FGS)  
 Madre Rull, Merce (FGS)  
 Martin Blanco, Ana (FGS)  
 Nuñez Leanez, Christian (IR)  
 Perez Blanco, Josefina (FGS)  
 Pinet Ogue, M. Cristina (FGS)  
 Pinzon Espinosa, Justo Emilio (FGS)  
 Pousa Tomas, Esther (FGS)  
 Puigdemont Campos, M.Dolors (FGS)  
 Remis Rebollo, Sergio (FGS)  
 Ribalta Corona, Elisa (FGS)  
 Roca Tutusaus, Francisco Javier Juan (FGS)  
 Roldan Bejarano, Alejandra (FGS)  
 Serrano Gimeno, Victor (FGS)  
 Soler Ribaudi, Joaquin (FGS)  
 Tiana Sastre, Thais (FGS)  
 Tome Perez, Jose Alberto (FGS)  
 Trujols Albet, Joan (FGS)  
 Vera Igual, Javier (FGS)  
 Vicent Gil, Muriel (FGS)

### Research Technicians

Jubero Urgell, Miriam (IR)  
 Selma Gonzalez, Judit (IR)



### DESCRIPTION

The research group is dedicated to exploring innovative therapeutic approaches and unraveling the underlying causes of mental diseases to inform the development of novel treatment strategies ranging from psychotherapies to neuromodulation and new drugs. This involves leveraging acquired knowledge to guide the implementation of these cutting-edge treatments.

### MAIN LINES OF RESEARCH

- Affective disorders -major depressive disorder, bipolar disorder, suicide and validation of scales- (Dr. Narcís Cardoner, Dr. Maria J Portella and Dr. Javier de Diego).
- Psychotic disorders -treatment-resistant schizophrenia, meta-cognitive treatment for patients with schizophrenia, DBS and digital Health- (Dr. Eva Grasa and Dr. Alexandra Roldán).
- Borderline personality disorder (Dr. Joaquim Soler).
- Eating Disorders (Dr. Mar Carceller-Sindreu and Dr. Cristina Carmona).
- Intensive Home Treatment (IHT) and other Community Interventions (Dr. Ana Martín-Blanco).

### SCIENTIFIC CHALLENGES

- Foster research that reduces the healthcare, social and personal costs of mental illness by exploring areas such as epidemiology, etiopathogenesis, physiopathology, prevention and treatment.
- Foster research into mental health treatments including psychotherapy, psychopharmacology and neuromodulation.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- Foster research to improve quality of life of patients with mental disorders.
  - Research into Affective Disorders
    - Identification and evaluation of new therapeutic targets in depression.
    - Neuroimaging studies in first psychotic episodes.
    - Biological and genetic markers in affective disorders.
    - Implementation of new therapeutic programmes, depression evaluation and social aspects of depression.
  - Research into Psychotic Disorders
    - Study of treatment resistance in schizophrenia.
    - Study of novel treatments (DBS, digital health) in schizophrenia and first episode of psychosis.
    - Neuroimaging studies in psychosis.
    - Study of environmental, biological and genetic factors in psychosis.
    - Efficacy and effectiveness studies of antipsychotic drugs.
    - Efficacy and effectiveness studies of meta-cognitive and emotion regulation therapies -for schizophrenia and first episode of psychoses.
  - Research into Personality Disorders
    - Clinical trials regarding the usefulness of mixed treatment in patients with borderline personality disorder and validation of diagnostic instruments.
    - Genetic-neuroimaging studies of borderline personality disorder (BPD).
    - Efficacy and effectiveness studies of psychotherapy for treating borderline personality disorder.
  - Research into Community intervention:
    - Community psychiatry.
    - Validation of patient and caregiver satisfaction scales and programs.

### ACTIVE GRANTS

- Carceller Sindreu, Maria Del Mar. Avaluació de la seguretat i els efectes terapèutics del nou protocol de renutrició intensiva de l'hospital de dia de trastorns de la conducta alimentària. SCPSM 2022. Societat Catalana de Psiquiatria i Salut Mental (SCPiSM). Duration: 2022-2024. 3.000,00 €.
- Cardoner Alvarez, Narcis. Marcadores translacionales de estrés traumático. Translational biomarkers of traumatic stress (BioStress) NEURON-074. AC19/00088. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 99.825,00 €.
- Cardoner Alvarez, Narcis. Biomarcadores centrales y periféricos de respuesta antidepressiva: Estudio translacional entre pacientes con trastorno depresivo resistente al tratamiento y modelo de depresión en rata. PI18/00036. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 119.339,77 €.
- Cardoner Alvarez, Narcis. Predicción de la respuesta terapéutica en la depresión resistente al tratamiento a través de algoritmos de aprendizaje automático: mejora de la traslación de la neuroimagen a la atención clínica. PI21/01756. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 111.320,00 €.
- Cardoner Alvarez, Narcis. Unraveling the influence of gut microbiota and derived metabolites on major depression: A cross-sectional neuroimaging-metabolomics study based on knowledge transfer from irritable bowel syndrome (IBS) and a porcine model: MOODGUT. MARATO 202209-30. 182.500,00 €.
- Corripio Collado, Iluminada. Estimulación Cerebral Profunda: hacia una nueva intervención para la recuperación del paciente con esquizofrenia resistente al tratamiento. PI19/00242. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 102.850,00 €.
- De Diego Adeliño, Franciso Javier. Depression and its treatment: Role of miRNAs in the anterior cingulate cortex, as peripheral biomarkers, and their targeted modulation by nano-tools as a promising antidepressant therapy (DemiRNApy). MARATO 202207-32. Fundacio la Marato de TV3. Duration: 2023-2026. 72.837,50 €.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- Nuñez Leanez, Christian. CD20/00142. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 80.598,00 €.
- Nuñez Leanez, Christian. Identificación de variantes genéticas de riesgo para el diagnóstico de los trastornos psicóticos y afectivos. MV22/00108. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2023. 10.235,00 €.
- Portella Moll, Maria. Rehabilitación Integral cognitiva para DEpresión Mayor (RIDEM). Ensayo clínico multicéntrico, aleatorizado para investigar su eficacia. PI20/00270. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 116.765,00 €.
- Portella Moll, Maria. A Phase III, Randomized, Active Comparator-controlled, Clinical Trial to Study the Efficacy and Safety of the INtegral Cognitive REMediation program (INCREM) in patients with Depression. MARATO 202227-30. Fundacio la Marato de TV3. Duration: 2023-2026. 186.408,75 €.
- Soler Ribaudi, Joaquin. Ensayo clínico sobre los efectos de un entrenamiento de habilidades en síntomas de larga evolución en pacientes con Trastorno Límite de Personalidad. PI19/00087. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 25.168,00 €. Soler Ribaudi, Joaquin. Estudio piloto aleatorizado de terapia dialéctica conductual y EMDr. para el tratamiento del trastorno límite de la personalidad y el trauma . 2020 EMDr. EUROPE INVESTIGATOR GRANT. EMDr. Europe. Duration: 2020-2023. 17.000,00 €.
- Soler Ribaudi, Joaquin. Assaig controlat aleatoritzat per avaluar l'eficàcia de l'entrenament d'habilitats de la RO-DBT en pacients amb trastorns alimentaris i trets de l'espectre autista: un estudi de prova de concepte. MARATO 202231-10. Fundacio la Marato de TV3. Duration: 2023-2026. 148.306,25 €.
- Trujols Albet, Joan. Invariancia de medición de los instrumentos de uso habitual en investigación sobre prevención y tratamiento del trastorno de juego. SUBV/00014. Ministerio de Consumo. Duration: 2022-2024. 11.660,00 €.
- De Diego Adeliño, Franciso Javier. Ayudas para contratos Juan de la Cierva 2022. JDC2022-048445-I. Ministerio de Ciencia e Innovacion (MICINN). Duration: 2024-2025. 67.400,00 €.
- De Diego Adeliño, Franciso Javier. Biomarcadores multimodales de conectividad y señal neural para la personalización de la Estimulación Cerebral Profunda (DBS) en la depresión refractaria. PI23/00469. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 62.500,00 €.
- Portella Moll, Maria & Vicent Gil, Muriel. Proteínas Sinápticas e Inflamatorias como Marcadores de Disfunción Cognitiva en Pacientes con Depresión Mayor Tratados con el Programa de Remedación Cognitiva RIDEM. PI23/00468. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 115.000,00 €.
- Portella Moll, Maria. Grup de Recerca en Salut Mental Sant Pau. 2021 SGR 00832. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2025. 60.000,00 €.
- Portella Moll, Maria. Towards the next generation of excellent yoUng researchers on mental health by developing an intersectoral & transdisciplinary approach. 101126533 — TOUCH Project. HORIZON-MSCA-2022-COFUND-01 (UAB). Duration: 2024-2029. 84.600,00 €.

### DOCTORAL THESES DEFENDED

- Deu Coll, Àngels. Característiques neuropsicològiques, psicopatològiques i tret de personalitat impulsiu en la conducta suïcida. 22/06/2023. Universitat Autònoma de Barcelona. Supervisors: Deus Yela, Joan; Pérez Solà, Víctor; De Diego Adeliño, Francisco Javier. <http://hdl.handle.net/10803/690755>.
- Porta Casteràs, Daniel. Alteracions neurals persistents en trastorn bipolar: Estudi de neuroimatge amb pacients eutímics. 13/12/2023. Universitat Autònoma de Barcelona. Supervisors: Cardoner Álvarez, Narcís; Cano Català, Marta; Subirà Coromina, Marta.

### GRANTS AWARDED

- Cardoner Alvarez, Narcis. Avaluació d'intervencions de prevenció del dol per supervivents de suïcidi: IDOLS. Fundació La Caixa. Duration: 2023-2025. 32.336,70 €.

### SCIENTIFIC PRODUCTION

- Aibar JA, Collado IC, Bejarano AR, Nevado RS, Bolanos IA, García J, Alonso A, Bello E, Schmidt CD, Hernandez FM, Teixido JM, Rodríguez RR. Long-term outcomes of deep brain stimulation



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- for treatment-resistant schizophrenia: Exploring potential targets. *JOURNAL OF PSYCHIATRIC RESEARCH*. 2023; 163DOI:10.1016/j.jpsychires.2023.05.056. PMID:37245316. IF:4,800 (Q2/3D).Document type: Article.
- Alcantarilla L, López M, Betriu M, Torres A, García C, Solé E, Gelabert E, Roca A. Risk factors for relapse or recurrence in women with bipolar disorder and recurrent major depressive disorder in the perinatal period: a systematic review. *Archives of Womens Mental Health*. 2023; 26(6)DOI:10.1007/s00737-023-01370-9. PMID:37718376. IF:4,500 (Q2/4D).Document type: Review.
  - Aleman C, Puigdemont D, Martín A, Rodríguez R, Aibar JA, Vicent M, Álvarez E, Pérez V, Portella MJ, de Diego J. Response and Safety Outcomes in Treatment-Resistant Depression After Subcallosal Cingulate Gyrus Deep Brain Stimulation: Long-term Follow-up Study. *JOURNAL OF CLINICAL PSYCHIATRY*. 2023; 84(4):22m14622. DOI:10.4088/JCP.22M14622. PMID:37378475. IF:5,300 (Q1/2D).Document type: Article.
  - Arca G, Nunez C, Stephan C, Arnaez J, Agut T, Cordeiro M, Boronat N, Lubian S, Benavente I, Valverde E, García A. Massive Neonatal Arterial Ischemic Stroke. *PEDIATRIC NEUROLOGY*. 2023; 144DOI:10.1016/j.pediatr-neurol.2023.03.013. PMID:37087915. IF:3,800 (Q1/2D).Document type: Article.
  - Argyelan M, Deng ZD, Ousdal OT, Oltedal L, Angulo B, Baradits M, Spitzberg AJ, Kessler U, Sartorius A, Dols A, Narr KL, Espinoza R, van JA, Tendolkar I, van P, van GA, Takamiya A, Kishimoto T, Jorgensen MB, Jorgensen A, Paulson OB, Yrondi A, Pérán P, Soriano C, Cardoner N, Cano M, van L, Schrijvers D, Belge JB, Emsell L, Bouckaert F, Vandenbulcke M, Kiebs M, Hurlemann R, Mulders PCR, Redlich R, Dannlowski U, Erhan K, Kritzer MD, Ellard KK, Camprodon JA, Petrides G, Malhotra AK, Abbott CC. Electroconvulsive therapy-induced volumetric brain changes converge on a common causal circuit in depression. *MOLECULAR PSYCHIATRY*. 2023; DOI:10.1038/s41380-023-02318-2. PMID:37985787. IF:11,000 (Q1/1D).Document type: Article.
  - Baeza I, de la Serna E, Mezquida G, Cuesta MJ, Vieta E, Amoretti S, Lobo A, Gonzalez A, Diaz CM, Corripio I, Valli I, Puig O, Mane A, Bioque M, Ayora M, Bernardo M, Castro J, PEPs GRP. Prodromal symptoms and the duration of untreated psychosis in first episode of psychosis patients: what differences are there between early vs. adult onset and between schizophrenia vs. bipolar disorder?. *EUROPEAN CHILD & ADOLESCENT PSYCHIATRY*. 2023; DOI:10.1007/s00787-023-02196-7. PMID:37027026. IF:6,400 (Q1/1D).Document type: Article.
  - Blanken MAJT, Oudega ML, Hoogendoorn AW, Sonnenberg CS, Rhebergen D, Klumpers UMH, Van L, Birkenhager T, Schrijvers D, Redlich R, Dannlowski U, Heindel W, Coenjaerts M, Nordanskog P, Oltedal L, Kessler U, Frid LM, Takamiya A, Kishimoto T, Jorgensen MB, Jorgensen A, Bolwig T, Emsell L, Sienaert P, Bouckaert F, Abbott CC, Pérán P, Arbus C, Yrondi A, Kiebs M, Philipsen A, van JA, Prinsen E, van M, Van G, ten F, Camprodon JA, Kritzer M, Barbour T, Argyelan M, Cardoner N, Urretavizcaya M, Soriano C, Narr KL, Espinoza RT, Prudic J, Rowny S, van P, Tendolkar I, Dols A. Sex-specifics of ECT outcome. *JOURNAL OF AFFECTIVE DISORDERS*. 2023; 326DOI:10.1016/j.jad.2022.12.144. PMID:36632848. IF:6,600 (Q1/2D).Document type: Article.
  - Butjosa A, Usall J, Vila R, Mezquida G, Cuesta MJ, Rodríguez E, Amoretti S, Lobo A, Gonzalez A, Espliego A, Corripio I, Vieta E, Baeza I, Berge D, Bernardo M. Impact of traumatic life events on clinical variables of individuals with first-episode psychosis and healthy controls. *INTERNATIONAL JOURNAL OF SOCIAL PSYCHIATRY*. 2023; 69(1):00207640211070398. DOI:10.1177/00207640211070398. PMID:35068217. IF:7,500 (Q1/2D).Document type: Article.
  - Cano M, Camprodon JA. Understanding the Mechanisms of Action of Electroconvulsive Therapy Revisiting Neuroinflammatory and Neuroplasticity Hypotheses. *JAMA Psychiatry*. 2023; 80(6)DOI:10.1001/jamapsychiatry.2023.0728. PMID:37074712. IF:25,800 (Q1/1D).Document type: Editorial Material.
  - Cano M, Lee E, Polanco C, Barbour T, Ellard KK, Andreou B, Uribe S, Henry ME, Seiner S, Car-



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- doner N, Soriano C, Camprodon JA. Brain volumetric correlates of electroconvulsive therapy versus transcranial magnetic stimulation for treatment-resistant depression. *JOURNAL OF AFFECTIVE DISORDERS*. 2023; 333DOI:10.1016/j.jad.2023.03.093. PMID:37024015. IF:6,600 (Q1/2D).Document type: Article.
- Contreras O, Reales M, Fernández S, Cimpean A, Arnoriaga M, Puig J, Biarnes C, Motger A, Cano M, Fernández JM. Consumption of ultra-processed foods is associated with depression, mesocorticolimbic volume, and inflammation. *JOURNAL OF AFFECTIVE DISORDERS*. 2023; 335DOI:10.1016/j.jad.2023.05.009. PMID:37207947. IF:6,600 (Q1/2D).Document type: Article.
  - Costas A, Verdolini N, García C, Mezquida G, Janssen J, Valli I, Corripio I, Sánchez AM, Bioque M, Lobo A, Gonzalez A, Rapado M, Vieta E, de la Serna H, Mane A, Roldan A, Crossley N, Penades R, Cuesta MJ, Parellada M, Bernardo M, PEPs GRP. Difficulties during delivery, brain ventricle enlargement and cognitive impairment in first episode psychosis. *PSYCHOLOGICAL MEDICINE*. 2023; DOI:10.1017/S0033291723003185. PMID:38014924. IF:6,900 (Q1/1D).Document type: Article.
  - de la Serna E, Montejo L, Solé B, Castro-Fornieles J, Camprodon-Boadas P, Sugranyes G, Rosa-Justicia M, Martinez-Aran A, Vieta E, Vicent-Gil M, Serra-Blasco M, Cardoner N, Torrent C. Effectiveness of enhancing cognitive reserve in children, adolescents and young adults at genetic risk for psychosis: Study protocol for a randomized controlled trial. *Span J Psychiatry Ment Health*. 2023;16(3):184-191. DOI: 10.1016/j.rpsm.2021.02.003. PMID: 33631372. Document type: Article.
  - De la Serna E, Puig O, Mezquida G, Moreno L, Merchan J, Amoretti S, Ruiz P, Gonzalez A, Molina M, Corripio I, Vieta E, Baeza I, Berge D, Penades R, Sánchez A, Cuesta MJ, Bernardo M, Castro J. Relationship between cognition and age at onset of first-episode psychosis: comparative study between adolescents, young adults, and adults. *EUROPEAN CHILD & ADOLESCENT PSYCHIATRY*. 2023; 32(4)DOI:10.1007/s00787-021-01901-8. PMID:34714406. IF:6,400 (Q1/1D). Document type: Article.
  - Fagiolini A, Cardoner N, Pirildar S, Ittsakul P, Ng B, Duailibi K, El Hindy N. Moving from serotonin to serotonin-norepinephrine enhancement with increasing venlafaxine dose: clinical implications and strategies for a successful outcome in major depressive disorder. *EXPERT OPINION ON PHARMACOTHERAPY*. 2023; 24(15)DOI:10.1080/14656566.2023.2242264. PMID:37501324. IF:3,200 (Q3/6D).Document type: Review.
  - Florido A, Velasco ER, Monari S, Cano M, Cardoner N, Sandi C, Andero R, Perez L. Glucocorticoid-based pharmacotherapies preventing PTSD. *NEUROPHARMACOLOGY*. 2023; 224:109344. DOI:10.1016/j.neuropharm.2022.109344. PMID:36402246. IF:4,700 (Q1/3D).Document type: Article.
  - Fortea L, Tortella-Feliu M, Juaneda-Seguí A, De la Peña-Arteaga V, Chavarría-Elizondo P, Prat-Torres L, Soriano-Mas C, Lane SP, Radua J, Fullana MA. Development and Validation of a Smartphone-Based App for the Longitudinal Assessment of Anxiety in Daily Life. *Assessment*. 2023 Jun;30(4):959-968. doi: 10.1177/10731911211065166. Epub 2021 Dec 30. PMID: 34969314; PMCID: PMC9301625.IF:3,800 (Q2/3D).Document type: Article.
  - Fraguas D, Almenta D, Arques S, Gómez M, Sánchez CG, Hernández D, Núñez D, Oda Plasencia B, Parro C, Romero SL, Ros E, Alamo C. Aripiprazole for the treatment of schizophrenia: Recommendations of a panel of Spanish experts on its use in clinical practice. *INTERNATIONAL JOURNAL OF PSYCHIATRY IN CLINICAL PRACTICE*. 2023; 27(1)DOI: 10.1080/13651501.2022.2064308. PMID:35792729. IF:3,000 (Q3/7D).Document type: Review.
  - García J, Hajar R, López Y, Magallón R, Fernández S, Barceló A, Soler J, Montero J. Effectiveness of four deconstructive meditative practices on well-being and self-deconstruction: study protocol for an exploratory randomized controlled trial. *Trials*. 2023; 24(1):125. DOI:10.1186/s13063-023-07151-0. PMID:36805694. IF:2,500 (Q3/8D). Document type: Article.
  - Goodman JM, Cuesta D, Alupoaei C, Bello E, Herrera J, Mayoral F, Guzman J. Psychometric validation of the 15-item Questionnaire about the Process of Recovery in Spain



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- (QPR-15-SP). *Frontiers in Psychology*. 2023; 14:1178341. DOI:10.3389/fpsyg.2023.1178341. PMID:37484089. IF:3,800 (Q1/3D). Document type: Article.
- Gracia R, Portella MJ, Puntí J, Pujals E, Torralbas J, Llorens M, Pamias M, Fradera M, Montalvo I, Palao DJ. COVID-19 Pandemic Has Changed the Psychiatric Profile of Adolescents Attempting Suicide: A Cross-Sectional Comparison. *International Journal of Environmental Research and Public Health*. 2023; 20(4):2952. DOI:10.3390/ijerph20042952. PMID:36833651. IF:4,614 (Q1/3D). Document type: Article.
  - Grasa E, Corripio I, Peris O, Roldán A, Selma J, Osma J. Opening Treatment Windows for Treatment-Resistant Schizophrenia: Improving Emotion Regulation Strategies Using the Unified Protocol in a Case Study in Spain. *Clinical Case Studies*. 2023; DOI:10.1177/15346501231190912. IF:1,000 (Q4/10D). Document type: Article.
  - Grasa E, Seppala J, Alonso A, Haapea M, Isohanani M, Miettunen J, Mendivelso JC, Almazan C, Rubinstein K, Caspi A, Unoka Z, Farkas K, Usall J, Ochoa S, van der Graaf S, Jewell C, Triantafyllou A, Stevens M, Reixach E, Berdun J, RESIST MGRP, Corripio I. m-RESIST, a Mobile Therapeutic Intervention for Treatment-Resistant Schizophrenia: Feasibility, Acceptability, and Usability Study. *Jmir Formative Research*. 2023; 7:e46179. DOI:10.2196/46179. PMID:37389933. Document type: Article.
  - Groenewold NA, Bas-Hoogendam JM, Amod AR, Laansma MA, Van Velzen LS, Aghajani M, Hilbert K, Oh H, Salas R, Jackowski AP, Pan PM, Salum GA, Blair JR, Blair KS, Hirsch J, Pantazatos SP, Schneier FR, Talati A, Roelofs K, Volman I, Blanco-Hinojo L, Cardoner N, Pujol J, Beesdo-Baum K, Ching CRK, Thomopoulos SI, Jansen A, Kircher T, Krug A, Nenadić I, Stein F, Dannlowski U, Grotegerd D, Lemke H, Meinert S, Winter A, Erb M, Kreifelts B, Gong Q, Lui S, Zhu F, Mwangi B, Soares JC, Wu MJ, Bayram A, Canli M, Tükel R, Westenberg PM, Heeren A, Cremers HR, Hofmann D, Straube T, Doruyter AGG, Lochner C, Peterburs J, Van Tol MJ, Gur RE, Kaczurkin AN, Larsen B, Satterthwaite TD, Filippi CA, Gold AL, Harrewijn A, Zugman A, Bülow R, Grabe HJ, Völzke H, Wittfeld K, Böhnlein J, Dohm K, Kugel H, Schrammen E, Zwanzger P, Leeher EJ, Sindermann L, Ball TM, Fonzo GA, Paulus MP, Simmons A, Stein MB, Klumpp H, Phan KL, Furmark T, Månsson KNT, Manzouri A, Avery SN, Blackford JU, Clauss JA, Feola B, Harper JC, Sylvester CM, Lueken U, Veltman DJ, Winkler AM, Jahanshad N, Pine DS, Thompson PM, Stein DJ, Van der Wee NJA. Volume of subcortical brain regions in social anxiety disorder: mega-analytic results from 37 samples in the ENIGMA-Anxiety Working Group. *Mol Psychiatry*. 2023;28(3):1079-1089. doi: 10.1038/s41380-022-01933-9. PMID: 36653677. IF:11,000 (Q1/1D) Document type: Article.
  - Gutiérrez F, Aluja A, Rodríguez C, Gárriz M, Peri JM, Gallart S, Calvo N, Ferrer M, Gutiérrez A, Soler J, Pascual JC. Severity in the ICD-11 personality disorder model: Evaluation in a Spanish mixed sample. *Frontiers in Psychiatry*. 2023; 13:1015489. DOI:10.3389/fpsy.2022.1015489. PMID:36699492. IF:4,700 (Q2/3D). Document type: Article.
  - Joseph Fortuny J, Navarra-Ventura G, Fernández-Gonzalo S, Pousa Tomàs E, Crosas Armengol JM, Palao Vidal D, Jodar Vicente M. Social cognition in first-episode schizophrenia/schizoaffective disorder patients. *Span J Psychiatry Ment Health*. 2023;16(3):169-174. doi: 10.1016/j.rpsm.2020.04.006. PMID: 32499122. Document type: Article.
  - Lin BD, Pinzon J, Blouzard E, van der Horst MZ, Okhuijsen C, van KR, Guloksuz S, Peyrot WJ, Luykx JJ, Genetic Risk Outcome Psychosis GRP, Clozapine Int Consortium CLOZIN IN. Associations Between Polygenic Risk Score Loading, Psychosis Liability, and Clozapine Use Among Individuals With Schizophrenia. *JAMA Psychiatry*. 2023; 80(2)DOI:10.1001/jamapsychiatry.2022.4234. PMID:36542388. IF:25,800 (Q1/1D). Document type: Article.
  - Mateo C, Sanabria JP, Comendador L, Rojas JS, Carmona M, Crespo N, Anyosa F, Selva C, Feliu A, Cardoner N, Deus J, Luciano JV, Mendez JL, Sanz A. Predictive factors of hesitancy to vaccination against SARS-CoV-2 virus in young adults in Spain: Results from the PSY-COVID study. *Vaccine*. X. 2023; 14:100301. DOI:10.1016/j.jvacx.2023.100301. PMID:37091731. Document type: Article.





## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- Mezquida G, Amoretti S, Bioque M, García C, Sánchez AM, Pina L, López P, Mané A, Rodríguez R, Corripio I, Sarró S, Ibañez A, Usall J, García MP, Vieta E, Mas S, Cuesta MJ, Parellada M, González A, Berrocoso E, Bernardo M, 2EPs G. Identifying risk factors for predominant negative symptoms from early stages in schizophrenia: A longitudinal and sex-specific study in first-episode schizophrenia patients. SPANISH JOURNAL OF PSYCHIATRY AND MENTAL HEALTH. 2023; 16(3) DOI:10.1016/j.rpsm.2023.01.004. PMID:37716849. IF:9,200 (Q1/1D).Document type: Article.
- Navarrete J, Colomer A, Sanabria JP, Luciano JV, Soler J, García J, Demarzo M, Montero J, Bohlmeijer ET, Campos D, Cebolla A, Feliu A. Psychometric properties of the engaged living scale (ELS) Spanish version in a large sample of Spanish pilgrims. Journal of Contextual Behavioral Science. 2023; 28DOI:10.1016/j.jcbs.2023.05.001. IF:5,000 (Q1/2D).Document type: Article.
- Navarrete J, Fontana M, Colomer A, Sanabria JP, Pinazo D, Silvestre A-J, Lau M, Tanay G, García J, Demarzo M, Soler J, Cebolla A, Feliu A, Luciano JV. The Toronto Mindfulness Scale and the State Mindfulness Scale: psychometric properties of the Spanish versions. Frontiers in Psychology. 2023; 14:1212036. DOI:10.3389/fpsyg.2023.1212036. PMID:37484107. IF:3,800 (Q1/3D).Document type: Article.
- Nunez C, García A, Arca G, Agut T, Carreras N, Portella MJ, Stephan C. Breastfeeding duration is associated with larger cortical gray matter volumes in children from the ABCD study. JOURNAL OF CHILD PSYCHOLOGY AND PSYCHIATRY. 2023; 64(7)DOI:10.1111/jcpp.13790. PMID:36946606. IF:7,600 (Q1/1D).Document type: Article.
- Oteo Á, García CG, Sánchez AI, Santamaria CA, de Diego J. Neuropsychiatric adverse reactions in patients treated with denosumab: two case reports and a review of data from the FDA Adverse Event Reporting System (FAERS). OSTEOPOROSIS INTERNATIONAL. 2023; 34(10)DOI:10.1007/s00198-023-06838-z. PMID:37405407. IF:4,000 (Q2/5D).Document type: Review.
- Pascual JC, Arias L, Soler J. Pharmacological Management of Borderline Personality Disorder and Common Comorbidities. CNS DRUGS. 2023; 37(6)DOI:10.1007/s40263-023-01015-6. PMID:37256484. IF:6,000 (Q1/2D).Document type: Article.
- Porta D, Cano M, Navarra G, Serra M, Vicent M, Solé B, Montejo L, Torrent C, Martinez A, Harrison BJ, Palao D, Vieta E, Cardoner N. Disrupted network switching in euthymic bipolar disorder: Working memory and self-referential paradigms. JOURNAL OF AFFECTIVE DISORDERS. 2023; 320DOI:10.1016/j.jad.2022.09.152. PMID:36202301. IF:6,600 (Q1/2D).Document type: Article.
- Portella MJ, González I, Jubero M, Trujols J, Pérez V. Depressive-Like Effects of Foreclosing: A Cross-Sectional Study of Hair Cortisol Concentration. PSYCHOPATHOLOGY. 2023; DOI:10.1159/000530706. PMID:37331349. IF:3,600 (Q2/4D).Document type: Article.
- Sánchez AM, Amoretti S, Enguita M, Mezquida G, Moreno L, Panadero R, Rementeria L, Toll A, Rodríguez R, Roldan A, Pomarol E, Ibanez A, Usall J, Contreras F, Vieta E, López JM, Merchan J, Gonzalez A, Berrocoso E, Bernardo M, Cuesta MJ, 2EPs GRP. Relapse, cognitive reserve, and their relationship with cognition in first episode schizophrenia: a 3-year follow-up study. EUROPEAN NEUROPSYCHOPHARMACOLOGY. 2023; 67DOI:10.1016/j.euroneuro.2022.11.011. PMID:36495858. IF:5,600 (Q1/2D).Document type: Article.
- Sastre A, Caro I, Ochoa S, Lorente E, Barajas A, Gutiérrez A, Sánchez S, López R, Grasa E, Pousa E, Pélaez T, Cid J, González F, Ruiz I, Baca E, Barrigon ML, Spanish Metacognition Study G. Relationship between cognition and suicidal behavior in recent-onset psychosis. SCHIZOPHRENIA RESEARCH. 2023; 252DOI:10.1016/j.schres.2022.12.042. PMID:36652834. IF:4,500 (Q2/4D).Document type: Article.
- Schmidt C, Briones L, Nicolaou S, Soler J, Pascual JC, Vega D. Non-suicidal self-injury in young adults with and without borderline personality disorder: the role of emotion dysregulation and negative urgency. Anales de Psicología. 2023; 39(3)DOI:10.6018/analesps.492631. IF:1,700 (Q3/7D).Document type: Article.



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- Segal A, Parkes L, Aquino K, Kia SM, Wolfers T, Franke B, Hoogman M, Beckmann CF, Westlye LT, Andreassen OA, Zalesky A, Harrison BJ, Davey CG, Soriano C, Cardoner N, Tiego J, Yücel M, Braganza L, Suo C, Berk M, Cotton S, Bellgrove MA, Marquand AF, Fornito A. Regional, circuit and network heterogeneity of brain abnormalities in psychiatric disorders. *NATURE NEUROSCIENCE*. 2023; 26(9)DOI:10.1038/s41593-023-01404-6. PMID:37580620. IF:25,000 (Q1/1D).Document type: Article.
- Segura AG, Mane A, Prohens L, Rodríguez N, Mezquida G, Cuesta MJ, Vieta E, Amoretti S, Lobo A, Gonzalez A, Diaz CM, Bejarano AR, Jimenez E, Baeza I, Legido T, Saiz J, Bernardo M, Mas S, PEPs GRP. Exploration of cannabis use and polygenic risk scores on the psychotic symptom progression of a FEP cohort. *PSYCHIATRY RESEARCH*. 2023; 325:115249. DOI:10.1016/j.psychres.2023.115249. PMID:37178502. IF:11,300 (Q1/1D).Document type: Article.
- Segura AG, Mezquida G, Martinez A, Gasso P, Rodríguez N, Moreno L, Amoretti S, Bioque M, Lobo A, Gonzalez A, García A, Roldan A, Vieta E, de la Serna E, Toll A, Cuesta MJ, Mas S, Bernardo M, PEPs GRP. Link between cognitive polygenic risk scores and clinical progression after a first-psychotic episode. *PSYCHOLOGICAL MEDICINE*. 2023; 53(10):PII S0033291722001544. DOI:10.1017/S0033291722001544. PMID:35678455. IF:6,900 (Q1/1D).Document type: Article.
- Segura À-G, Prohens L, Gassó P, Rodríguez N, García C, Moreno L, Andreu Á, Zorrilla I, Mane A, Rodríguez R, Roldán A, Sarró S, Ibáñez Á, Usall J, Sáiz PA, Cuesta MJ, Parellada M, González A, Berrocoso E, Bernardo M, Mas S, Mezquida G, Arbelo N, De Matteis M, Galvañ J, Duque A, Arias i Queralt L, Perez M, Gonzalez I, Toll A, Casanovas F, Sánchez L, Valtueña M, Pomarol E, García MÁ, Butjosa A, Rubio E, Ribeiro M, López JM, Saiz J, León L, Rivero O, Ruiz P, Echevarría RS, García MP. The polygenic basis of relapse after a first episode of schizophrenia. *EUROPEAN NEUROPSYCHOPHARMACOLOGY*. 2023; 75DOI:10.1016/j.euroneuro.2023.06.003. PMID:37603902. IF:5,600 (Q1/2D).Document type: Article.
- Trujols J, Vicent M, Duran S, Portella MJ. A truly patient-centred evaluation of opioid agonist treatment. *The Lancet Psychiatry*. 2023; 10(8)DOI:10.1016/S2215-0366(23)00202-X. PMID:37479338. IF:64,300 (Q1/1D).Document type: Letter.
- Valli I, Segura AG, Verdolini N, García C, Berge D, Baeza I, Cuesta MJ, Gonzalez A, Lobo A, Martinez A, Mezquida G, Pina L, Bejarano AR, Mas S, McGuire P, Bernardo M, Vieta E, PEPs GRP. Obstetric complications and genetic risk for schizophrenia: Differential role of antenatal and perinatal events in first episode psychosis. *ACTA PSYCHIATRICA SCANDINAVICA*. 2023; 148(1)DOI:10.1111/acps.13546. PMID:36912272. IF:6,700 (Q1/2D). Document type: Article.
- Verdolini N, Mezquida G, Valli I, García C, Cuesta M, Vieta E, Bioque M, Lobo A, Gonzalez A, Pina L, Corripio I, Garriga M, Baeza I, Martinez L, Bitanahirwe B, Cannon M, Bernardo M, PEPs GRP. Obstetric complications and clinical presentation in first episode of psychosis. *ACTA NEUROPSYCHIATRICA*. 2023; :PII S0924270823000091. DOI:10.1017/neu.2023.9. PMID:36861430. IF:3,800 (Q2/5D).Document type: Article.
- Vicent M, Serra M, Navarra G, Trujols J, Balanza V, Portella MJ, Cardoner N. In pursuit of full recovery in major depressive disorder. *EUROPEAN ARCHIVES OF PSYCHIATRY AND CLINICAL NEUROSCIENCE*. 2023; 273(5)DOI:10.1007/s00406-022-01487-5. PMID:36085532. IF:4,700 (Q1/3D). Document type: Article.
- Vicent M, Trujols J, Serra M, Navarra G, Puigdemont D, Alemany C, Crivillés S, de Diego J, Cardoner N, Portella MJ. If you feel you can't, you won't: the role of subjective and objective cognitive competence on psychosocial functioning in depression. *EUROPEAN PSYCHIATRY*. 2023; 66(1):e83. DOI:10.1192/j.eurpsy.2023.2454. PMID:37855104. IF:7,800 (Q1/1D).Document type: Article.

## Neurobiology of Dementias

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Muñoz Llahuna, Laia (IR)

Palmieri Zinna, Marisa Alejandra (IR)

Pegueroles Monllau, Jordi (IR)

Reyes Santiago, Daniel (CIBER/IR)

Ribas Bellavista, Laia (IR)

Ribosa Nogue, Roser (IR)

Rozalem Aranha, Mateus (IR)

Sala Matavera, Isabel (FGS)

Sánchez López, Oriol (CIBER/IR)

Sánchez Saudinos, Maria Belen (IR)

Sanjuan Hernandez, Aida (IR)

Selma Gonzalez, Judit (IR)

Subirana Castillo, Andrea (IR)

Torres Alcala, Soraya (IR)

Valldenu Castells, Silvia (IR)

Vaque Alcazar, Lidia (IR)

Vera Campuzano, Elena (IR)

Zsadanyi , Sara Erzsebet (IR)



### DESCRIPTION

This multidisciplinary team is made up of more than 40 researchers including neurologists, neuropsychologists, biologists, biochemists, engineers and laboratory technicians. This is a highly translational team combining basic research with clinical research in humans to advance our understanding of these diseases. The group is very productive in generating publications and attracting competitive resources. The group regularly trains national and international residents, Master's students and pre- and postdoctoral researchers. The group offers an excellent place for the training of young researchers in a unique translational environment.

### MAIN LINES OF RESEARCH

- Identification and characterization of novel biomarkers for the diagnostic and prognostic evaluation of patients with neurodegenerative diseases.
- Understanding the natural history of Alzheimer's disease clinical and biomarker changes in people with Down syndrome.
- Understanding the genetic causes underlying neurodegenerative disorders and developing new genetic-based biomarkers to aid in disease diagnosis and prognosis.
- Characterizing the molecular mechanisms underlying neurodegenerative dementias.
- Digital neuropathology applied to neurodegenerative diseases.
- The intersection between sleep, epilepsy, and Alzheimer's disease.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- Clinical trials in Alzheimer's disease and Down syndrome.

## SCIENTIFIC CHALLENGES

Since its founding over 15 years ago, our group has experienced continual and exponential growth and is firmly consolidated as a leader in translational research into neurodegenerative dementias. We currently have a total of 11 principal investigators of active, competitive research grants. Although this is a positive sign of our growth in recent years, it also brings with it many organizational challenges that need to be met. Within our research setting, our group is a relative exception not only in size but also in the levels of clinical care and scientific excellence achieved. Moving forward, our objective is to maintain a sustainable growth without compromising on the values and vision that we have sustained until now and that have made this growth possible.

Recent advances in the field of Dementia are expected to herald a revolution in the coming years that will have a substantial impact on our clinical and research activity. For example, digital tools and plasma biomarkers are already here and pharmacological treatments that change the course of Alzheimer's disease could be available in the next 24 months. The detection of low abundant proteins in plasma requires ultrasensitivity, such as that provided by Single Molecule Array (SIMOA) digital ELISA technology (Quanterix), which is available in our group. Combined with our active participation in multiple clinical trials, our group is perfectly placed to lead the charge in this field and adapt to these changes.

Based on the aforementioned advances, the challenges moving forward include:

- Maintain our scientific production and funding, prioritizing the projects with higher impact.
- Consolidate our number of granted projects in European and international applications.
- Unfold the potential to collaborate with pharma and technological companies to foster additional patent applications and contracts.
- Adapt our research in response to the integration of the first disease-modifying therapy.
- Continue to innovate by developing ever more sensitive technologies for digital and blood based biomarkers.

## ACTIVE GRANTS

- Alcolea Rodríguez, Daniel Andrés. Utilidad diagnóstica de A $\beta$ 42 y A $\beta$ 42/40 en LCR y plasma para detectar amiloidosis cerebral y correlación con marcadores subrogados de producción de  $\beta$ -amiloide en enf. de Alzheimer. PI18/00435. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 147.620,00 €.
- Alcolea Rodríguez, Daniel Andrés. Caracterización multimodal de las etapas prodrómicas del espectro Alzheimer-Lewy. PI22/00611. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 153.670,00 €.
- Alcolea Rodríguez, Daniel Andrés. Technology validation of full automated plasma assay based on the chemiluminescence immunoassay technique for the 4 biomarkers, b-amyloid 42/40, t-Tau, p-Tau181 and Neurofilament light in Alzheimer's disease. PNC00126. SYS-ALZ-2022-01. Non competitive. Sysmex Inostics GMBH. Duration: 2022-2023. 51.750,00 €.
- Arranz Martinez, Javier Jose. Contractes Rio Hortega 2021. CM21/00243. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 65.000,00 €.
- Arriola Infante, Jose Enrique. Contratos Rio Hortega 2022. CM22/00219. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2024. 65.000,00 €.
- Bejanin, Alexandre Pierre Armand. Contractes Miguel Servet I 2020. CP20/00038. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2026. 202.500,00 €.
- Bejanin, Alexandre Pierre Armand. Neuroimagen multimodal de la enfermedad de pequeños vasos relacionada con la enfermedad de Alzheimer en el síndrome de Down. PI22/00307. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 165.770,00 €.
- Bejanin, Alexandre Pierre Armand. Multimodal imaging of small vessel disease in genetic AD. AARG-22-923680. Alzheimer's Association. Duration: 2022-2025. 126.532,76 €.
- Carmona Iragui, Maria. Estudio de biomarcadores bioquímicos y de imagen de angiopatía amiloide cerebral en el continuum de la enfermedad de Alzheimer esporádica y asociada al síndrome de Down. PI18/00335. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 68.970,00 €.



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- Carmona Iragui, Maria. Caracterización de la epilepsia y de los trastornos de sueño en la enfermedad de Alzheimer esporádica y asociada al síndrome de Down. PI22/00785. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 135.520,00 €.
- Carmona Iragui, Maria. Inflammatory biomarkers along the Alzheimer's disease continuum in down syndrome. JLF 2020 M CARMONA. Jérôme Lejeune Fondation. Duration: 2020-2023. 86.694,20 €.
- Carmona Iragui, Maria. Multimodal assessment of brain inflammatory biomarkers in DS-associated AD. AARG-22-973966. Alzheimer's Association. Duration: 2023-2025. 141.246,28 €.
- Dols Icardo, Oriol. Estudio longitudinal del papel de las células inmunitarias periféricas en la evolución de la ELA. FUND.HNA. Fundación HNA. Duration: 2021-2023. 100.000,00 €.
- Dols Icardo, Oriol. Estudio transcriptómico de la demencia frontotemporal para la comprensión de sus bases moleculares e identificación de biomarcadores que reflejen su sustrato neuropatológico in vivo. PI18/00326. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 135.520,00 €.
- Dols Icardo, Oriol. Caracterización transcriptómica y neuropatológica del tejido postmortem de pacientes con esclerosis lateral amiotrófica portadores de la expansión en el gen C9orf72. PI21/01395. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 87.120,00 €.
- Dols Icardo, Oriol. Assessing peripheral inflammation in DS at different stages of AD. AARF-22-924456. Alzheimer's Association. Duration: 2022-2025. 147.402,61 €.
- Fortea Ormaechea, Juan. INMUNGEN-CoV2: Estudio genético de la severidad de COVID-19. F. TATIANA PREDOC 2020. Fundación Tatiana Pérez de Guzmán El Bueno. Duration: 2021-2024. 39.160,00 €.
- Fortea Ormaechea, Juan. Contractes per a la intensificació de l'activitat investigadora al SNS 2021. INT21/00073. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 60.000,00 €.
- Fortea Ormaechea, Juan. Caracterización de la inflamación relacionada con amiloide: nuevos marcadores inflamatorios y su impacto en la macroestructural y microestructura cortical en la enfermedad de Alzheimer preclínica y prodrómica. PI20/01473. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 214.775,00 €.
- Fortea Ormaechea, Juan. Mes-CoBraD: Multi-disciplinary Expert System for the Assessment & Management of Complex Brain Disorders. MES-CoBraD 965422. Unión Europea. Duration: 2021-2024. 482.771,25 €.
- Fortea Ormaechea, Juan. The Role of Inflammation and NGF Dysfunction in the Evolution of Alzheimer Disease Pathology in Down syndrome. NIH THE REGENTS 1R01AG056850-01A1. The Regents of the University of California. Duration: 2018-2023. 1.872.312,87 €.
- Fortea Ormaechea, Juan. Clinical trials to prevent Alzheimer's Disease in Down Syndrome. NIH SOUTHERN R33AG066543. University of Southern California. Duration: 2019-2024. 340.242,00 €.
- Fortea Ormaechea, Juan. Exosomal Tau Pathology in Down Syndrome. R01AG061566. National Institute of Aging (NIH-NIA). Duration: 2018-2023. \$ 10.000,00 €.
- Gimenez Badia, Sandra. Síndrome de apnea-hipopnea del sueño y síndrome de Down: cognición, biomarcadores de Enfermedad de Alzheimer en plasma, líquido cefalorraquídeo y resonancia magnética. PI20/00836. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 77.440,00 €.
- Gimenez Badia, Sandra. The impact of Alzheimer's disease on sleep in adults with Down Syndrome. JLF #1801 -S GIMENEZ. Jérôme Lejeune Fondation. Duration: 2020-2024. 86.699,13 €.
- Gimenez Badia, Sandra. Evaluation of the circadian rest-activity rhythm in adults with DS. GBHI ALZ UK-23-971107. Alzheimer's Association. Duration: 2023-2026. 24.987,00 €.
- Illan Gala, Ignacio. Contractes Juan Rodés 2020. JR20/00018. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 180.000,00 €.
- Illan Gala, Ignacio. Avanzando la clasificación de la demencia frontotemporal y la esclerosis lateral amiotrófica mediante neuroimagen microestructural y funcional, y biomarcadores sanguíneos de neurodegeneración y neuroinflamación.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- PI21/00791. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 129.470,00 €.
- Illan Gala, Ignacio. Unveiling the impact of biological sex along sporadic and genetic FTL. AACSF-21-850193. Alzheimer's Association. Duration: 2021-2024. 147.286,04 €.
- Lleo Bisa, Alberto. Acúmulo de Proteína Precursora de Amiloide-C99 (APP-C99) como mecanismo de enfermedad en la enfermedad de Alzheimer: implicaciones terapéuticas. PI20/01330. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 183.920,00 €.
- Lleo Bisa, Alberto. NEUROBIOLOGIA DE LES DEMENCIAS. 2022 INV-1 00048. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 66.217,84 €.
- Lleo Bisa, Alberto. Estudio de la patología sináptica de Tau mediante Array Tomography y microscopia de superresolución. FUND. TATIANA 2022. Fundación Tatiana Pérez de Guzmán El Bueno. Duration: 2023-2025. 33.000,00 €.
- Lleo Bisa, Alberto. iLEADS AlzAss. SG-23-1014431 iLEADS. Alzheimer's Association. Duration: 2022-2023. 59.831,52 €.
- Padilla Franco, Concepción. Contractes Sara Borrell 2020. CD20/00133. Instituto de Salud Carlos III (ISCIII). Duration: 2011-2022. 80.598,00 €.
- Rozalem Aranha, Mateus. Evaluation of cortical microinfarcts in individuals with Down syndrome. AARFD-21-852492. Alzheimer's Association. Duration: 2022-2025. 147.627,00 €.
- Rodríguez Baz, Iñigo. Contratos Rio Hortega 2022. CM22/00052. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2024. 65.000,00 €.
- Sala Matavera, Isabel. Estudio sobre las características del proceso de cese de la conducción en personas mayores con y sin deterioro cognitivo. INN00003. IIBSP-CON-2022-11. Fundación MAPFRE. Duration: 2022-2023. 19.123,70 €.
- Sánchez Aced, Erika. Contratos i-PFIS 2022. IFI22/00015. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2026. 89.900,00 €.
- Santos Santos, Miguel Angel. Contratos Juan Rodés 2018. JR18/00018. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 180.000,00 €.
- Santos Santos, Miguel Angel. Afasia primaria progresiva: Caracterización multimodal de los síntomas, fisiopatología y progresión. PI19/00882. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 111.320,00 €.
- Santos Santos, Miguel Angel. Rehabilitating Communication in bilingual Speakers with Language-Prominent Dementia. UT AUSTIN GRANT. Texas Global. Duration: 2021-2023. 18.811,00 €.
- Santos Santos, Miguel Angel. Molecular bases of bilingualism's protective effect vs cognitive decline. AACSF-22-972945. Alzheimer's Association. Duration: 2023-2025. 164.789,51 €.
- Santos Santos, Miguel Angel. Bilingual Factors Associated with Cognitive Reserve and Linguistic Resilience in Hispanics with Primary Progressive Aphasia. NIH - UTexas 1R01AG080470-01. National Institute on Aging (NIA) at the National Institute of Health (NIH). Duration: 2023-2027. 1.063.462,00 €.
- Sirisi Dolcet, Sónia. Ayudas para contratos Juan de la Cierva - Incorporación 2019. IJC2019-038962-I. Ministerio de Ciencia e Innovación (MICINN). Duration: 2021-2024. 93.000,00 €.
- Zhu, Nuole. Contractes Rio Hortega 2021. CM21/00113. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 65.000,00 €.
- Valle Tamayo, Natalia. Contratos PFIS 2022. FI22/00077. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2026. 119.567,00 €.

### GRANTS AWARDED

- Dols Icardo, Oriol. Identificación de ARN pequeños en suero como biomarcadores subrogados de los niveles de pTDP43 en el sistema nervioso central. FUNDELA 2023. Fundela Fundación Española Investigación Esclerosis Lateral (FUNDELA). Duration: 2023-2025. 50.000,00 €.
- Dols Icardo, Oriol. PMP-DEGESCO: Validation of a precision medicine tool based on online cognitive evaluation, genetic risk stratification and bloodbased biomarkers for the identification of preclinical Alzheimer's Disease. PMP22/00022. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 290.400,00 €.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- Fortea Ormaechea, Juan. Sleep and Temperature Disturbance as risk factors for Alzheimer's Disease in Down Syndrome: a Longitudinal Study. NIH NY Fortea 1RF1AG080769-01. National Institute on Aging (NIA) at the National Institute of Health (NIH). Duration: 2023-2028. 1.829.573,72 €.
- Fortea Ormaechea, Juan. DS-ARC: A Remote Digital Cognitive Assessment for Down Syndrome-Associated Alzheimer's Disease. NIH FORTEA Washington 1R01AG081394-01. National Institute On Aging/NIH/DHHS. Duration: 2023-2028. 751.864,51 €.

### DOCTORAL THESES DEFENDED

- Rozalem Aranha, Mateus. Cortical Microinfarcts evaluation in patients with Down syndrome. Universitat Autònoma de Barcelona; Universidade de Sao Paulo. 7/11/2023. Supervisors: Fortea Ormaechea, Juan; da Costa Leite, Cláudia; Martins Coutinho, Artur; Lleó Bisa, Alberto.
- Videla Toro, Laura. Neuropsychological and fluid biomarker changes in the Alzheimer's disease continuum in adults with Down syndrome. Universitat Autònoma de Barcelona. 25/01/2023. Supervisors: Fortea Ormaechea, Juan; Lleó Bisa, Alberto. <http://hdl.handle.net/10803/688774>.

### SCIENTIFIC PRODUCTION

- Villarejo A, García E, Piñol G, del Olmo A, Viñuela F, Boada M, Franco E, de la Peña AI, Riverol M, Puig A, Abizanda P, Arroyo R, Baquero M, Feria I, Balasa M, Berbel A, Rodríguez E, Vieira A, García G, Rodrigo S, Lleó A, Maurino J. Medical help-seeking intentions among patients with early Alzheimer's disease. *Frontiers in Psychiatry*. 2023; 14:1290002. DOI:10.3389/fpsy.2023.1290002. PMID:38173708. IF:4,700 (Q2/3D). Document type: Article.
- Acha B, Corroza J, de Gordo JSR, Cabello C, Robles M, Mendez I, Macías M, Zueco S, Roland M, Urdániz A, Jericó I, Erro ME, Alcolea D, Lleo A, Blanco I, Mendioroz M, iBEAS GRP. Association of Blood-Based DNA Methylation Markers With Late-Onset Alzheimer Disease. *NEUROLOGY*. 2023; 101(23). DOI:10.1212/WNL.0000000000207865. PMID:37827850. IF:9,900 (Q1/1D). Document type: Article.
- Guillén N, Contador J, Buongiorno M, Alvarez I, Culell N, Alcolea D, Lleó A, Fortea J, Piñol G,

Carnes A, Ispuerto ML, Vilas D, Puig A, Fernández A, Balasa M, Sánchez R, Lladó A. Agreement of cerebrospinal fluid biomarkers and amyloid-PET in a multicenter study. *EUROPE-AN ARCHIVES OF PSYCHIATRY AND CLINICAL NEUROSCIENCE*. 2023; DOI:10.1007/s00406-023-01701-y. PMID:37898567. IF:4,700 (Q1/3D). Document type: Article.

- Olazarán J, Carnero C, Fortea J, Sánchez P, García G, Vinuela F, Martínez P, Boada M. Prevalence of treated patients with Alzheimer's disease: current trends and COVID-19 impact. *Alzheimers Research & Therapy*. 2023; 15(1):130. DOI:10.1186/s13195-023-01271-0. PMID:37537656. IF:9,000 (Q1/1D). Document type: Article.
- Fortea J, García E, García G, Canal N, Maurino J. Burnout among neurologists caring for patients with cognitive disorders in Spain. *PLoS One*. 2023; 18(5):e0286129. DOI:10.1371/journal.pone.0286129. PMID:37228146. IF:3,700 (Q2/4D). Document type: Article.
- Mansilla A, Canyelles M, Ferrer R, Arranz J, Rodríguez I, Zhu N, Rubio S, El Bounasri S, Sanchez O, Torres S, Fortea J, Lleo A, Alcolea D, Tondo M. Effects of storage conditions on the stability of blood-based markers for the diagnosis of Alzheimer's disease. *CLINICAL CHEMISTRY AND LABORATORY MEDICINE*. 2023; 61(9). DOI:10.1515/cclm-2023-0245. PMID:37083158. IF:6,800 (Q1/2D). Document type: Article.
- Videla L, Benejam B, Carmona M, Barroeta I, Fernández S, Arranz J, Azzahchi SE, Altuna M, Padilla C, Valldeneu S, Pegueroles J, Montal V, Aranha MR, Vaqué L, Iulita MF, Alcolea D, Bejanin A, Videla S, Blesa R, Lleó A, Fortea J. Cross-sectional versus longitudinal cognitive assessments for the diagnosis of symptomatic Alzheimer's disease in adults with Down syndrome. *Alzheimers & Dementia*. 2023; 19(9). DOI:10.1002/alz.13073. PMID:37038748. IF:14,000 (Q1/1D). Document type: Article.
- Ferrer P, Puertollano D, Querol M, Sánchez É, Valle N, Cervantes A, Nuñez R, Pegueroles J, Dols O, Iulita MF, Aldecoa I, Molina L, Sánchez R, Fortea J, Belbin O, Sirisi S, Lleó A. Amyloid precursor protein BCTF accumulates in synapses in sporadic and genetic forms of Alzheimer's disease.



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- NEUROPATHOLOGY AND APPLIED NEUROBIOLOGY. 2023; 49(1):e12879. DOI:10.1111/nan.12879. PMID:36702749. IF:5,000 (Q1/2D). Document type: Article.
- Álvarez R, Dols O, El Bounasri S, López L, Trujillo JC, Reyes D, Suárez X, Cortés E, Illa I, Gallardo E. Reduced Number of Thymoma CTLA4-Positive Cells Is Associated With a Higher Probability of Developing Myasthenia Gravis. *Neurology-Neuroimmunology & Neuroinflammation*. 2023; 10(2):e200085. DOI:10.1212/NXI.0000000000200085. PMID:36697230. IF:8,800 (Q1/1D). Document type: Article.
  - De Luna N, Carbayo Á, Dols O, Turon J, Reyes D, Illan I, Jericó I, Pagola I, Lleixà C, Querol L, Rubio S, Alcolea D, Fortea J, Lleó A, Cortés E, Rojas R. Neuroinflammation-Related Proteins NOD2 and Spp1 Are Abnormally Upregulated in Amyotrophic Lateral Sclerosis. *Neurology-Neuroimmunology & Neuroinflammation*. 2023; 10(2):e200072. DOI:10.1212/NXI.0000000000200072. PMID:36460480. IF:8,800 (Q1/1D). Document type: Article.
  - Borrego S, Montagut N, Martín P, Vaqué L, Illán I, Balasa M, Lladó A, Casanova J, Bargalló N, Valls J, Lleó A, Bartrés D, Sánchez R. Multifocal Transcranial Direct Current Stimulation in Primary Progressive Aphasia Does Not Provide a Clinical Benefit Over Speech Therapy. *JOURNAL OF ALZHEIMERS DISEASE*. 2023; 93(3). DOI:10.3233/JAD-230069. PMID:37182884. IF:4,000 (Q2/4D). Document type: Article.
  - Fitri FI, Lage C, Mollayeva T, Santamaria H, Chan MLS, Cominetti MR, Daria T, Fallon G, Gately D, Gichu M, Gimenez S, Zuniga RG, Hadad R, Hill T, O'Kelly M, Martinez L, Modjaji P, Ngcobo N, Nowak R, Ogbuagu C, Roche M, Aguzzoli CS, Shin SY, Smith E, Yoseph SA, Zewde Y, Ayhan Y. Empathy as a crucial skill in disrupting disparities in global brain health. *Frontiers in Neurology*. 2023; 14:1189143. DOI:10.3389/fneur.2023.1189143. PMID:38162446. IF:3,400 (Q2/5D). Document type: Article.
  - Hirschberg Y, Valle N, Dols O, Engelborghs S, Buelens B, Vandenbroucke RE, Vermeiren Y, Boonen K, Mertens I. Proteomic comparison between non-purified cerebrospinal fluid and cerebrospinal fluid-derived extracellular vesicles from patients with Alzheimer's, Parkinson's and Lewy body dementia. *Journal of Extracellular Vesicles*. 2023; 12(12):e12383. DOI:10.1002/jev2.12383. PMID:38082559. IF:16,000 (Q1/1D). Document type: Article.
  - Goossens J, González AC, Dewit N, Lidón L, Fortea J, Alcolea D, Lleó A, Belbin O, Vanmechelen E. Evaluation of cerebrospinal fluid levels of synaptic vesicle protein, VAMP-2, across the sporadic Alzheimer's disease continuum. *Alzheimers Research & Therapy*. 2023; 15(1):186. DOI:10.1186/s13195-023-01336-0. PMID:37898760. IF:9,000 (Q1/1D). Document type: Article.
  - Neumann A, Ohlei O, Küçükali F, Bos IJ, Timsina J, Vos S, Prokopenko D, Tijms BM, Andreasson U, Blennow K, Vandenbergh R, Scheltens P, Teunissen CE, Engelborghs S, Frisoni GB, Blin O, Richardson JC, Bordet R, Lleó A, Alcolea D, Popp J, Marsh TW, Grijala P, Clark C, Peyratout G, Martinez P, Tainta M, Dobson RJB, Legido C, Van C, Tanzi RE, Ten M, Lill CM, Barkhof F, Cruchaga C, Lovestone S, Streffer J, Zetterberg H, Visser PJ, Sleegers K, Bertram L, EMIF &. Multivariate GWAS of Alzheimer's disease CSF biomarker profiles implies GRIN2D in synaptic functioning. *Genome Medicine*. 2023; 15(1):79. DOI:10.1186/s13073-023-01233-z. PMID:37794492. IF:12,300 (Q1/1D). Document type: Article.
  - Lorca DL, Gajardo A, Mandelli ML, Illán I, Ezzes Z, Wauters LD, Battistella G, Bogley R, Ratnasiri B, Licata AE, Battista P, García AM, Tee BL, Lukic S, Boxer AL, Rosen HJ, Seeley WW, Grinberg LT, Spina S, Miller BL, Miller ZA, Henry ML, Dronkers NF, Gorno ML. Neural basis of speech and grammar symptoms in non-fluent variant primary progressive aphasia spectrum. *BRAIN*. 2023; DOI:10.1093/brain/awad327. PMID:37769652. IF:14,500 (Q1/1D). Document type: Article.
  - Gasca C, Trompeta C, López M, Rodríguez R, Clarimon J, Dols O, El Bounasri S, Guida P, Mata D, Hernández F, Marras C, García L, Plaza de Las Heras I, Obeso I, Vela L, Fernández B. Brain hypometabolism in non-demented microtubule-associated protein tau H1 carriers with Parkinson's disease. *JOURNAL OF NEUROIMAGING*. 2023; 33(6). DOI:10.1111/jon.13156. PMID:37726927. IF:2,400 (Q3/6D). Document type: Article.





## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- Del Campo M, Vermunt L, Peeters CFW, Sieben A, Hok YS, Lleó A, Alcolea D, van M, Engelborghs S, van JL, Arezoumandan S, Chen A, Irwin DJ, van der Flier WM, Lemstra AW, Teunissen CE. CSF proteome profiling reveals biomarkers to discriminate dementia with Lewy bodies from Alzheimer's disease. *Nature Communications*. 2023; 14(1):5635. DOI:10.1038/s41467-023-41122-y. PMID:37704597. IF:16,600 (Q1/1D). Document type: Article.
- Mulet L, Solé C, Cabello M, Abellaneda K, Perellón R, Cattaneo G, Solana J, Alvarez V, Bargalló N, Tormos JM, Pascual A, Bartrés D, Vaqué L. Brain connectivity correlates of cognitive dispersion in a healthy middle-aged population: influence of subjective cognitive complaints. *JOURNALS OF GERONTOLOGY SERIES B-PSYCHOLOGICAL SCIENCES AND SOCIAL SCIENCES*. 2023; 78(11). DOI:10.1093/geronb/gbad114. PMID:37587033. IF:6,200 (Q1/2D). Document type: Article.
- Dou J, Bakulski K, Guo K, Hur J, Zhao L, Saez S, Stark A, Chia R, García A, Rojas R, Vázquez JF, Fernández R, Andrés S, Gómez P, Periñán MT, Mir P, Pérez J, Cardona F, Menéndez M, Riancho J, Borrego D, Galán L, Infante J, Pastor P, Paradas C, Dols O, Traynor BJ, Feldman EL, Goutman SA, Spanish C. Cumulative Genetic Score and C9orf72 Repeat Status Independently Contribute to Amyotrophic Lateral Sclerosis Risk in 2 Case-Control Studies. *Neurology-Genetics*. 2023; 9(4):e200079. DOI:10.1212/NXG.000000000200079. PMID:37293291. IF:3,100 (Q2/5D). Document type: Article.
- Gagliardi G, Rodríguez E, Montal V, Sepulcre J, Diez I, Lois C, Hanseeuw B, Schultz AP, Properzi MJ, Papp KV, Marshall GA, Fortea J, Johnson KA, Sperling RA, Vannini P. Cortical microstructural changes predict tau accumulation and episodic memory decline in older adults harboring amyloid. *Communications Medicine*. 2023; 3(1):106. DOI:10.1038/s43856-023-00324-7. PMID:37528163. Document type: Article.
- Alcolea D, Beeri MS, Rojas JC, Gardner RC, Lleó A. Blood Biomarkers in Neurodegenerative Diseases Implications for the Clinical Neurologist. *NEUROLOGY*. 2023; 101(4)DOI:10.1212/WNL.000000000207193. PMID:36878698. IF:9,900 (Q1/1D). Document type: Review.
- Hok YS, Bolsewig K, Ruiters DN, Lleó A, Alcolea D, Lemstra AW, van der Flier WM, Teunissen CE, del Campo M. Thimet oligopeptidase as a potential CSF biomarker for Alzheimer's disease: A cross-platform validation study. *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring*. 2023; 15(3):e12456. DOI:10.1002/dad2.12456. PMID:37502019. Document type: Article.
- Franzen S, Nuytemans K, Bourdage R, Caramelli P, Ellajosyula R, Finger E, Illan I, Loi SM, Morhardt D, Pijnenburg Y, Rascovsky K, Williams MM, Yokoyama JS, Alladi S, Ayhan Y, Broce I, Castro S, Coleman K, de Souza LC, Dacks PA, de Boer SCM, de Leon J, Dodge S, Grasso S, Gupta V, Gupta V, Ghoshal N, Kamath V, Kumfor F, Mattias JA, Narme P, Nielsen TR, Okhuevbie D, Pina SD, García RR, Scarioni M, Slachevsky A, Suarez A, Tee BL, Tsoy E, Ulugut H, Babulal GM, Onyike CU, ISTAART FTD, ISTAART Diversity Disparities P. zZ Gaps in clinical research in frontotemporal dementia: A call for diversity and disparities-focused research. *Alzheimers & Dementia*. 2023. DOI:10.1002/alz.13129. PMID:37270665. IF:14,000 (Q1/1D). Document type: Article.
- Gonzalez MC, Tovar DA, Alves G, Dalen I, Williams CH, Camacho M, Forsgren L, Backstrom D, Lawson RA, Macleod AD, Counsell CE, Paquet C, DeLena C, D'Antonio F, Pilotto A, Pado-vani A, Blanc F, Falup C, Lewis SJG, Rejdak K, Papuc E, Hort J, Nedelska Z, O'Brien J, Bonanni L, Marquie M, Boada M, Pytel V, Abdelnour C, Alcolea D, Beyer K, Tysnes OB, Aarsland D, Maple J. Cognitive and Motor Decline in Dementia with Lewy Bodies and Parkinson's Disease Dementia. *Movement Disorders Clinical Practice*. 2023; 10(6). DOI:10.1002/mdc3.13752. PMID:37332651. IF:4,000 (Q2/4D). Document type: Article.
- Aranha MR, Coutinho AM, Carneiro CD, Pastorello BF, Studart A, Guariglia CC, Tsunemi MH, Moreira E, Ianof JN, Anghinah R, Nitrini R, Cerri GG, Fortea J, Buchpiguel CA, Leite CC. Brain glucose metabolism and gray matter volume in retired professional soccer players: a cross-sectional [F-18]FDG-PET/MRI study. *ARQUIVOS DE NEURO-PSIQUIATRIA*. 2023; 81(05). DOI:10.1055/s-0043-1768666. PMID:37257463. IF:1,400 (Q4/9D). Document type: Article.



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- Aranha MR, Iulita MF, Montal V, Pegueroles J, Bejanin A, Vaqué L, Grothe MJ, Carmona M, Videla L, Benejam B, Arranz J, Padilla C, Valldeneu S, Barroeta I, Altuna M, Fernández S, Ribas L, Valle N, Alcolea D, González S, Bargalló N, Zetterberg H, Blennow K, Blesa R, Wis-niewski T, Busciglio J, Cuello AC, Lleó A, Fortea J. Basal forebrain atrophy along the Al-zheimer's disease continuum in adults with Down syndrome. *Alzheimers & Dementia*. 2023; 19(11). DOI:10.1002/alz.12999. PMID:37021589. IF:14,000 (Q1/1D). Document type: Article.
- Montoliu L, Alcolea D, Ashton NJ, Pegueroles J, Levin J, Bosch B, Lantero J, Carmona M, Wagemann O, Balasa M, Kac PR, Barroeta I, Llado A, Brum WS, Videla L, Gonzalez F, Bene-jam B, Martinez J, Karikari TK, Nubling G, Bejanin A, Benedet AL, Blesa R, Lleo A, Blennow K, Sánchez R, Zetterberg H, Fortea J. Plasma and cerebrospinal fluid glial fibrillary acidic protein levels in adults with Down syndrome: a longitudinal cohort study. *EBioMedicine*. 2023; 90:104547. DOI:10.1016/j.ebiom.2023.104547. PMID:37002988. IF:11,100 (Q1/1D). Document type: Article.
- Abellaneda K, Cattaneo G, Cabello M, Solana J, Mulet L, Vaque L, Perellon R, Sole C, Bar-gallo N, Tormos JM, Pascual A, Bartres D. Purpose in life promotes resilience to age-related brain burden in middle-aged adults. *Alzheimers Research & Therapy*. 2023; 15(1):49. DOI:10.1186/s13195-023-01198-6. PMID:36915148. IF:9,000 (Q1/1D). Document type: Article.
- Iulita MF, Bejanin A, Vilaplana E, Carmona M, Benejam B, Videla L, Barroeta I, Fernández S, Altuna M, Pegueroles J, Montal V, Valldeneu S, Gimenez S, González S, Torres S, El Bennadi SE, Padilla C, Aranha MR, Estelles T, Illán I, Belbin O, Valle N, Camacho V, Blessing E, Osorio RS, Videla S, Lehmann S, Holland AJ, Zetterberg H, Blennow K, Alcolea D, Clarimón J, Zaman SH, Blesa R, Lleó A, Fortea J. Association of biological sex with clinical outcomes and biomarkers of Alzheimer's disease in adults with Down syndrome. *Brain Communi-cations*. 2023; 5(2):fcad074. DOI:10.1093/bra-incomms/fcad074. PMID:37056479. Document type: Article.
- Shi L, Xu J, Green R, Wretlind A, Homann J, Buckley NJ, Tijms BM, Vos SJB, Lill CM, Kate MT, Engelborghs S, Sleegers K, Frisoni GB, Wallin A, Lleó A, Popp J, Martinez P, Streffer J, Barkhof F, Zetterberg H, Visser PJ, Lovestone S, Bertram L, Nevado AJ, Proitsi P, Legido C. Multiomics profiling of human plasma and cerebrospinal fluid reveals ATN-derived networks and highlights causal links in Alzheimer's disease. *Alzheimers & Dementia*. 2023; 19(8). DOI:10.1002/alz.12961. PMID:36790009. IF:14,000 (Q1/1D). Document type: Article.
- Fortea J, Quiroz YT, Ryan NS. Lessons from Down syndrome and autosomal dominant Al-zhei-mer's disease. *LANCET NEUROLOGY*. 2023; 22(1). DOI:10.1016/S1474-4422(22)00437-9. PMID:36517171. IF:48,000 (Q1/1D). Document type: Editorial Material.
- Friedberg A, Pasquini L, Diggs R, Glaubitz EA, López L, Illán I, Iaccarino L, La Joie R, Mun-da-da N, Knudtson M, Neylan K, Brown J, Allen IE, Rankin KP, Bonham LW, Yokoyama JS, Ramos EM, Geschwind DH, Spina S, Grinberg LT, Miller ZA, Kramer JH, Rosen H, Gorno ML, Rabinovici G, Se-eley WW, Miller BL. Prevalence, Timing, and Ne-twork Localization of Emergent Visual Creativity in Frontotemporal Dementia. *JAMA Neurology*. 2023; 80(4). DOI:10.1001/jamaneurol.2023.0001. PMID:36848111. IF:29,000 (Q1/1D). Document type: Article.
- Hamlett ED, Flores L, Handen B, Potier M-C, Gran-holm A-C, Sherman S, Puig V et al. Innova-ting Therapies for Down Syndrome: An International Virtual Conference of the T21 Re-search Society. ALLSCHWILERSTRASSE 10, CH-4009 BASEL, SWITZERLAND:KARGER. 2023. p.p. 89-100. Do-cument type: Conference Paper.
- Colom M, Davies C, Sirisi S, Lee J-E, Simzer EM, Tzioras M, Querol M, Sánchez É, Chang YY, Holt K, McGeachan RI, Rose J, Tulloch J, Wilkins L, Smith C, Andrian T, Belbin O, Pujals S, Horrocks MH, Lleó A, Spires TL. Synaptic oligomeric tau in Alzheimer's disease — A poten-tial culprit in the spread of tau pathology through the brain. *NEU-RON*. 2023; 111(14):2170-2183.e6. DOI:10.1016/j.neuron.2023.04.020. PMID:37192625. IF:16,200 (Q1/1D). Document type: Article.
- Grasso SM, Rodríguez C, Colomer NM, Kiderle SKM, Sáanchez R, Santos M. Bilingual Pri-mary



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

Progressive Aphasia: A Scoping Review of Assessment and Treatment Practices. *JOURNAL OF ALZHEIMERS DISEASE*. 2023; 96(4). DOI:10.3233/JAD-230673. PMID:37980666. IF:4,000 (Q2/4D). Document type: Review.

- McGlinchey E, Iulita MF, Fortea J. Compounded inequality: racial disparity and Down syndrome. *Lancet Public Health*. 2023; 8(11). DOI:10.1016/S2468-2667(23)00213-X. IF:50,000 (Q1/1D). Document type: Letter.
- Giménez S, Tapia IE, Fortea J, Levedowski D, Osorio R, Hendrix J, Hillerstrom H. Caregiver knowledge of obstructive sleep apnoea in Down syndrome. *JOURNAL OF INTELLECTUAL DISABILITY RESEARCH*. 2023; 67(1). DOI:10.1111/jir.12990. PMID:36416001. IF:3,600 (Q1/1D). Document type: Article.
- Fortea J, García E, Terrance A, Galvez B, Diez V, Rebollo P, Maurino J, García G. Attitudes of Neurologists Toward the Use of Biomarkers in the Diagnosis of Early Alzheimer's Disease. *JOURNAL OF ALZHEIMERS DISEASE*. 2023; 93(1). DOI:10.3233/JAD-221160. PMID:36970902. IF:4,000 (Q2/4D). Document type: Article.
- Trifunov S, Natera D, Carrera L, Codina A, Expósito J, Ortez C, Medina J, Alcalá ST, Bernal S, Alias L, Badosa C, Balsells S, Alcolea D, Nascimento A, Jimenez C. Full-Length SMN Transcript in Extracellular Vesicles as Biomarker in Individuals with Spinal Muscular Atrophy Type 2 Treated with Nusinersen. *Journal Of Neuromuscular Diseases*. 2023; 10(4). DOI:10.3233/JND-230012. PMID:37038823. IF:3,300 (Q2/5D). Document type: Article.
- Rafii MS, Fortea J. Down Syndrome in a New Era for Alzheimer Disease. *JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*. 2023; 330(22). DOI:10.1001/jama.2023.22924. PMID:37991807. IF:120,700 (Q1/1D). Document type: Article.

## Molecular Physiology of the Synapse

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### DESCRIPTION

The Molecular Physiology of the Synapse Laboratory is focused on understanding the organization and dynamics of the proteome from synapses of the forebrain, particularly excitatory synapses from the cortex and hippocampus. We want to unravel how synaptic proteome physiology orchestrates synaptic plasticity, ultimately contributing to cognition and behavior. Furthermore, we pursue to understand how disruption of normal molecular synaptic physiology can contribute to certain disorders, particularly cognitive disorders such as Intellectual Disability or Autism.

### MAIN LINES OF RESEARCH

- Molecular and cellular analyses of the vertebrate synapse.
- Molecular and cellular dysfunctions underlying intellectual disability and autism.
- Research into animal models of mental and behavioral disorders.
- Development of new biochemical methods to study the synapse.

### SCIENTIFIC CHALLENGES

- Characterize the molecular roots of cognition and behaviour.
- Identify the synaptic molecules and mechanisms involved in mental and behavioural disorders, mainly intellectual disabilities and autism spectrum disorders.
- Identify drugs which might help treat mental and behavioural disorders.



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- Study the reversibility after birth of neurodevelopmental disorders affecting cognition.

#### ACTIVE GRANTS

- Bayes Puig, Alejandro. La Sobre-activación de Camk2 Sustentaría las Disfunciones Sinápticas Observadas en la Encefalopatía Epiléptica SYNGAP1. PID2021-124411OB-I00. Ministerio de Ciencia e Innovación (MICINN). Duration: 2022-2025. 181.500,00 €.
- Bayes Puig, Alejandro. Lithium as a Treatment to Improve Core Behavioural and Cognitive Symptoms of the Neurodevelopmental Disorder Caused by SYNGAP1. Asociación SYNGAP1 España. Duration: 2023-2023. 10.000,00 €.

#### GRANTS AWARDED

- Bayes Puig, Alejandro. Grup De Senyalització Sinàptica. 2021 SGR 01005. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2025. 40.000,00 €.
- Tristan Noguero, Alba. EMBO Scientific Exchange Grant. Reference: 10326. Duration: 2023-2024. (UB).
- Tristan Noguero, Alba. Estancias de movilidad en el extranjero José Castillejo para jóvenes doctores. Reference: CAS22/00117. Duration: 2023-2024. (UB).

#### SCIENTIFIC PRODUCTION

- Adam AR, Martínez JA, van der Spek SJF, Sullivan PF, Smit AB, Hjerling J, Achsele T, Andrés M, Bagni C, ALEX B, Biederer T, Brose N, Chua J, Coba MP, Cornelisse LN, de Juan J, Goldschmidt HL, Gundelfinger ED, Haganir RL, Imig C, Jahn R, Jung HJ, Kaeser PS, Kim E, Koopmans F, Kreuz MR, Lipstein N, MacGillavry HD, McPherson PS, O'Connor V, Pielot R, Ryan TA, Sala C, Sheng MR, Smalla KH, Thomas PD, Toonen RF, van JRT, Verhage M, Verpelli C, SYNGO C. Transcriptional diversity in specific synaptic gene sets discriminates cortical neuronal identity. *Biology Direct*. 2023; 18(1):22. DOI:10.1186/s13062-023-00372-y. PMID:37161421. IF:5,500 (Q1/2D). Document type: Article.

## Stroke Pharmacogenomics and Genetics

### Group leader

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Marine Llorente, Laia (IR)



### DESCRIPTION

The Stroke Pharmacogenomics and Genetics group is a multidisciplinary group composed of 11 members including biologists, biotechnologists and neurologists. The objectives of the group are to find treatments for stroke and other neurological diseases that can be used in clinical practice. To find these treatments we are using genome-wide techniques such as GWAS, EWAS, TWAS, PWAS, or microbiome analysis. This includes genetics, epigenetics, transcriptomics, proteomics, and microbiomics with large cohorts of patients.

### MAIN LINES OF RESEARCH

L1 Genetic risk factors in stroke.

- In this line, we study the genetic risk factors associated with ischemic stroke. Currently, the Generation project (PI15 / 01978, PI: Israel Fernández) is being carried out, which intends to carry out the first study using Genome Wide Association Studies (GWAs) in the Spanish population with the aim of generating a clinical-genetic prediction algorithm to be applied in clinical practice. In this study we conducted a discovery phase where we analyzed more than 6,000 patients and controls using GWAs arrays (Infinium Human-Exon BeadChip (Illumina) that can detect 500,000 genetic variants across the genome.
- We have found loci associated with cardioembolic stroke and we generated a clinical-genetic score to predict the risk of cardioembolic stroke (Carcel et al, 2022).
- Finally in this line, we have actively collaborated in the study Megastroke and Gigastroke an interna-



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

tional project and consortium that has analyzed more than 1.000,000 cases of stroke and controls through GWAs. The results of this study have been published in the journal Nature Genetics and Nature being our group the only Spanish group that is part of the executive / scientific committee of these two studies (Malik et al Nat Gen 2018; Mishra et al Nature 2022).

- Jara Cárcel Postdoctoral researcher from our group is the coordinator of this line of research.

#### L2 Pharmacogenetics of neurovascular diseases.

- In this line, the genetic factors associated with the response to drugs used in ischemic stroke are studied both in the acute phase (rt-PA) and for secondary prevention (antiplatelet agents and anticoagulants). In the field of pharmacogenetics associated with the response to rt-PA our group is one of the most important research groups in the field with the largest number of published articles. Last year we obtained a grant from the Medicina Personalizada program to study the pharmacogenetics of rt-PA and its implementation in the clinical-practise.
- In this line, we have obtained international funding for two projects: SEDMAN Project and APHAS Project. The two projects are focused on the search for genetic factors associated with the response to anticoagulant drugs. Israel Fernández is PI of these two projects.
- In this line, we have carried out the first study with GWAs in patients with ischemic stroke treated with t-PA. We have performed an analysis on more than 1.000 patients. Several of these results will be published in the journal Neurology and Brain (Carrera et al, Neurology 2019; Carrera et al. Brain 2021).

#### L3 Genetic and epigenetic risk factors associated with the neurological deterioration and the disability after stroke.

- In this line we study whether the genetic and epigenetic factors can influence the stroke outcome. We analyze the neurological deterioration during the acute phase of stroke (24h) and the long-term disability (three months).
- A GWAS analysis performed by our group (n = 3500 patients with ischemic stroke) revealed a

locus associated with disability post-stroke. This loci is found in the INADL / PATJ gene. It has been the first gene confirmed to be associated with long term outcome in stroke. These results have been published in Circulation Research this year. Israel Fernández is the corresponding author of this paper (Mola-Caminal et al Circulation Research 2019).

- Currently, we are conducting studies in cell cultures and animal models to study the reasons for this association and the potential use of the protein codified in the gene as a new drug target.
- Natalia Cullell post-doctoral researcher from our group is the coordinator of this line of research.

#### L4 Genetic, epigenetic, and proteomic factors associated with the endophenotypes of the acute phase of stroke. Integromics.

- The aim of this research line is to find genetic, epigenetic, and protein factors associated with different endophenotypes of the acute phase of stroke, such as post-stroke infections, edema formation, leukocyte levels during the acute phase of stroke. The hypothesis is that neurological evolution and post-stroke disability is influenced by multiple factors.
- We have now carried out a genetic analysis in 1,183 patients with neutrophil and post-stroke outcome data. We collaborate in the GENESIS study, led by Dr. Jin-Moo Lee an international study with different networks (United States, Spain, South America, and Central Europe). Currently, we are leading the Spanish network. This study analyzed 6.000 strokes with endophenotype data of the acute phase of stroke using GWAs and found loci associated with neurological deterioration (Ibañez et al Brain 2022).

#### L5 Microbiome and Stroke.

- The estimated total cell count of a typical human body is  $6.8 \times 10^{13}$ . However, 66% of these cells are bacteria that live within us. At the same time, the genome size of the human gut microbiota is 150 larger than the human genome. The dysbiosis of the gut microbiome (changes in the composition of the types of microorganisms) has been identified as a potential risk factor for susceptibility to numerous diseases, including stroke, influencing systemic inflammation by altering intestinal permeability.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- In this line, we aim to investigate whether the gut microbiome could also be influencing the neurological evolution after a stroke, modulating the antigen-specific immune responses of the central nervous system. If this is confirmed, changes in the intestinal flora could be promoted, either through the use of probiotics in the diet or through fecal transplantation from healthy donors, in order to discover new therapies that could improve the evolution of patients after having suffered a stroke. Miquel Lledós coordinates this line of research.

#### L6 Lipids and Stroke.

- According to numerous observational studies and randomized controlled trials, low-density lipoprotein cholesterol (LDL-C) is a risk factor for cardiovascular disease, including myocardial infarction, peripheral vascular disease, and stroke. Other studies, however, have described an inverse association between the plasma level of LDL-C and the risk of hemorrhagic stroke. The mechanism by which dyslipidemias are associated with coronary heart disease has been widely studied. However, the mechanism underlying the association between cholesterol and stroke is not well established and could present significant differences due to the peculiar structure of the cerebral arteries and the peculiarities of cerebral metabolism.
- Our goal is to apply genomic analysis techniques to detect genes and lipid metabolism pathways involved in the risk and prognosis of different types of stroke, identify potential therapeutic targets and thus improve stroke prevention and treatment.
- The senior researcher Jesús Martín coordinates this line of research.

#### L7 CADASIL and other orphan diseases associated with stroke.

- The objective of this research line is to study monogenic diseases associated with stroke. We have focused specifically on CADASIL and other monogenic causes of small vessel stroke. Currently we are performing transcriptomics and proteomics studies in CADASIL. In addition, we have the first clinical consult focus on CADASIL disease and other monogenic diseases associa-

ted with stroke and small vessel disease in the country.

- We have a fluid relationship with the Spanish association of CADASIL patients. We collaborate with the CADASIL SPAIN Patient Association (<https://cadasil.org/>) organizing and participating in informative days about the disease.
- In this line we have created a website [www.cadasil.es](http://www.cadasil.es) where we respond the clinical doubts from CADASIL patients or relatives. In this line we have carried out a crowdfunding project with the PRECIPITA project of the Spanish Science and Technology Foundation (FECYT) with the aim of raising funds for CADASIL studies: <https://www.precipita.es/precipitado/cadasil-una-enfermedad-genetica-sin-tratamiento.html>.
- We recently have obtained an international grant to study CADASIL from the Million Dollar Bike Program being our group the coordinator of this study. The postdoctoral researcher Elena Muiño participates in this line.

#### L8 Genetic susceptibility to COVID-19, COVID-19 and stroke.

- In this line we analyze the genetic factors associated with the risk and severity of COVID-19 using broad-spectrum genetic tools. Also, we analyze the genetic factors associated with post-COVID-19 stroke. We have analyzed a cohort of more than 600 patients with GWAS data. We are part of the INMUNGEN-CoV2 study financed by the CSIC and of which Anna Planas (CSIC-IDIBAPS) is the principal investigator. In this line we also collaborate with Drs Jordi Pérez Cruz (CSIC-Valencia) and Marta López de Diego (CSIC-Madrid). We have also received funding from the Marató of TV3 for the omic study of the severity of COVID-19 and its relationship with the persistent symptoms of this pathology.
- Laia Lluçà and Sayoa Alzate work in this line of research.

### ACTIVE GRANTS

- Fernández Cadenas, Israel. iBioStroke: Identificación y validación clínica de biomarcadores para la evolución clínica post-ictus. AC19/00106. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 93.170,00 €.



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- Fernández Cadenas, Israel. COPYCTUS: Estudio de la variación en el número de copias y análisis genómico 3D para encontrar dianas terapéuticas en relación al deterioro neurológico post-ictus. PI21/01088. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 96.800,00 €.
- Fernández Cadenas, Israel. CNV and Stroke (CaNVAS). NIH MARYLANDO (CaNVAS) 1R01NS114045-01. National Institute of Neurological Disorders . Duration: 2020-2023. 100.084,00 €.
- Fernández Cadenas, Israel. Single-nuclei RNA-seq for CADASIL understanding and therapeutic target discovery. MDBR-22-127-CADASIL. . Duration: 2022-2023. 53.205,00 €.
- Fernández Cadenas, Israel. Biomarcadors proteòmics cardiometabòlics i immunitaris de la Covid-19 per a l'avaluació clínica de la infecció, la gravetat de la malaltia i les complicacions post-pandèmiques de salut. MARATO 202107-31. Fundació La Marató de TV3. Duration: 2022-2024. 129.750,00 €.
- Fernández Cadenas, Israel. Elucidating the Key Mediators and Mechanisms of Cerebral Edema and Hemorrhagic Transformation after Hemispheric Stroke using Quantitative Imaging and Genetics. NIH RO1 edema. (Raj Dhar and Spanish network) NIH - WUSTL . Duration: 2022-2027. 344.242,00 €.
- Universitat Autònoma de Barcelona. Supervisors: Fernández Cadenas, Israel; Martí i Fàbregas, Joan. <http://hdl.handle.net/10803/688764>
- Cullell Fornés, Natalia. Estudio Epigenómico de los factores de riesgo y pronostico del ictus isquémico. 21/06/2023. Universitat Autònoma de Barcelona. Supervisors: Fernández Cadenas, Israel; Krupinski, Jerzy; Chamorro, Àngel.

## SCIENTIFIC PRODUCTION

- Duperron MG, Knol MJ, Le Q, Evans TE, Mishra A, Tsuchida A, Roshchupkin G, Konuma T, Tregouet DA, Romero JR, Frenzel S, Luciano M, Hofer E, Bourgey M, Dueker ND, Delgado P, Hilal S, Tankard RM, Dubost F, Shin J, Saba Y, Armstrong NJ, Bordes C, Bastin ME, Beiser A, Brodaty H, Bulow R, Carrera C, Chen CSP, Cheng CY, Deary IJ, Gampawar PG, Himali JJ, Jiang JY, Kawaguchi T, Li S, Macalli M, Marquis P, Morris Z, Maniega SM, Miyamoto S, Okawa M, Paradise M, Parva P, Rundek T, Sargurupremraj M, Schilling S, Setoh K, Soukariéh O, Tabara Y, Teumer A, Thalamuthu A, Trollor JN, Hernandez MCV, Vernooij MW, Volker U, Wittfeld K, Wong TY, Wright MJ, Zhang JY, Zhao WT, Zhu YC, Schmidt H, Sachdev PS, Wen W, Yoshida K, Joutel A, Satizabal CL, Sacco RL, Bourque G, Lathrop M, Paus T, Fernández I, Yang Q, Mazoyer B, Boutinaud P, Okada Y, Grabe HJ, Mather KA, Schmidt R, Joliot M, Ikram MA, Matsuda F, Tzourio C, Wardlaw JM, Seshadri S, Adams HHH, Debette S, CHARGE C. Genomics of perivascular space burden unravels early mechanisms of cerebral small vessel disease. NATURE MEDICINE. 2023; 29(4)DOI:10.1038/s41591-023-02268-w. PMID:37069360. IF:82,900 (Q1/1D). Document type: Article.
- Heald A, Qin R, Williams R, Warner J, Narayanan RP, Fernández I, Peng Y, Gibson JM, McCay K, Anderson SG, Ollier W. A Longitudinal Clinical Trajectory Analysis Examining the Accumulation of Co-morbidity in People with Type 2 Diabetes (T2D) Compared with Non-T2D Individuals. Diabetes Therapy. 2023; 14(11)DOI:10.1007/s13300-023-01463-9. PMID:37707702. IF:3,800 (Q2/5D). Document type: Article.
- Lledós M, Prats L, Lluçà L, Cárcel J, Muino E, Cullell N, Gallego C, Martín JM, Aguilera A, Guasch M, Guisado D, Ramos A, Martínez A, Izquierdo A,

## GRANTS AWARDED

- Fernández Cadenas, Israel. CADASIL-Historia Natural (CADANHIS). AC23\_2/00041. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 179.375,00 €.
- Fernández Cadenas, Israel. Stopped-Stroke. Reversible epigenetic therapies to SToP biological age and reduce STroke risk. MARATO 202310-30. Fundació La Marató de TV3. Duration: 2024-2027. 133.972,50 €.
- Carcel Marquez, Jara. Gen-X project: Genetic and epigenetic study of ischemic stroke and its sex differences. MARATO 202306-30. Fundació La Marató de TV3. Duration: 2024-2027. 199.801,25 €.

## DOCTORAL THESES DEFENDED

- Cárcel Márquez, Jara. Study of genetic risk factors associated with ischemic stroke. 24/01/2023.



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- Marín R, Camps P, Martí J, Fernández I. Ischaemic stroke patients present sex differences in gut microbiota. *EUROPEAN JOURNAL OF NEUROLOGY*. 2023; 30(11)DOI:10.1111/ene.15931. PMID:37329328. IF:5,100 (Q1/3D). Document type: Article.
- Lluçia L, Muiño E, Cullèll N, Cárcel J, Lledós M, Gallego C, Martín J, Martí J, Aguilera A, Planas AM, DeDiego ML, de Felipe A, Masjuan J, García S, Segura T, González E, Serrano G, Domínguez A, Menéndez P, Montaner J, Migeotte I, Rahmouni S, Darcis G, Bernardo D, Rojo S, Schulte EC, Protzer U, Fricke L, Winter C, Niemi M, Cordioli M, Delgado P, Fernández I. Genetic Architecture of Ischaemic Strokes after COVID-19 Shows Similarities with Large Vessel Strokes. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(17):13452. DOI:10.3390/ijms241713452. PMID:37686257. IF:5,600 (Q1/3D). Document type: Article.
  - Martí J, Camps P, Best JG, Ramos A, Guasch M, Martínez A, Guisado D, Gomez BM, Ambler G, Wilson D, Lee KJ, Lim JS, Bae HJ, Shiozawa M, Koga M, Toyoda K, Hennerici MG, Chabriat H, Jouvent E, Wong DYK, Mak H, Lau KK, Kim YD, Song TJ, Heo JH, Eppinger S, Gattringer T, Uysal E, Demirelli DS, Bornstein N, Ben E, Hallevi H, Molad JA, Nishihara M, Tanaka J, Hara H, Yakushiji Y, Coutts SB, Smith E, Polymeris AA, Wagner B, Seiffge D, Lyrer PA, Peters N, Engelter ST, Salman RA, Jager HR, Lip GYH, Goeldlin M, Panos L, Karayiannis CC, Phan TG, Srikanth VK, Christ N, Gunkel S, Fluri F, Leung TW, Soo Y, Chu WN, Abrigo J, Barbato C, Browning S, Simister R, Mendyk AM, Bordet R, Hlail S, Gyanwali B, Chen CSP, Jung SM, Orken DN, Werring D, Prats L, Microbleeds Int Collaborative N. Stroke Risk and Antithrombotic Treatment During Follow-up of Patients With Ischemic Stroke and Cortical Superficial Siderosis. *NEUROLOGY*. 2023; 100(12):e1267-e1281. DOI:10.1212/WNL.0000000000201723. PMID:36535778. IF:9,900 (Q1/1D). Document type: Article.
  - Martín JM, Cárcel J, Lluçia L, Lledós M, Cullèll N, Muino E, Gallego C, Fernández I. Causal role of lipid metabolome on the risk of ischemic stroke, its etiological subtypes, and long-term outcome: A Mendelian randomization study. *ATHEROSCLEROSIS*. 2023; 386:117382. DOI:10.1016/j.atherosclerosis.2023.117382. PMID:38006695. IF:5,300 (Q2/3D). Document type: Article.
  - Pinosanu LR, Capitanescu B, Glavan D, Godeanu S, Cadenas IF, Doepfner TR, Hermann DM, Balseanu A-T, Bogdan C, Popa A. Neuroglia Cells Transcriptomic in Brain Development, Aging and Neurodegenerative Diseases. *Aging and Disease*. 2023; 14(1)DOI:10.14336/AD.2022.0621. PMID:36818562. IF:7,400 (Q1/2D). Document type: Review.
  - Surugiu R, Burdusel D, Ruscu MA, Cercel A, Hermann DM, Cadenas IF, Popa A. Clinical Ageing. *Sub-Cellular Biochemistry*. 2023; 103DOI:10.1007/978-3-031-26576-1\_16. PMID:37120476. Document type: Article.

## Genetic Diseases

### Group leader

Gallano Petit, Maria Pia (FGS)

### Researchers

Bernal Noguera, Sara (FGS)

Cusco Marti, Ivon (FGS)

Gonzalez Quereda, Lidia (CIBER)

Lasa Laborde, Adriana Maria (FGS)

Riera Armengol, Pau (FGS)

Rodríguez Santiago, Benjamin (FGS)

Segarra Casas, Alba (IR)

Serra Juhe, Clara (FGS)

Tejero Laguna, Eudald (IR)

Vega Hanna, Lourdes Rita (FGS)

### Research Technicians

Baena Gimeno, Manel (FGS)

Cliville Santano, Nuria (FGS)

Cornet Ciurana, Monica (FGS)

Rodríguez Fernández, Maria Jose (FGS)

Rojas Rodríguez, Ester (IR)



### DESCRIPTION

The Genetic Diseases Group is a multidisciplinary group with an important clinical component in its research within the Genetics Department of the Hospital de Sant Pau. Its activities also have a translational orientation facilitated by the clinical environment in which it performs the laboratory work.

The primary objective of the Genetic Diseases Group is the progress of the molecular diagnosis of genetic and rare diseases through genomic, transcriptomic, functional, and pharmacogenetic studies improving the knowledge of the molecular mechanisms of described genes and the identification of new ones. The results of these genetic studies allow us to establish in many cases different therapeutic options and to offer genetic counseling to the families. The fact that the group is made up entirely of Sant Pau Genetics Dept staff, supports the clinical translational effect of their research work.

### MAIN LINES OF RESEARCH

- Genetics of congenital myopathies, congenital, and adult muscular dystrophies, including limb girdle muscle dystrophies, and congenital myasthenic syndromes.
- Spinal atrophy and smn genes.
- Genetics of hereditary cancer.
- Pharmacogenetics.
- Cardiogenetics.
- Genetics in pediatrics-obstetrics.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

## SCIENTIFIC CHALLENGES

### **Congenital myopathies, congenital and adult muscular dystrophies, including limb girdle muscle dystrophies, and congenital myasthenic syndromes**

- Identification of mutations and genetic variants.
- Studies of molecular pathology and disease mechanisms of neuromuscular diseases-related genes.
- Transcriptome analysis by RNA Seq technology.
- Functional studies on the DMD genes to determine the pathogenic effect of the identified variants.
- Long Read Sequencing by ONT technology to characterize long repeat expansions in size and composition.

### **Spinal atrophy and SMN genes**

- To design new strategies for the study and improvement of the molecular diagnosis of atypical cases.
- To perform functional studies for the characterization of genetic variants of uncertain clinical effect to improve diagnosis.
- Studies of molecular pathology, disease mechanisms, and SMN gene expression.
- Identification of modifying genes.
- Study of biomarkers for validation processing in spinal muscular atrophy.
- Study of the neuromuscular junction in human development.

### **Hereditary cancer**

- Development of Precision Medicine in hereditary syndromes of predisposition to cancer: an approach to the diagnosis, treatment and prevention of cancer through the identification of pathogenic variants in multigene assays.
- Development of functional studies for the characterization of genetic variants of uncertain clinical effects.
- Analysis of biomarkers in liquid biopsy-free circulating tumor DNA (cfDNA) as a predictor of response to the treatment of breast cancer.

- Contribution to the development of an open database of genetic variants included in Hereditary Cancer Genetic Testing Panels.

### **Pharmacogenetics**

- Identification of biomarkers of response/toxicity to drugs used in cancer, rheumatology, inflammatory bowel diseases, cardiology, hematology.
- Congenital coagulopathies: molecular pathology of hemophilia.
- Duchenne and Becker muscular dystrophy: molecular pathology of DMD gene.
- Identification of the molecular alterations responsible for hereditary hearing loss.
- Studies of the molecular pathology causing ataxias.
- Clinical and Molecular diagnosis of complex diseases of pediatric-onset with special attention in Neurodevelopmental Disorders.

### **Cardiogenetics**

- Clinical and Molecular studies of patients with cardiomyopathies (dilated, hypertrophic, arrhythmogenic, non-compacted, etc) to identify disease-associated genetic variants.
- Study of clinically discordant families with the same pathogenic genetic variant to identify phenotype modifiers in cardiomyopathies.
- Clinical and Molecular characterization of patients with aortic diseases (Aortic Aneurysms, Aortic Valvular Disease, Aortic Occlusive Disease, Traumatic Aortic Disease, Aortic Dissections).

### **Pediatrics-obstetrics**

- Clinical and Molecular studies of syndromic patients:
- Identification of responsible variants and discovery of new genes
- Clinical and Molecular studies of fetal anomalies detected during pregnancy.

## ACTIVE GRANTS

- Gonzalez Quereda, Lidia. Análisis integrado de datos genómicos y transcriptómicos para el avance en el conocimiento molecular y diagnóstico de las miopatías. PI22/01859. Instituto



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- de Salud Carlos III (ISCIII). Duration: 2023-2025. 87.120,00 €.
- Riera Armengol, Pau. Integración de la farmacogenética y la telemedicina mediante salud móvil para el manejo de los efectos adversos en pacientes con cáncer colorrectal. (ePGx study). PI21/01913. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 63.525,00 €.
  - Riera Armengol, Pau. Integració de la farmàcia hospitalària i comunitària per a la implementació de la farmacogenètica a la pràctica assistencial. JOAQUIM BONAL 2019. Fundació Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears. Duration: 2019-2023. 14.000,40 €.
  - Riera Armengol, Pau. Integración de la farmacogenética y la telemedicina mediante salud móvil para el manejo de los efectos adversos en pacientes con cáncer colorrectal. (ePGx study). FEFH 2022. Fundación Española de Farmacia Hospitalaria. Duration: 2021-2023. 15.400,00 €.
  - Codina M, Trujillano L, Abuli A, Rovira E, Munoz P, Campos B, Fernández P, Palau D, Carrasco E, Valenzuela I, Cueto AM, Lasa A, Limeres J, Leno J, Costa M, Moles A, Balmana J, Diez O, Cusco I, García E, Tizzano EF. An spanish study of secondary findings in families affected with mendelian disorders: choices, prevalence and family history. EUROPEAN JOURNAL OF HUMAN GENETICS. 2023; 31(2)DOI:10.1038/s41431-022-01240-5. PMID:36446894. IF:5,200 (Q1/2D). Document type: Article.
  - Collet R, Olmedo G, Ruiz I, Martinez A, Rodríguez B, Bernal S, Kulisevsky J, Pagonabarraga J. Late-Onset Beta-Propeller Protein-Associated Neurodegeneration: A Case Report. Movement Disorders Clinical Practice. 2023; 10(8)DOI:10.1002/mdc3.13811. PMID:37635772. IF:4,000 (Q2/4D). Document type: Article.
  - De Pourcq JT, Riera P. Critical Commentary on the paper: Compatibility of prolonged infusion antibiotics during Y-site administration with parenteral nutrition. Nursing in Critical Care. 2023; 28(6)DOI:10.1111/nicc.12910. PMID:37232328. IF:3,000 (Q1/2D). Document type: Editorial Material.

### SCIENTIFIC PRODUCTION

- Abuli A, Costa M, Codina M, Valenzuela I, Leno J, Rovira E, Cueto A, Fernández P, García E, Cusco I, Tizzano EF. Experience using singleton exome sequencing of probands as an approach to preconception carrier screening in consanguineous couples. JOURNAL OF MEDICAL GENETICS. 2023; 60(6)DOI:10.1136/jmg-2022-108607. PMID:36600615. IF:4,000 (Q2/3D). Document type: Article.
- Arqueros C, Salazar J, Gallardo A, Andrés M, Tibau A, Bell OL, Artigas A, Lasa A, Cajal T, Lerma E, Barnadas A. Secreted Protein Acidic and Rich in Cysteine (<i>SPARC</i>) Polymorphisms in Response to Neoadjuvant Chemotherapy in HER2-Negative Breast Cancer Patients. Biomedicines. 2023; 11(12):3231. DOI:10.3390/biomedicines11123231. PMID:38137452. IF:4,700 (Q1/3D). Document type: Article.
- Bermejo L, Fernández CPD, González L, Segarra A, Nedkova V, Gallano P, Martín P, Hernández A, Olivé M, Arteché A, Domínguez C. Distal myopathy due to digenic inheritance of <i>TIA1</i> and <i>SQSTM1</i> variants in two unrelated Spanish patients. NEUROMUSCULAR DISORDERS. 2023; 33(12)DOI:10.1016/j.nmd.2023.10.016. PMID:38016875. IF:2,800 (Q3/6D). Document type: Article.
- Esmel R, Valenzuela I, Riaza L, Rodríguez B, Rosés F, Boronat S, Sabaté A. Arterial tortuosity syndrome: Phenotypic features and cardiovascular manifestations in 4 newly identified patients. European Journal of Medical Genetics. 2023; 66(9):104823. DOI:10.1016/j.ejmg.2023.104823. PMID:37619836. IF:1,900 (Q4/8D). Document type: Article.
- Iznardo H, Bernal S, Boronat S, Roé E. Sclerotic Bone Lesions as a Clue in the Diagnosis of Three Generations of Tuberous Sclerosis Complex: Case Report and Review of Literature. PEDIATRIC NEUROLOGY. 2023; 148DOI:10.1016/j.pediatr-neurol.2023.07.022. PMID:37634327. IF:3,800 (Q1/2D). Document type: Article.
- Miarons M, Gordon AM, Riera P, Nicolas FG, Spanish Soc Hosp Pharm S. Allelic Frequency of DPYD Genetic Variants in Patients With Cancer in Spain: The PhotoDPYD Study. ONCOLOGIST. 2023; 28(5):e304-e308. DOI:10.1093/oncolo/oyad077. PMID:37014829. IF:5,800 (Q1/3D). Document type: Article.



## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

- Mir JF, Rodríguez C, Estrada M, de Gamarra EF, Mangues MA, Bagaria G, Riera P. An Integrated Multidisciplinary Circuit Led by Hospital and Community Pharmacists to Implement Clopidogrel Pharmacogenetics in Clinical Practice. *Pharmacy*. 2023; 11(2):76. DOI:10.3390/pharmacy11020076. PMID:37104082. Document type: Article.
- Palones E, Curto E, Plaza V, Gonzalez L, Segarra A, Querol L, Bertolotti F, Rodríguez MJ, Gallano P, Crespo A. Clinical and functional characteristics, possible causes, and impact of chronic cough in patients with cerebellar ataxia, neuropathy, and bilateral vestibular areflexia syndrome (CANVAS). *JOURNAL OF NEUROLOGY*. 2023; DOI:10.1007/s00415-023-12001-9. PMID:37917234. IF:6,000 (Q1/2D). Document type: Article.
- Paneque M, Guimarães L, Bengoa J, Pasalodos S, Cordier C, Esteban I, Lemos C, Moldovan R, Serra C. An European overview of genetic counselling supervision provision. *European Journal of Medical Genetics*. 2023; 66(4):104710. DOI:10.1016/j.ejmg.2023.104710. PMID:36731744. IF:1,900 (Q4/8D). Document type: Article.
- Rodríguez PM, Ravenscroft G, Natera D, Carr A, Manzur A, Liu WW, Vella NR, Jericó I, Gonzalez L, Gallano P, Montalto SA, Davis MR, Lamont PJ, Laing NG, Bourque P, Nascimento A, Muntoni F, Polavarapu K, Lochmüller H, Palace J, Besson D. A novel phenotype of AChR-deficiency syndrome with predominant facial and distal weakness resulting from the inclusion of an evolutionary alternatively-spliced exon in CHRNA1. *NEUROMUSCULAR DISORDERS*. 2023; 33(2) DOI:10.1016/j.nmd.2022.12.011. PMID:36634413. IF:2,800 (Q3/6D). Document type: Article.
- Sainz L, Riera P, Moya P, Bernal S, Casademont J, Díaz C, Millán AM, Park HS, Lasa A, Corominas H. Clinical Value of IL6R Gene Variants as Predictive Biomarkers for Toxicity to Tocilizumab in Patients with Rheumatoid Arthritis. *Journal of Personalized Medicine*. 2023; 13(1):61. DOI:10.3390/jpm13010061. PMID:36675722. IF:3,508 (Q2/4D). Document type: Article.
- Sainz L, Riera P, Moya P, Bernal S, Casademont J, Diaz C, Millan AM, Park HS, Lasa A, Corominas H. Impact of IL6R genetic variants on treatment efficacy and toxicity response to sarilumab in rheumatoid arthritis. *ARTHRITIS RESEARCH & THERAPY*. 2023; 25(1):226. DOI:10.1186/s13075-023-03209-1. PMID:38001504. IF:4,900 (Q2/4D). Document type: Article.
- Sarkozy A, Bourke JP, Ferlini A, Barthélémy I, Cripe LH, Reuben E, Evangelista T et al. 263rd ENMC International Workshop: Focus on female carriers of dystrophinopathy: refining recommendations for prevention, diagnosis, surveillance, and treatment. Hoofddorp, The Netherlands, 13-15 May 2022. THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND: PERGAMON-ELSEVIER SCIENCE LTD. 2023. p.p. 274-284. Document type: Conference Paper.
- Segarra A, Collet R, Gonzalez L, Vesperinas A, Caballero M, Carbayo A, Diaz J, Rodríguez MJ, Gallardo E, Gallano P, Olive M. A new homozygous missense variant in LMOD3 gene causing mild nemaline myopathy with prominent facial weakness. *NEUROMUSCULAR DISORDERS*. 2023; 33(4) DOI:10.1016/j.nmd.2023.02.006. PMID:36893608. IF:2,800 (Q3/6D). Document type: Article.
- Segarra A, Dominguez C, Hernandez A, Sánchez MT, Camacho A, Rivas E, Campo A, Madruga M, Ortez C, Natera D, Nascimento A, Codina A, Rodríguez MJ, Gallano P, Gonzalez L. Genetic diagnosis of Duchenne and Becker muscular dystrophy through mRNA analysis: new splicing events. *JOURNAL OF MEDICAL GENETICS*. 2023; 60(6) DOI:10.1136/jmg-2022-108828. PMID:36535754. IF:4,000 (Q2/3D). Document type: Article.
- Trifunov S, Natera D, Carrera L, Codina A, Expósito J, Ortez C, Medina J, Alcalá ST, Bernal S, Alias L, Badosa C, Balsells S, Alcolea D, Nascimento A, Jimenez C. Full-Length SMN Transcript in Extracellular Vesicles as Biomarker in Individuals with Spinal Muscular Atrophy Type 2 Treated with Nusinersen. *Journal Of Neuromuscular Diseases*. 2023; 10(4) DOI:10.3233/JND-230012. PMID:37038823. IF:3,300 (Q2/5D). Document type: Article.

## Neurosurgery

### Group leader

Muñoz Hernandez, Fernando (FGS)

### Researchers

Aibar Duran, Juan Angel (FGS)

Anka, Michael Oladotun (FGS)

Borras Pino, Xavier (FGS)

De Quintana Schmidt, Cristian Jose (FGS)

Freixer Palau, Berta (FGS)

Leidinger, Andreas (FGS)

Patino Alvarado, Juan Diego (FGS)

Perales Susan, Mario (IR)

Rico Pereira, Marta (FGS)

Rodríguez Rodríguez, Rodrigo (FGS)

Roig Arsequell, Clara (FGS)

Sánchez Nevado, Raquel (FGS)

Tello Vicente, José Antonio (FGS)



### DESCRIPTION

The neurosurgery team is a young research group with a clear mission: improve the quality of life of patients and, at the same time, be able to contribute to improvements in healthcare practice through research into potential surgical neurological disease. There are 4 areas of knowledge where our group stands out nationally and internationally: neuro oncology, skull base, functional neurosurgery, and spine surgery.

### MAIN LINES OF RESEARCH

- Tumor biology: gliomas (prognostic value of different mutations in anaplastic astrocytoma and GBM). Dr. de Quintana.
- Biomarkers in anaplastic astrocytomas, and glioblastoma multiforme. Application of new technologies in the resection of intracranial tumors. Dr. de Quintana.
- Tumor biology: pituitary gland adenomas, pathology molecular analysis. Dr. F. Muñoz.
- Prospective study of patients operated by endoscopic endonasal approach. Dr. F. Muñoz.
- Biomaterials: a comparative study of two different cranial bone fixations. Dra. M. Rico.
- Study about cerebral plasticity in patients with cervical myelopathy. Dr. J. Patino.
- Muscle atrophy after spinal surgery (lumbar lateral approach). Dr. A. Leidinger.
- Clinical evaluation of neurostimulation techniques in different neurological entities (Parkinson disease and neuropathic pain). Dr. Rodríguez and Dr. Aibar.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- Deep brain stimulation on psychiatric disorders: Depression and Schizophrenia. Dr. Rodríguez and Dr. Aibar.
- Safety and effectiveness of dialysis. Dr. de Quintana.

#### SCIENTIFIC CHALLENGES

- Neurostimulation for resistant craniofacial pain (jointly with Neurology and Pain Clinic Unit). Dr. Rodríguez and Dr. Aibar.
- Use of intraoperative echography for treatment of brain tumors. Dr. de Quintana.
- Monitor the glioma tumor diagnosis, treatment and prognostic factors (Hospital Sant Pau - Hospital del Mar). Dr. de Quintana.
- Pituitary adenoma treatment: medial cavernous sinus wall approach to cure adenomas. Intraoperative neuromonitoring of oculomotor cranial nerves in skull base tumors. Dr. F. Muñoz.

#### ACTIVE GRANTS

- De Quintana Schmidt, Cristian Jose. Ecografía intraoperatoria en la exéresis de metástasis cerebrales y estudio de los márgenes de resección: correlación con la resonancia magnética, la tomografía de emisión de positrones y la histología. IIBSP-ECO-2022-49. Duration: 2022-2023.

#### SCIENTIFIC PRODUCTION

- Aibar JA, Collado IC, Bejarano AR, Nevado RS, Bolanos IA, García J, Alonso A, Bello E, Schmidt CD, Hernandez FM, Teixido JM, Rodríguez RR. Long-term outcomes of deep brain stimulation for treatment-resistant schizophrenia: Exploring potential targets. *JOURNAL OF PSYCHIATRIC RESEARCH*. 2023; 163. DOI:10.1016/j.jpsychires.2023.05.056. PMID:37245316. IF:4,800 (Q2/3D). Document type: Article.
- Alemany C, Puigdemont D, Martín A, Rodríguez R, Aibar JA, Vicent M, Álvarez E, Pérez V, Portella MJ, de Diego J. Response and Safety Outcomes in Treatment-Resistant Depression After Subcallosal Cingulate Gyrus Deep Brain Stimulation: Long-term Follow-up Study. *JOURNAL OF CLINICAL PSYCHIATRY*. 2023; 84(4):22m14622. DOI:10.4088/JCP.22M14622. PMID:37378475. IF:5,300 (Q1/2D). Document type: Article.
- Asencio C, Villalba G, De Vilalta Á, Serrano L, Álvarez MJ, Montes G, Málaga X, Muñoz F, Gabarrós A. Safety and Performance of a New Burr Hole Covering Device: Results of the Multi-center COVER Registry. *Journal of Neurological Surgery Part A-Central European Neurosurgery*. 2023; 84(5). DOI:10.1055/a-1883-0344. PMID:35738392. IF:1,000 (Q4/9D). Document type: Article.
- Gil J, Marques M, Valassi E, Serra G, Salinas I, Xifra G, Casano P, Carrato C, Biagetti B, Sesmiolo G, Marcos J, Rodríguez H, Rueda A, Aulinas A, Blanco A, Hostalot C, Simó A, Muñoz F, Rico M, Ibanez J, Cordero E, Webb SM, Jordà M, Puig M. Molecular characterization of epithelial-mesenchymal transition and medical treatment related-genes in non-functioning pituitary neuroendocrine tumors. *Frontiers in Endocrinology*. 2023; 14:1129213. DOI:10.3389/fendo.2023.1129213. PMID:37033229. IF:5,200 (Q1/3D). Document type: Article.
- Latorre G, González N, García J, González C, Porta J, Molina FJ, Guerrero AL, Belvis R, Rodríguez R, Bescós A, Irimia P, Santos S. Diagnosis and treatment of trigeminal neuralgia: Consensus statement from the Spanish Society of Neurology's Headache Study Group. *NEUROLOGIA*. 2023; 38. DOI:10.1016/j.nrl.2021.09.015. IF:3,900 (Q2/4D). Document type: Review.
- Leiding A, Zuckerman SL, Feng YQ, He YT, Chen XR, Cheserem B, Gerber LM, Lessing NL, Shabani HK, Haertl R, Mangat HS. Predictors of spinal trauma care and outcomes in a resource-constrained environment: a decision tree analysis of spinal trauma surgery and outcomes in Tanzania. *JOURNAL OF NEUROSURGERY-SPINE*. 2023; 38(4). DOI:10.3171/2022.11.SPINE22763. PMID:36640104. IF:2,800 (Q2/4D). Document type: Article.
- Martinez S, Aracil I, Perez J, Perez L, García J, Campolongo A, Aibar JA, Rodríguez R, Pascual B, Kulisevsky J. Theta/Alpha Band Suppression and Clinical Outcomes During Globus Pallidus Internus Deep Brain Stimulation in Huntington's Disease. *Movement Disorders Clinical Practice*. 2023; 10(3). DOI:10.1002/mdc3.13644. PMID:36949795. IF:4,000 (Q2/4D). Document type: Letter.-Vol-tà E, Parladé E, Serna N, Villaverde A, Vazquez





### 5.1.1.3 Neurological Diseases, Neuroscience & Mental Health Area

E, Unzueta U. Endosomal escape for cell-targeted proteins. Going out after going in. BIOTECHNOLOGY ADVANCES. 2023; 63:108103. DOI:10.1016/j.biotechadv.2023.108103. PMID:36702197. IF:16,000 (Q1/1D). Document type: Review.

## Molecular Neurodegeneration

### Group leader

Belbin , Olivia Elizabeth (IR)

### Researchers

Cervantes Gonzalez, Alba (IR)

### Research Technicians

Lidon Gil, Laia (IR)

Perlaza Meneses, Danna Alejandra (IR)

Serrano Requena, Sara (IR)



### DESCRIPTION

The principal focus of the research group is the application of proteomic and genomic techniques to understand the process of synapse degeneration, an early event in AD and other neurodegenerative diseases. The identification of protein biomarkers and genetic risk factors is meticulously validated in clinical and neuropathological studies using ultrasensitive immunoassays (Simoa) and state-of-the-art technologies including targeted/quantitative mass spectrometry, isolation of synaptosome fractions, RNA sequencing, proximity ligation assays and in vitro massively parallel reporter gene assays.

### MAIN LINES OF RESEARCH

- Development of polygenic risk scores based on genetically regulated synapse dysfunction to improve the early detection of individuals at risk for neurodegenerative diseases and psychiatric disorders.
- Development of synaptic biomarkers to improve the diagnosis of neurodegenerative diseases and psychiatric disorders.
- Study of miRNA-mediated synapse dysfunction in neurodegenerative diseases and psychiatric disorders to guide future therapeutic strategies.

### SCIENTIFIC CHALLENGES

Our research has a great impact on society because we want to transfer the knowledge and technology of our work to the National Healthcare System. With emerging disease-modifying therapies on the horizon, there is an urgent need for biomarkers that reflect target engagement and therapeutic respon-



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

se, a gap that could be filled by these promising biomarkers.

- Knowledge and technological transfer. Our goal is to transfer the antibodies and immunoassays validated for synaptic proteins to market. Initially for research use and, in the long term, for approval of in vitro diagnostic assays to incorporate the biomarkers into clinical routine (there are no biofluid markers of synapse loss currently used in clinical routine). In addition, our findings will have an important impact on human health by guiding therapeutic strategies that could prevent or relieve synaptic stresses in AD.
- International funding. One of the strengths of our group is the internationalisation capacity, based on the awarded projects (JPND, Alzheimer Association), the participation in international networks (University of Gothenburg, University of Eastern Finland, University of Amsterdam, University of Pennsylvania, Mayo Clinic, John Hopkins, Oxford University, University of Nottingham among others) and incorporation into international consortium (European Alzheimer DNA Bank). We want to achieve new international grants that support our research in parallel to national funding and collaborations.
- Visibility and scientific dissemination activities. Perform social and health professional talks to transfer our research, as well as participate in different national and international meetings by posters and oral presentations.

#### ACTIVE GRANTS

- Belbin, Olivia Elizabeth. Prediagnostic early synaptic disturbances in neurodegenerative diseases. JPND2021-650-078. EU JOINT ACTIONS. Alteraciones preclínicas de sinapsis en enfermedades neurodegenerativas. AC21\_2/00017. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 154.880,00 €.
- Belbin, Olivia Elizabeth. Estudio traslacional de una predicción de riesgo poligénico y biomarcadores para la detección de la degeneración sináptica en la enfermedad de Alzheimer. PI21/00063. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 111.320,00 €.
- Belbin, Olivia Elizabeth. Role of synaptic miRNA and astrocyte miRNA delivery in Alzheimer's di-

sease. AARG-22-974373. Alzheimer's Association. Duration: 2022-2025. 141.222,50 €.

- Belbin, Olivia Elizabeth. Validación de prototipos de inmunoensayos para la detección y seguimiento de sinaptopatía en biofluidos de pacientes con enfermedades neurodegenerativas y trastornos afectivos. DTS22/00111. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 84.700,00 €.
- Cervantes Gonzalez, Alba. Contratos PFIS 2022. FI22/00241. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2026. 119.567,00 €.

#### GRANTS AWARDED

- Belbin, Olivia Elizabeth. Grup de Recerca en Demències: Sant Pau. 2021 SGR 00979. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2025. 40.000,00 €.

#### SCIENTIFIC PRODUCTION

- Colom M, Davies C, Sirisi S, Lee J-E, Simzer EM, Tzioras M, Querol M, Sánchez É, Chang YY, Holt K, McGeachan RI, Rose J, Tulloch J, Wilkins L, Smith C, Andrian T, Belbin O, Pujals S, Horrocks MH, Lleó A, Spires TL. Synaptic oligomeric tau in Alzheimer's disease A potential culprit in the spread of tau pathology through the brain. NEURON. 2023; 111(14):2170-2183.e6. DOI:10.1016/j.neuron.2023.04.020. PMID:37192625. IF:16,200 (Q1/1D). Document type: Article.
- Ferrer P, Puertollano D, Querol M, Sánchez É, Valle N, Cervantes A, Nuñez R, Pegueroles J, Dols O, Iulita MF, Aldecoa I, Molina L, Sánchez R, Fortea J, Belbin O, Sirisi S, Lleó A. Amyloid precursor protein BCTF accumulates in synapses in sporadic and genetic forms of Alzheimer's disease. NEUROPATHOLOGY AND APPLIED NEUROBIOLOGY. 2023; 49(1):e12879. DOI:10.1111/nan.12879. PMID:36702749. IF:5,000 (Q1/2D). Document type: Article.
- Goossens J, González AC, Dewit N, Lidón L, Fortea J, Alcolea D, Lleó A, Belbin O, Vanmechelen E. Evaluation of cerebrospinal fluid levels of synaptic vesicle protein, VAMP-2, across the sporadic Alzheimer's disease continuum. Alzheimers Research & Therapy. 2023; 15(1):186. DOI:10.1186/s13195-023-01336-0. PMID:37898760. IF:9,000 (Q1/1D). Document type: Article.



### 5.1.3 Neurological Diseases, Neuroscience & Mental Health Area

- Iulita MF, Bejanin A, Vilaplana E, Carmona M, Benejam B, Videla L, Barroeta I, Fernández S, Altuna M, Pegueroles J, Montal V, Valldeneu S, Gimenez S, González S, Torres S, El Bennadi SE, Padilla C, Aranha MR, Estelles T, Illán I, Belbin O, Valle N, Camacho V, Blessing E, Osorio RS, Videla S, Lehmann S, Holland AJ, Zetterberg H, Blennow K, Alcolea D, Clarimón J, Zaman SH, Blesa R, Lleó A, Fortea J. Association of biological sex with clinical outcomes and biomarkers of Alzheimer's disease in adults with Down syndrome. *Brain Communications*. 2023; 5(2):fcad074. DOI:10.1093/braincomms/fcad074. PMID:37056479. Document type: Article.

## Epilepsy

### Group leader

Boronat Guerrero, Susana (FGS)

### Researchers

Aledo Serrano, Angel (FGS)

Gil-Nagel Rein, Antonio (IR)

Sierra Marcos, Alba (FGS)

Turon Viñas, Eulalia (FGS)

Turon Viñas, Marc (FGS)



### DESCRIPTION

This is a multidisciplinary group including the fields of epileptology, pediatric neurology, neuropsychology, and clinical genetics. We study several aspects of Epilepsy, mainly genotype-phenotype correlation of genetic epilepsy, electroclinical phenotyping, status epilepticus and neuropsychological comorbidities. Our research includes patients of all ages, children and adults, to increase knowledge about the natural history of epilepsy. We also offer new treatments for refractory patients with no other therapeutic options, providing them access to clinical trials.

### MAIN LINES OF RESEARCH

- Genotype-phenotype correlation in genetic epilepsy (Susana Boronat, Asun Díaz, and Victoria Ros).
- Electroclinical and neuroimaging phenotyping (Alba Sierra).
- Neuropsychological comorbidities (Marc Turon).
- Emergency management of acute seizures and status epilepticus (Laia Turon).

### SCIENTIFIC CHALLENGES

- Increase knowledge about deep phenotyping of genetic epilepsies, including electroclinical phenotyping and neuroimaging features.
- Description of new epileptic genetic syndromes.
- Improving therapeutic options for acute seizures, status epilepticus, and neuropsychological comorbidities.

## 5.1.3 Neurological Diseases, Neuroscience &amp; Mental Health Area

## ACTIVE GRANTS

- Boronat Guerrero, Susana. VISOR EEG (dispositivo registrador de EEG). CPP2021-008311. Ministerio de Ciencia e Innovación (MICINN). Duration: 2022-2025. 121.887,00 €.
- Boronat Guerrero, Susana. ENVISION: Estudio de la evolución natural de lactantes y niños con encefalopatías epilépticas y del desarrollo (EED). ETX-DS-001. Natural History Study of Infants and Children with SCN1A-positive Dravet Syndrome. Encoded Therapeutics INC. Non-competitive. Duration: 2021-2023. 9.000,00 €.
- Turón E, López I, Coca E, Badell I, Sierra A, Turón M, Ribosa R, Boronat S. Seizures in children undergoing stem cell transplantation. PEDIATRIC TRANSPLANTATION. 2023; :e14619. DOI:10.1111/ptr.14619. PMID:37803946. IF:1,300 (Q4/9D). Document type: Article.

SION natural history study. EPILEPSIA. 2023; DOI:10.1111/epi.17850. PMID:38049202. IF:5,600 (Q1/2D). Document type: Article.

## GRANTS AWARDED

- Boronat Guerrero, Susana. Study of genomic disease burden to complement Cause of Death investigation in Sub-Saharan African: a pilot study from Child Health and Mortality Prevention Surveillance (CHAMPS) Network. OPP1126780 GATES. Gates Foundation. Duration: 2023-2025. 252.118,96 €.

## SCIENTIFIC PRODUCTION

- Esmel R, Valenzuela I, Riaza L, Rodríguez B, Rosés F, Boronat S, Sabaté A. Arterial tortuosity syndrome: Phenotypic features and cardiovascular manifestations in 4 newly identified patients. European Journal of Medical Genetics. 2023; 66(9):104823. DOI:10.1016/j.ejmg.2023.104823. PMID:37619836. IF:1,900 (Q4/8D). Document type: Article.
- Iznardo H, Bernal S, Boronat S, Roé E. Sclerotic Bone Lesions as a Clue in the Diagnosis of Three Generations of Tuberous Sclerosis Complex: Case Report and Review of Literature. PEDIATRIC NEUROLOGY. 2023; 148DOI:10.1016/j.pediatr-neurol.2023.07.022. PMID:37634327. IF:3,800 (Q1/2D). Document type: Article.
- Perry MS, Scheffer IE, Sullivan J, Brunklaus A, Boronat S, Wheless JW, Laux L, Patel AD, Roberts CM, Dlugos D, Holder D, Knupp KG, Lallas M, Phillips S, Segal E, Smeyers P, Lal D, Wirrell E, Zuberi S, Brünger T, Wojnaroski M, Maru B, O'Donnell P, Morton M, James E, Vila MC, Huang NR, Gofshetyan JS, Rico S. Severe communication delays are independent of seizure burden and persist despite contemporary treatments in <i>SCN1A</i>+ Dravet syndrome: Insights from the ENVI-

# 5.1.4 Epidemiology, Public Health And Primary Care Area



**Pablo Alonso Coello**  
Area Director

Research in this area involves the study of population health and its social, political, and environmental determinants with special attention to inequalities and their consequences. It evaluates the effectiveness and health impact of public interventions and policies, as well as the promotion of evidence-based practical medicine to make health intervention more effective, appropriate, and safe. Also important is the development and evaluation of methods or strategies to improve the generation, evaluation, communication and transfer of scientific evidence. This area finally studies the epidemiology of communicable diseases in the population of Barcelona, with special attention to the impact of the prevention and control strategies developed. The aim of this area is therefore to achieve wellness in public health through improving policies and medical management.

## RESEARCH GROUPS

### Clinical Epidemiology and Healthcare Services

Alonso Coello, Pablo Ignacio

### Evaluation of Public Health Policies and Programmes

Continente García, Xavier

### Urban Health Inequalities

Perez Gonzalez, Catherine

### Transmissible Diseases

Rius Gibert, Cristina

### Primary Care

Brotons Cuixart, Carles

## Clinical Epidemiology and Healthcare

### Group leader

Alonso Coello, Pablo Ignacio (IR)

### Researchers

Bolibar Ribas, Ignasi (FGS)

Bonfill Cosp, Xavier (FGS)

Canelo Aybar, Carlos Gilberto (ACCIB)

Carrera Fabia, Maria Paz (ACCIB)

Casino Rubio, Gonzalo (ACCIB)

De La Torre Perez, Laura (IR)

Gich Saladich, Ignasi Josep (FGS)

Martinez García, Laura (IR)

Martinez Zapata, Maria Jose (IR)

Medina Aedo, Nedavia Melixa (ACCIB)

Nieto Gutierrez, Wendy Carolina (ACCIB)

Pereira Nunes Pinto, Ana Carolina (ACCIB)

Perez Bracchiglione, Javier Andrés (CIBER)

Puig Reixach, Maria Teresa (FGS)

Quintana Ruiz, Maria Jesus (FGS)

Requeijo Lorenzo, Carolina (FGS)

Rigau Comas, David (ACCIB)

Rojas Reyes, Maria Ximena (IR)

Samso Jofra, Laura (FGS)

Santero Sosa, Marilina (IR)

Sola Arnau, Ivan (FGS)

Urrutia Cuchi, Gerard (FGS)

Vazquez Niebla, Juan Carlos (ACCIB)

### Research Technicians

ABeltran Puerta, Jessica (ACCIB)

Cervera Alepuz, Andrea (ACCIB)

Fernández Saenz, Fiorella Karina (ACCIB)

García Mas, Margarita (ACCIB)

Giros Boixados, Meritxell (IR)

Gorgues Sendra, Marta (FGS)

Popova Sherozia, Ekaterine (IR)

Roque Figuls, Marta Cristina (IR)

Savall Esteve, Olga (IR)

Sola Roca, Judit (ACCIB)



### DESCRIPTION

Our group conducts intense national and international research, focusing on applied clinical research, health-care services evaluation and non-commercial clinical trials. Recognized as an evidence synthesis hub, we produce various synthesis products and healthcare guidelines, promoting methodological research and offering advice and training to different stakeholders. Our group hosts a Cochrane and GRADE centres and we are internationally recognized for research excellence. We also conduct clinical decision-making research.

### MAIN LINES OF RESEARCH

- Clinical practice guidelines and decisions making. Coordinator: Pablo Alonso Coello.
- Primary clinical research. Coordinator: M. José Martínez Zapata.
- Knowledge synthesis, knowledge transfer and health services research. Coordinator: Xavier Bonfill Cosp.

### SCIENTIFIC CHALLENGES

- To consolidate our group as a leader organization for evidence synthesis production, research and education, both nationally and internationally.
- To increase the global profile of the group in the field of guideline methodology and education.
- To attract international talent in the different areas of interest, as well as succeed to secure international funding, specially from the European Union.
- To increase shared-decision making in clinical practice, linking guidelines and clinical data.





#### 5.1.4 Epidemiology, Public Health And Primary Care Area

- To foster multicenter national and international clinical trials in the area of surgery patients' safety and perioperative medicine and consolidate a research programme within Sant Pau Research Institute.
- To promote research and actions oriented to the implementation of the evidence in order to improve quality and appropriateness of the health-care.
- To consolidate the adoption of a gender perspective into the design, conduct and reporting of our research.

#### ACTIVE GRANTS

- Alonso Coello, Pablo Ignacio. La toma de decisiones compartida en el tratamiento para la prevención de fracturas en mujeres postmenopáusicas. PI20/00681. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 83.490,00 €.
- Bonfill Cosp, Xavier. Análisis y mejora de adecuación de la prescripción de quimioterapia al final de la vida. PI18/00034. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 67.760,00 €.
- Bonfill Cosp, Xavier. Impacto del COVID-19 sobre la morbilidad y mortalidad de los. PI21/00062. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 168.190,00 €.
- Bonfill Cosp, Xavier. CRA-ENV-2021-2. Int Agency for Research on Cancer. Duration: 2021-2022. 100.000,00 €.
- De La Torre Perez, Laura. Contractes Rio Hortega 2021. CM21/00206. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 65.000,00 €.
- De La Torre Perez, Laura. Evaluación económica en la evaluación de tecnologías sanitarias en Salud. MV22/00105. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2023. 19.550,00 €.
- Leon García, Montserrat. La toma de decisiones compartida de la terapia trombotrófica durante el embarazo: el valor añadido del método de análisis de decisión. FI18/00014. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 82.400,00 €.
- Martinez García, Laura. Evaluation of primary school resources from the Informed Health Choices project in improving the ability of Spanish children to assess claims about treatments. CP18/00007. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2024. 202.500,00 €.
- Martinez García, Laura. Contextualización de los recursos didácticos para niños en educación primaria del proyecto Decisiones Informadas en Salud. PI19/00068. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 36.300,00 €.
- Martinez Zapata, Maria Jose. Contractes "Miguel Servet II" 2020. CPII20/00023. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 101.250,00 €.
- Popova, Ekaterine. Programa internacional de recerca clínica en medicina perioperatoria. SLT017/20/000089. Departament de Salut Generalitat de Catalunya. Duration: 2021-2023. 85.691,20 €.
- Rojas Reyes, Maria Ximena. Fortalecimiento de la capacidad en la toma de decisiones en el Sistema de Salud español a través de evidencia viva: Un marco de trabajo innovador. PI21/01564. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 114.950,00 €.
- Santero Sosa, Marilina. Análisis y mejora de la adecuación de la prescripción de quimioterapia al final de la vida. FI19/00335. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 82.400,00 €.
- Santero Sosa, Marilina. Evaluación Económica en Salud sobre el adecuado Tratamiento Oncológico Sistémico del Cáncer de Esófago Avanzado en España. MV22/00119. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2023. 19.550,00 €.
- Urrutia Cuchi, Gerard. Resultados centrados en el paciente y utilización de recursos después de la cirugía no cardiaca (España) (PACORUS-S). PI21/01742. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 75.020,00 €.

#### GRANTS AWARDED

- Alonso Coello, Pablo Ignacio. Grup de Recerca Clínica i Sanitària Aplicada. 2021 SGR 00982. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2025. 40.000,00 €.
- Alonso Coello, Pablo Ignacio. Desarrollos metodológicos para guías de práctica clínica en el



#### 5.1.4 Epidemiology, Public Health And Primary Care Area

Sistema Nacional de Salud (SNS). PI23/01813. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 65.000,00 €.

- Martínez Zapata, Maria Jose. Evaluación de una estrategia terapéutica para acortar el tiempo de estancia hospitalaria en apendicitis complicada pediátrica: ensayo clínico aleatorizado, paralelo, multicéntrico, abierto, de no inferioridad. ICI23/00070. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 252.560,00 €.

#### DOCTORAL THESES DEFENDED

- Anaya Camacho, Rafael. Optimización del tiempo de espera para la cirugía, en pacientes con fractura proximal de fémur y en tratamiento crónico con antiagregantes plaquetarios, de manera individualizada guiada por métodos de medición de agregabilidad plaquetaria. 14/06/2023. Universitat Autònoma de Barcelona. Supervisors: Martínez Zapata, Maria José; Rodríguez Prieto, Mireia; León Vitró, Xavier. <http://hdl.handle.net/10803/690738>.
- Ariel Franco, Juan Víctor. Evidence synthesis on the management of benign prostatic hyperplasia. 19/19/2023. Universitat Autònoma de Barcelona. Supervisors: Hung Jung, Jae; Bonfill Cosp, Xavier.
- Duarte Meza, Valentina. Calidad de vida en pacientes con deformidades dentofaciales. 09/01/2023. Universitat Autònoma de Barcelona. Supervisors: Ferrer Forés, Montse; Villanueva Maffei, Julio; Zaror Sánchez, Carlos; Bonfill Cosp, Xavier. <http://hdl.handle.net/10803/688444>.
- Martín Roncero, Unai. Migraciones internas y desigualdades sociales en salud: el caso de las migraciones hacia la Comunidad Autónoma del País Vasco en las décadas de 1950 a 1970. 20/03/2023. Universitat Autònoma de Barcelona. Supervisors: Bolívar Ribas, Ignasi; Jansà López del Vallado, Josep Maria; Puig Reixach, Maria Teresa. <http://hdl.handle.net/10803/689698>.
- Merchán Galvis, Ángela María. Evaluación de la calidad de vida y complicaciones postoperatorias en pacientes con fractura de cadera. 05/10/2023. Universitat Autònoma de Barcelona. Supervisors: Martínez Zapata, Maria José; Bonfill Cosp, Xavier.
- Mas Dalmau, Gemma. La prescripció antibiòtica diferida en infeccions respiratòries a l'atenció primària: assaig clínic, anàlisi cost-efectivitat i estudi qualitatiu. 12/12/2023. Universitat Autònoma de Barcelona. Supervisors: Alonso Coello, Pablo; Cruz Gómez, Irene; Bonfill Cosp, Xavier.
- Niño de Guzmán Quispe, Ena Pery. Patients' And Caregivers' Perspectives On Outcomes Of Self-Management Interventions For Type 2 Diabetes: Applying Meta-Review Synthesis Methods. 10/11/2023. Universitat Autònoma de Barcelona. Supervisors: Alonso Coello, Pablo; Martínez García, Laura; Bonfill Cosp, Xavier.
- Roel Herranz, Elena. Timely insights into the COVID-19 pandemic using real-world data. 10/05/2023. Universitat Autònoma de Barcelona. Supervisors: Duarte Salles, Talita; Prieto Alhambra, Daniel; Bolívar Ribas, Ignasi. <http://hdl.handle.net/10803/690710>.
- Roso Llorach, Albert. Multimorbidity patterns in an older population from North Europe. 10/02/2023. Universitat Autònoma de Barcelona. Supervisors: Violán Fors, Concepció; Puig Reixach, Maria Teresa. <http://hdl.handle.net/10803/688770>.
- Suclupe Obregón, Stefanie Chriss. Detection of errors in health care and evaluation of preventive measures for patient safety. 19/05/2023. Universitat Autònoma de Barcelona. Supervisors: Martínez Zapata, María José; Robleda Font, Gemma; Bonfill Cosp, Xavier. <http://hdl.handle.net/10803/690718>.
- Valli, Claudia. Values and preferences about meat consumption: synthesis and integration in dietary guideline recommendations. 02/05/2023. Universitat Autònoma de Barcelona. Supervisors: Alonso Coello, Pablo Ignacio; Rabassa Bonet, Montserrat; Bonfill Cosp, Xavier. <http://hdl.handle.net/10803/690563>.
- Vargas Stevenson, Ingrid. Eliminación de la transmisión materno-infantil de VIH y sífilis en continente americano. 10/07/2023. Universitat Autònoma de Barcelona. Supervisors: Silva Dreyer, Ana María; Puig Reixach, Maria Teresa.
- Vázquez Niebla, Juan Carlos. Síntesis de la evidencia científica sobre algunos aspectos controvertidos en el tratamiento neoadyuvante del cáncer de mama no metastásico. 16/03/2023. Universitat Autònoma de Barcelona. Supervisors:



#### 5.1.4 Epidemiology, Public Health And Primary Care Area

Bonfill Cosp, Xavier; Urrútia Cuchí, Gerard. <http://hdl.handle.net/10803/689763>.

### SCIENTIFIC PRODUCTION

- Aburto TC, Romieu I, Stern MC, Barquera S, Corvalán C, Hallal PC, Reynales LM, Barnoya J, Cavalcante TM, Canelo C, Santero M, Feliu A, Espina C, Rivera JA. Latin American and the Caribbean Code Against Cancer 1st edition: Weight, physical activity, diet, breastfeeding, and cancer. *Cancer Epidemiology*. 2023; 86:102436. DOI:10.1016/j.canep.2023.102436. PMID:37852731. IF:2,600 (Q3/7D). Document type: Article.
- Al AM, Bonfill X, Ardiles S, Bendersky J, Sola I, Masia J. Risk-of-bias assessment of the randomized clinical trials and systematic reviews on surgical treatments for breast cancer-related lymphedema: A mapping review. *Journal of Plastic Reconstructive and Aesthetic Surgery*. 2023; 84DOI:10.1016/j.bjps.2023.05.002. PMID:37329747. IF:2,700 (Q2/4D). Document type: Review.
- Alvarado R, Hernandez E, De La Torre E, Loza C, Martinez MJ. Surgical interventions for presbyopia. *Cochrane Database Of Systematic Reviews*. 2023; 2023(3):CD015711. DOI:10.1002/14651858.CD015711. Document type: Article.
- Álvarez J, Popova E, Vives M, de Nadal M, Ordonez J, Rivas M, Moustafa A-H, Solé E, Paniagua P, García X, Viladés D, Leta R, Oristrell G, Zamora J, Ferreira I, Alonso P, Carreras F. Myocardial injury after major non-cardiac surgery evaluated with advanced cardiac imaging: a pilot study. *BMC Cardiovascular Disorders*. 2023; 23(1):78. DOI:10.1186/s12872-023-03065-6. PMID:36765313. IF:2,100 (Q3/8D). Document type: Article.
- Angel G, Trujillo C, Mallama M, Alonso P, Klimek M, Calvache JA. Methodological transparency of preoperative clinical practice guidelines for elective surgery. *Systematic review. PLoS One*. 2023; 18(2):e0272756. DOI:10.1371/journal.pone.0272756. PMID:36827452. IF:3,700 (Q2/4D). Document type: Article.
- Annesi I, Cecchi L, Biagioni B, Chung KF, Clot B, Coen MC, Amato GD, Damialis A, Dominguez J, Galan C, Gilles S, Holgate S, Jeebhay M, Kazadzis S, Papadopoulos NG, Quirce S, Sastre J, Tummon F, Traidl C, Walusiak J, Alonso P, Canelo C, Cantero Y, Rigau D, Salazar J, Verdugo F, Jutel M, Akdis CA, Agache I. Is exposure to pollen a risk factor for moderate and severe asthma exacerbations?. *ALLERGY*. 2023; 78(8)DOI:10.1111/all.15724. PMID:36961370. IF:12,400 (Q1/1D). Document type: Review.
- Asenjo C, González L, Bulnes JF, Roque M, Muñoz P, Rodríguez GM. Cardiovascular events risk in patients with systemic autoimmune diseases: a prognostic systematic review and meta-analysis. *Clinical Research in Cardiology*. 2023; DOI:10.1007/s00392-023-02291-4. PMID:37650912. IF:5,000 (Q2/4D). Document type: Article.
- Barceló M, Casademont J, Mascaró J, Gich I, Torres OH. Indoor falls and number of previous falls are independent risk factors for long-term mortality after a hip fracture. *AGING CLINICAL AND EXPERIMENTAL RESEARCH*. 2023; 35(11)DOI:10.1007/s40520-023-02551-3. PMID:37688755. IF:4,000 (Q2/5D). Document type: Article.
- Bellon F, Solà I, Gimenez G, Hernández M, Metzendorf MI, Rubinata E, Mauricio D. Perioperative glycaemic control for people with diabetes undergoing surgery. *Cochrane Database of Systematic Reviews*. 2023; (8):CD007315. DOI:10.1002/14651858.CD007315.pub3. PMID:37526194. IF:8,400 (Q1/2D). Document type: Review.
- Bendersky J, Uribe M, Bravo M, Vargas JP, Villanueva J, Urrutia G, Bonfill X. Systematic mapping review of interventions to prevent blood loss, infection and relapse in orthognathic surgery. *Medicina Oral Patologia Oral y Cirugia Bucal*. 2023; 28(2)DOI:10.4317/medoral.25530. PMID:36806025. IF:2,200 (Q3/7D). Document type: Review.
- Bendersky J, Uribe M, Bravo M, Vargas JP, Villanueva J, Urrutia G, Bonfill X. Systematic Mapping Review of Orthognathic Surgery (Protocol). *Cranio-maxillofacial Trauma & Reconstruction*. 2023; 16(2)DOI:10.1177/19433875221078385. PMID:37222982. Document type: Review.
- Bermudez C, Hernandez MN, Alguacil J, Cantarero D, Portino MC, Casino G, Calvente MG,



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- Hernan M, García LP, Cantero MTR, Segura A, Amez JG, Juarez L, Miranda JJ, March JC, Marcos J, Mar J, Peiro R, Alvarez C. GACETA SANITARIA in 2022. Maximum historical impact factor and suitability for continuous publication. *Gaceta Sanitaria*. 2023; 37:102295. DOI:10.1016/j.gaceta.2023.102295. PMID:36871443. IF:1,900 (Q3/8D). Document type: Editorial Material.
- Blum TG, Morgan RL, Durieux V, Chorostowska J, Baldwin DR, Boyd J, Faivre C, Galateau F, Gamarra F, Grigoriu B, Hardavella G, Hauptmann M, Jakobsen E, Jovanovic D, Knaut P, Massard G, McPhelim J, Meert A-P, Milroy R, Muhr R, Mutti L, Paesmans M, Powell P, Putora PM, Rawlinson J, Rich AL, Rigau D, de Ruyscher D, Sculier J-P, Schepereel A, Subotic D, Van P, Tonia T, Williams C, Berghmans T. European Respiratory Society guideline on various aspects of quality in lung cancer care. *EUROPEAN RESPIRATORY JOURNAL*. 2023; 61(2):2103201. DOI:10.1183/13993003.03201-2021. PMID:36396145. IF:24,300 (Q1/1D). Document type: Article.
  - Bonfill X. Basic concepts for understanding and improving clinical appropriateness. *Educacion Medica*. 2023; 24(3):100813. DOI:10.1016/j.edu-med.2023.100813. Document type: Note.
  - Bonfill X. Revisiting the value of Archie Cochrane's contributions. *Bmj Evidence-Based Medicine*. 2023; 28(2)DOI:10.1136/bmjebm-2022-112142. PMID:36631240. IF:5,800 (Q1/3D). Document type: Editorial Material.
  - Bracchiglione J, Meza N, Perez I, Vergara L, Madrid E, Urrutia G, Cosp XB. A methodological review finds mismatch between overall and pairwise overlap analysis in a sample of overviews. *JOURNAL OF CLINICAL EPIDEMIOLOGY*. 2023; 159DOI:10.1016/j.jclinepi.2023.05.006. PMID:37164290. IF:7,200 (Q1/1D). Document type: Review.
  - Bracchiglione J, Rodríguez G, Requeijo C, Santero M, Salazar J, Salas K, Meade A-G, Antequera A, Auladell A, Quintana MJ, Solà I, Urrútia G, Acosta R, Bonfill X. Systemic Oncological Treatments versus Supportive Care for Patients with Advanced Hepatobiliary Cancers: An Overview of Systematic Reviews. *Cancers*. 2023; 15(3):766. DOI:10.3390/cancers15030766. PMID:36765723. IF:5,200 (Q2/3D). Document type: Review.
  - Bugani V, Battistelli L, Sansovini M, Monti M, Paganelli G, Gich I, Flotats A, Erba PA, Blay JY, la Fougere C, Van H, Charalambous A, Herrmann K, Giordano A, Gyorke T, Deroose C, Matteucci F, Carrio I. Radioligand therapies in cancer: mapping the educational landscape in Europe. *EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING*. 2023; 50(9)DOI:10.1007/s00259-023-06217-0. PMID:37058168. IF:9,100 (Q1/1D). Document type: Article.
  - Buse GL, Pinto BB, Abelha F, Abbott T, Ackland G, Afshari A, De Hert S, Fellahi JL, Giossi L, Kavsak P, Longrois D, M'Pembale R, Nucaro A, Popova E, Puelacher C, Richards T, Roth S, Sheka M, Szczeklik W, van J, Walder B, Chew MS. ESAIC focused guideline for the use of cardiac biomarkers in perioperative risk evaluation. *EUROPEAN JOURNAL OF ANAESTHESIOLOGY*. 2023; 40(12)DOI:10.1097/EJA.0000000000001865. PMID:37265332. IF:3,600 (Q2/4D). Document type: Article.
  - Conen D, Ke M, Popova E, Chan MTV, Landoni G, Cata JP, Reimer C, McLean SR, Srinathan SK, Reyes JCT, Grande AM, Tallada AG, Sessler DI, Fleischmann E, Kabon B, Voltolini L, Cruz P, Maziak DE, Gutiérrez L, McIntyre WF, Tandon V, Martínez E, Guerra JJ, DuMerton D, Wong RHL, McGuire AL, Kidane B, Roux DP, Shargall Y, Wells JR, Ofori SN, Vincent J, Xu L, Li Z, Eikelboom JW, Jolly SS, Healey JS, Devereaux PJ, COP I. Effect of colchicine on perioperative atrial fibrillation and myocardial injury after non-cardiac surgery in patients undergoing major thoracic surgery (COP-AF): an international randomised trial. *LANCET*. 2023; 402(10413)DOI:10.1016/S0140-6736(23)01689-6. PMID:37640035. IF:168,900 (Q1/1D). Document type: Article.
  - Conen D, Popova E, Wang MK, Chan MTV, Landoni G, Reimer C, Srinathan SK, Cata JP, McLean SR, Reyes JCT, Grande AM, Tallada AG, Sessler DI, Fleischmann E, Maziak DE, Kabon B, Voltolini L, Gutierrez L, Tandon V, DuMerton D, Kidane B, Rajaram R, Shargall Y, Neary JD, Wells JR, McIntyre WF, Blum S, Ofori SN, Vincent J, Xu LZ, Li ZR, Healey JS, Garg AX, Devereaux PJ, COP I. Rationale and design of the colchicine for the prevention of perioperative atrial fibrillation in patients undergoing major noncardiac thoracic surgery



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- (COP-AF) trial. AMERICAN HEART JOURNAL. 2023; 259DOI:10.1016/j.ahj.2023.01.018. PMID:36754105. IF:4,800 (Q2/4D). Document type: Article.
- Cortés M, Madera M, Tirado L, Asenjo C, Bonfill X. Treatments for non-small cell lung cancer: a systematic quality assessment of clinical practice guidelines. *Clinical & Translational Oncology*. 2023; 25(12)DOI:10.1007/s12094-023-03223-4. PMID:37254015. IF:3,400 (Q3/6D). Document type: Article.
  - Cruzat B, Reveco K, Encina M, Ortiz L, Bracchiglione J. Approaching the body of evidence: Key concepts of Overviews. *Medwave*. 2023; 23(5):e2704. DOI:10.5867/medwave.2023.05.2704. PMID:37279463. Document type: Review.
  - de Sousa AS, da AP, Tavares DRB, Okazaki J, Santana MVD, Trevisani VFM, Pinto A. Respiratory muscle training for obstructive sleep apnea: Systematic review and meta-analysis. *JOURNAL OF SLEEP RESEARCH*. 2023; :e13941. DOI:10.1111/jsr.13941. PMID:37258418. IF:4,400 (Q2/3D). Document type: Review.
  - Dewidar O, Lotfi T, Langendam MW, Parmelli E, Parkinson ZS, Solo K, Chu DK, Mathew JL, Akl EA, Brignardello R, Mustafa RA, Moja L, Iorio A, Chi Y, Canelo C, Kredo T, Karpusheff J, Turgeon AF, Alonso P, Wiercioch W, Gerritsen A, Klugar M, Rojas MX, Tugwell P, Welch VA, Pottie K, Munn Z, Nieuwlaat R, Ford N, Stevens A, Khabisa J, Nasir Z, Leontiadis G, Meerpohl J, Piggott T, Qaseem A, Matthews M, Schunemann HJ, eCOVID C. Good or best practice statements: proposal for the operationalisation and implementation of GRADE guidance. *Bmj Evidence-Based Medicine*. 2023; 28(3):bmjebm-2022-111962. DOI:10.1136/bmjebm-2022-111962. PMID:35428694. IF:5,800 (Q1/3D). Document type: Article.
  - Diest A, Vilagut G, Alayo I, Ferrer M, Amigo F, Amann BL, Aragon A, Aragones E, Del Barco AA, Campos M, Del Cura I, Espuga M, Gonzalez A, Haro JM, Larrauri A, López N, de Salazar AM, Molina JD, Orti RM, Parellada M, Pelayo JM, Perez A, Pijoan JI, Plana N, Puig T, Rius C, Rodríguez C, Sanz F, Serra C, Urreta I, Kessler RC, Bruffaerts R, Vieta E, Perez V, Alonso J, Mortier P, MIND-COVID GRP. Traumatic stress symptoms among Spanish healthcare workers during the COVID-19 pandemic: a prospective study. *Epidemiology and Psychiatric Sciences*. 2023; 32:e50. DOI:10.1017/S2045796023000628. PMID:37555258. IF:8,100 (Q1/1D). Document type: Article.
  - Díez C, Gich I, Bolibar I. Effectiveness of Nurse-led Preoperative Assessment for Anesthesia: A Prospective Cohort Study. *Journal of PeriAnesthesia Nursing*. 2023; 38(4)DOI:10.1016/j.jopan.2022.10.007. PMID:36635121. IF:1,700 (Q3/7D). Document type: Article.
  - Domenech S, Blancafort S, Rojano X, Salva A, Roque M, Coll L. Subjective psychological impacts during COVID-19 lockdown on older people, risk profiles and coping strategies: Results of an online survey in Spain. *JOURNAL OF COMMUNITY PSYCHOLOGY*. 2023; 51(6)DOI:10.1002/jcop.22833. PMID:35262207. IF:2,300 (Q2/3D). Document type: Article.
  - Escobar CM, Garegnani L, Garrote V, Solà I, Franco JV. Search strategies (filters) to identify systematic reviews in MEDLINE and Embase. *Cochrane Database of Systematic Reviews*. 2023; 9(9):MR000054. DOI:10.1002/14651858.MR000054.pub2. PMID:37681507. IF:8,400 (Q1/2D). Document type: Review.
  - Fa M, Almenara M, Mata JM, Gich I, Llauger J, Lamas C. Retrospective interobserver agreement on diagnoses of 4th and 5th carpometacarpal fracture-dislocation and hamate fracture in plain X-ray - Is CT essential after ulnar carpometacarpal pain?. *SKELETAL RADIOLOGY*. 2023; 52(12)DOI:10.1007/s00256-023-04366-9. PMID:37227483. IF:2,100 (Q3/6D). Document type: Article.
  - Fernández BM, López J, Roqué M, Muriel A, Zamora J. CHARMS and PROBAST at your fingertips: a template for data extraction and risk of bias assessment in systematic reviews of predictive models. *BMC Medical Research Methodology*. 2023; 23(1):44. DOI:10.1186/s12874-023-01849-0. PMID:36800933. IF:4,000 (Q2/3D). Document type: Article.
  - García A, Balsells M, Solà I, Gich I, Corcoy R. Impact of gestational diabetes mellitus treatment on medium/long-term outcomes after pregnancy: A systematic review and meta-analysis. *DIABE-*



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- TIC MEDICINE. 2023; 40(1):e14998. DOI:10.1111/dme.14998. PMID:36326694. IF:3,500 (Q3/6D). Document type: Article.
- Garg AX, Cuerden M, Cata J, Chan MTV, Devereaux PJ, Fleischmann E, Grande AM, Kabon B, Landoni G, Maziak DE, McLean S, Parikh C, Popova E, Reimer C, Reyes JCT, Roshanov P, Sessler DI, Srinathan S, Sontrop JM, Tallada AG, Wang MK, Wells JR, Conen D. Effect of Colchicine on the Risk of Perioperative Acute Kidney Injury: Clinical Protocol of a Substudy of the Colchicine for the Prevention of Perioperative Atrial Fibrillation Randomized Clinical Trial. *Canadian Journal Of Kidney Health And Disease*. 2023; 10:20543581231185427. DOI:10.1177/20543581231185427. PMID:37457622. Document type: Article.
  - Gené A, Casasa A, Puig T, de La Figuera M, Jimenez MJ, Fité J, Roman J, Bellmunt S. Normal Infrarenal Aortic Diameter in Men and Women in a Mediterranean Area. *ANNALS OF VASCULAR SURGERY*. 2023; 92DOI:10.1016/j.avsg.2022.12.087. PMID:36639098. IF:1,500 (Q3/8D). Document type: Article.
  - Hounkpatin H, Stuart B, Zhu SH, Yao GQ, Moore M, Loffler C, Little P, Kenealy T, Gillespie D, Francis NA, Bostock J, Becque T, Arroll B, Altiner A, Alonso P, Hay AD. Post-consultation acute respiratory tract infection recovery: a latent class-informed analysis of individual patient data. *BRITISH JOURNAL OF GENERAL PRACTICE*. 2023; 73(728):e196-e203. DOI:10.3399/BJGP.2022.0229. PMID:36823057. IF:5,900 (Q1/1D). Document type: Article.
  - Humphries B, León M, Bates SM, Guyatt G, Eckman MH, D'Souza R, Shehata N, Jack SM, Alonso P, Xie F. Decision Analysis in SHared decision making for Thromboprophylaxis during Pregnancy (DASH-TOP): a sequential explanatory mixed-methods pilot study. *Bmj Evidence-Based Medicine*. 2023; 28(5):bmjebm-2022-112098. DOI:10.1136/bmjebm-2022-112098. PMID:36858800. IF:5,800 (Q1/3D). Document type: Article.
  - Jiménez E, Asmarats L, Roqué M, Millán X, Li CHP, Fernández E, Sánchez J, Massó van Roessel A, Maestre ML, Paniagua P, Arzamendi D. Impact of Baseline Anemia in Patients Undergoing Trans-catheter Aortic Valve Replacement: A Prognostic Systematic Review and Meta-Analysis. *Journal of Clinical Medicine*. 2023; 12(18):6025. DOI:10.3390/jcm12186025. PMID:37762965. IF:3,900 (Q2/4D). Document type: Review.
  - Jimenez V, Casabella S, Llach A, Gich I, Casellas S, Ciruela F, Chen SRW, Guerra JM, Ginel A, Benitez R, Cinca J, Tarifa C, Hove L. Beta-blocker treatment of patients with atrial fibrillation attenuates spontaneous calcium release-induced electrical activity. *BIOMEDICINE & PHARMACOTHERAPY*. 2023; 158:114169. DOI:10.1016/j.biopha.2022.114169. PMID:36592495. IF:7,500 (Q1/1D). Document type: Article.
  - Jofra LS, Alonso P, Martinez EC, Marsal CD, Iborra AG, Quispe E, Perez G, Requeijo C, Figuls M, Rosenbaum S, Salas K, Urreta I, García LM. Piloting the informed health choices resources in Barcelona primary schools: A mixed methods study. *PLoS One*. 2023; 18(7):e0288082. DOI:10.1371/journal.pone.0288082. PMID:37418372. IF:3,700 (Q2/4D). Document type: Article.
  - Johnston BC, Zeraatkar D, Steen J, de Jauregui DRF, Zhu HF, Sun MY, Cooper M, Maraj M, Prokop A, Reyes BC, Valli C, Storman D, Karam G, Zajac J, Ge L, Swierz MJ, Ghosh N, Vernooij RWM, Chang YP, Zhao YL, Thabane L, Guyatt GH, Alonso P, Hooper L, Bala MM. Saturated fat and human health: a protocol for a methodologically innovative systematic review and meta-analysis to inform public health nutrition guidelines. *Systematic Reviews*. 2023; 12(1):39. DOI:10.1186/s13643-023-02209-1. PMID:36918997. IF:3,700 (Q2/4D). Document type: Review.
  - León M, Humphries B, Morales PR, Gravholt D, Eckman MH, Bates SM, Suarez N, Xie F, Perestelo L, Alonso P. Assessment of a venous thromboembolism prophylaxis shared decision-making intervention (DASH-TOP) using the decisional conflict scale: a mixed-method study. *BMC Medical Informatics and Decision Making*. 2023; 23(1):250. DOI:10.1186/s12911-023-02349-3. PMID:37932759. IF:3,500 (Q3/6D). Document type: Article.
  - Llorca V, Bioque M, Font M, Gich I, Mur M. Correlation between C-reactive protein and the inflammatory ratios in acute schizophrenia inpa-



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- tients: are they associated?. *JOURNAL OF PSYCHIATRIC RESEARCH*. 2023; 165DOI:10.1016/j.jpsychires.2023.07.023. PMID:37515951. IF:4,800 (Q2/3D). Document type: Article.
- López B, Raya O, Baykova E, Saez M, Rigau D, Cunill R, Mayoral S, Carrion C, Serrano D, Castells X. APPRAISE-RS: Automated, updated, participatory, and personalized treatment recommender systems based on GRADE methodology. *Heliyon*. 2023; 9(2):e13074. DOI:10.1016/j.heliyon.2023.e13074. PMID:36798764. IF:4,000 (Q2/4D). Document type: Article.
  - Lourinho I, Sousa T, Jardim R, Pinto AC, Iosimuta N. Effects of low-level laser therapy in adults with rheumatoid arthritis: A systematic review and meta-analysis of controlled trials. *PLoS One*. 2023; 18(9):e0291345. DOI:10.1371/journal.pone.0291345. PMID:37683021. IF:3,700 (Q2/4D). Document type: Article.
  - Lwin KS, Tobias A, Chua PL, Yuan L, Thawonmas R, Ith S, Htay ZW, Yu LS, Yamasaki L, Roque M, Querol X, Fussell JC, Nadeau KC, Stafoggia M, Saliba NA, Ng CFS, Hashizume M. Effects of Desert Dust and Sandstorms on Human Health: A Scoping Review. *GeoHealth*. 2023; 7(3):e2022GH000728. DOI:10.1029/2022GH000728. PMID:36874170. IF:4,800 (Q2/3D). Document type: Review.
  - Marcucci M, Painter TW, Conen D, Lomivorotov V, Sessler DI, Chan MTV, Borges FK, Leslie K, Duceppe E, Martinez MJ, Wang CY, Xavier D, Ofori SN, Wang MK, Efremov S, Landoni G, Kleinlugtenbelt YV, Szczeklik W, Schmartz D, Garg AX, Short TG, Wittmann M, Meyhoff CS, Amir M, Torres D, Patel A, Ruetzler K, Parlow JL, Tandon V, Fleischmann E, Polanczyk CA, Lamy A, Jayaram R, Astrakov SV, Wu WKK, Cheong CC, Ayad S, Kirov M, de Nadal M, Likhvantsev VV, Paniagua P, Aguado HJ, Maheshwari K, Whitlock RP, McGillion MH, Vincent J, Copland I, Balasubramanian K, Biccari BM, Srinathan S, Ismoilov S, Pettit S, Stillo D, Kurz A, Belley EP, Spence J, McIntyre WF, Bangdiwala SI, Guyatt G, Yusuf S, Devereaux PJ, POISE Trial Investigators Study 3. Hypotension-Avoidance Versus Hypertension-Avoidance Strategies in Noncardiac Surgery An International Randomized Controlled Trial. *ANNALS OF INTERNAL MEDICINE*. 2023; 176(5)DOI:10.7326/M22-3157. PMID:37094336. IF:39,200 (Q1/1D). Document type: Article.
  - Marilina S, Adriana M, Anna S, Roberto AD, Nicolas M, Jesus QM, Javier B, Carolina R, Josefina S, Gerardo RG, Ivan S, Gerard U, Xavier BC, Appropriateness O. Comparative analysis of systemic oncological treatments and best supportive care for advanced gastresophageal cancer: A comprehensive scoping review and evidence map. *Journal Of Evidence Based Medicine*. 2023; 16(2) DOI:10.1111/jebm.12539. PMID:37303304. IF:7,300 (Q1/2D). Document type: Review.
  - Martin I, Torres A, Nagavci B, Aliberti S, Antonelli M, Bassetti M, Bos L, Chalmers J, Derde L, de Waele J, Garnacho J, Kollef M, Luna C, Menéndez R, Niederman M, Ponomarev D, Restrepo M, Rigau D, Schultz M, Weiss E, Welte T, Wunderink R. ERS/ESICM/ESCMID/ALAT guidelines for the management of severe community-acquired pneumonia. *EUROPEAN RESPIRATORY JOURNAL*. 2023; 61(4):2200735. DOI:10.1183/13993003.00735-2022. PMID:37012080. IF:24,300 (Q1/1D). Document type: Article.
  - Martinez MJ, Salvador I, Martí AJ, Pijoan JI, Cordero JA, Ponomarev D, Kernohan A, Solà I, Virgili G. Anti-vascular endothelial growth factor for proliferative diabetic retinopathy. *Cochrane Database Of Systematic Reviews*. 2023; 2023(3):CD008721. DOI:10.1002/14651858.CD008721.pub3. PMID:36939655. Document type: Review.
  - Mas G, Pequeño S, de la Poza M, Borrell E, Besa M, Alsina M, Cuixart L, Liroz M, Calderón C, Martí J, Cruz I, Alonso P. Perceptions and attitudes regarding delayed antibiotic prescription for respiratory tract infections: a qualitative study. *Bmc Primary Care*. 2023; 24(1):204. DOI:10.1186/s12875-023-02123-4. PMID:37794330. Document type: Article.
  - Mas G, Pérez MJ, Alonso P, Gorrotxategi P, Argüelles E, Espinazo O, Valls T, Gonzalo ME, Cortés MP, Menéndez T, Vázquez ME, Pérez AI, Muñoz L, Villanueva C, Little P, de la Poza M, Carles M, DAP G. A trial-based cost-effectiveness analysis of antibiotic prescription strategies for non-complicated respiratory tract infections in children. *BMC Pediatrics*. 2023; 23(1):497. DOI:10.1186/s12887-



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- 023-04235-3. PMID:37784098. IF:2,400 (Q2/5D). Document type: Article.
- Mayoral K, Lizano C, Zamora V, Pont A, Miret C, Barrufet C, Caballero MA, Praena M, Bercedo A, Valdesoiro L, Guerra MT, Pardo Y, Zapata MJM, Garin O, Ferrer M. Montelukast in paediatric asthma and allergic rhinitis: a systematic review and meta-analysis. *European Respiratory Review*. 2023; 32(170):230124. DOI:10.1183/16000617.0124-2023. PMID:37852659. IF:7,500 (Q1/2D). Document type: Review.
  - Medina M, Segura C, Torralba E, Buitrago D, Solà I, Pardo H, Bonfill X. Randomized controlled trials in nursing conducted by Latin American research teams: A scoping review. *JOURNAL OF NURSING SCHOLARSHIP*. 2023; DOI:10.1111/jnu.12943. PMID:37965861. IF:3,400 (Q1/2D). Document type: Review.
  - Meneses JF, Bidonde J, Montesinos C, Amer YS, Loaiza AF, Tellez LA, Fraile D, Poklepovic T, Tokalic R, Bala MM, Storman D, Swierz M, Zajac J, Flórez ID, Schünemann H, Flottorp S, Alonso P. Using evidence to decision frameworks led to guidelines of better quality and more credible and transparent recommendations. *JOURNAL OF CLINICAL EPIDEMIOLOGY*. 2023; 162DOI:10.1016/j.jclinepi.2023.07.013. PMID:37517506. IF:7,200 (Q1/1D). Document type: Article.
  - Merchán A, Anaya R, Rodríguez M, Llorca J, Castejón M, Gil JM, Millan A, Estepa V, Cardona E, García Y, Ruiz A, Martínez MJ, AFFEcT G. Quality of Life and Post-Surgical Complications in Patients on Chronic Antiplatelet Therapy with Proximal Femur Fracture: 12-Month Follow-Up after Implementing a Strategy to Shorten the Time to Surgery. *Journal of Clinical Medicine*. 2023; 12(3):1130. DOI:10.3390/jcm12031130. PMID:36769778. IF:3,900 (Q2/4D). Document type: Article.
  - Merchán AM, Muñoz DA, Solano F, Velásquez JC, Sotelo NF, Molina DA, Caicedo JP, Concha JM, Calvache JA, Martínez MJ. Delayed surgery and health related quality of life in patients with proximal femoral fracture. *Scientific Reports*. 2023; 13(1):11131. DOI:10.1038/s41598-023-33592-3. PMID:37429947. IF:4,600 (Q2/4D). Document type: Article.
  - Merino W, Cárcamo C, Peña M, Martínez MJ. Contribution of hospitals and clinical services to global warming: protocol for a scoping review. *BMJ Open*. 2023; 13(12):e072227. DOI:10.1136/bmjopen-2023-072227. PMID:38135310. IF:2,900 (Q2/5D). Document type: Article.
  - Molano D, Arevalo I, Muriel A, Del Campo L, Fernández S, Alvarez A, Simancas D, Viteri A, Sánchez G, Fernández B, López J, Solà I, Osorio D, Khan KS, Nuvials X, Ferrer R, Zamora J, SEPSIS C. Basal procalcitonin, C-reactive protein, interleukin-6, and presepsin for prediction of mortality in critically ill septic patients: a systematic review and meta-analysis. *Diagnostic And Prognostic Research*. 2023; 7(1)DOI:10.1186/s41512-023-00152-2. PMID:37537680. Document type: Review.
  - Niño E, Bracchiglione J, Vásquez A, de Graaf G, Rocha C, Alonso P. How do Patients With Type 2 Diabetes Mellitus Value the Importance of Outcomes? An Overview of Reviews. *VALUE IN HEALTH*. 2023; 26(12)DOI:10.1016/j.jval.2023.07.003. PMID:37516195. IF:4,500 (Q1/1D). Document type: Review.
  - Noordman J, Heijmans M, Poortvliet R, Groene O, Ballester M, Ninov L, de Guzman EN, Alonso P, Orrego C, Sunol R, Wagner C. Identifying most important contextual factors for the implementation of self-management interventions: A Delphi study. *PATIENT EDUCATION AND COUNSELING*. 2023; 114:107843. DOI:10.1016/j.pec.2023.107843. PMID:37352753. IF:3,500 (Q1/2D). Document type: Article.
  - Noordman J, Meurs M, Poortvliet R, Rusman T, Orrego C, Ballester M, Ninov L, de Guzmán EN, Alonso P, Groene O, Suñol R, Heijmans M, Wagner C. Contextual factors for the successful implementation of self-management interventions for chronic diseases: A qualitative review of reviews. *Chronic Illness*. 2023; :17423953231153337. DOI:10.1177/17423953231153337. PMID:36744382. IF:1,300 (Q4/8D). Document type: Review.
  - Perelló J, Estadella J, Gich I, Bailón M, Llorba E, Calaf J. Bleeding profile and safety of a levonorgestrel 13.5 mg intrauterine device versus Nova T copper 380 mm(2) intrauterine device: Results of a 3-year, single-center, randomized phase 4 study. *CONTRACEPTION*. 2023; 127:110127.





## 5.1.4 Epidemiology, Public Health And Primary Care Area

- DOI:10.1016/j.contraception.2023.110127. PMID:37487868. IF:2,900 (Q2/5D). Document type: Article.
- Pérez È, Roqué M, Fernández M, Giné M. Exercise interventions for adults after liver transplantation. *Cochrane Database Of Systematic Reviews*. 2023; 2023(5):CD013204. DOI:10.1002/14651858.CD013204.pub2. PMID:37204002. Document type: Review.
  - Piggott T, Moja L, Akl EA, Lavis JN, Cooke G, Kredo T, Hogerzeil HV, Huttner B, Alonso P, Schünemann H. Decision criteria for selecting essential medicines and their connection to guidelines: an interpretive descriptive qualitative interview study. *JOURNAL OF CLINICAL EPIDEMIOLOGY*. 2023; 154DOI:10.1016/j.jclinepi.2022.12.007. PMID:36584732. IF:7,200 (Q1/1D). Document type: Article.
  - Pitre T, Jassal T, Park L, Coello PA, de Souza R, Zeraatkar D. Reporting and interpretation of effects in non-randomized nutritional and environmental epidemiology: a methods study. *ANNALS OF EPIDEMIOLOGY*. 2023; 77DOI:10.1016/j.annepidem.2022.10.015. PMID:36375709. IF:5,600 (Q1/2D). Document type: Article.
  - Popova E, Alonso P, Álvarez J, Paniagua P, Rué M, Vives M, Font A, Gich I, Martínez C, Ordóñez J, Carles M. Cost-effectiveness of a high-sensitivity cardiac troponin T systematic screening strategy compared with usual care to identify patients with peri-operative myocardial injury after major noncardiac surgery. *EUROPEAN JOURNAL OF ANAESTHESIOLOGY*. 2023; 40(3)DOI:10.1097/EJA.0000000000001793. PMID:36722187. IF:3,600 (Q2/4D). Document type: Article.
  - Popova E, Paniagua P, Álvarez J, Vives M, González A, García Á, Rivas M, Hermenegildo G, Diaz R, Azparren G, Barceló M, Moustafa A-H, Aguilar R, Ordonez J, Alonso P. The Relevance of Implementing the Systematic Screening of Perioperative Myocardial Injury in Noncardiac Surgery Patients. *Journal of Clinical Medicine*. 2023; 12(16):5371. DOI:10.3390/jcm12165371. PMID:37629413. IF:3,900 (Q2/4D). Document type: Article.
  - Porta O, Cornet A, Font A, Huguet E, Lleberia J, Sola I. Vaginal packing after vaginal hysterectomy: systematic review and recommendations. *INTERNATIONAL UROGYNECOLOGY JOURNAL*. 2023; 34(4)DOI:10.1007/s00192-022-05331-1. PMID:36018354. IF:1,800 (Q4/8D). Document type: Review.
  - Prados A, Casino G. How have quality newspapers covered the microbiome? A content analysis of The New York Times, The Times, and El Pais. *Journalism*. 2023; 24(8):14648849211067858. DOI:10.1177/14648849211067858. IF:2,900 (Q2/4D). Document type: Article.
  - Quispe E, Bracchiglione J, Ballester M, Groene O, Heijmans M, García LM, Noordman J, Orrego C, Rocha C, Sunol R, Alonso P. Patients' and informal caregivers' perspectives on self-management interventions for type 2 diabetes mellitus outcomes: a mixed-methods overview of 14 years of reviews. *Archives of Public Health*. 2023; 81(1):140. DOI:10.1186/s13690-023-01153-9. PMID:37537669. IF:3,300 (Q2/5D). Document type: Review.
  - Requeijo C, Bracchiglione J, Meza N, Acosta R, Salazar J, Santero M, Meade AG, Quintana MJ, Rodríguez G, Selva A, Solà I, Urrútia G, Cosp XB, Appropriateness O. Anticancer Drugs Compared to No Anticancer Drugs in Patients with Advanced Hepatobiliary Cancer: A Mapping Review and Evidence Gap Map. *Clinical Epidemiology*. 2023; 15DOI:10.2147/CLEP.S431498. PMID:38025841. IF:3,900 (Q2/4D). Document type: Review.
  - Ricci I, Carvallo D, Vázquez A, Alonso P, Saz Z, Parmelli E, Morgano GP, Rigau D, Solà I, Neamtui L, Nino E. Characteristics and impact of interventions to support healthcare providers' compliance with guideline recommendations for breast cancer: a systematic literature review. *Implementation Science*. 2023; 18(1):17. DOI:10.1186/s13012-023-01267-2. PMID:37217955. IF:7,200 (Q1/1D). Document type: Review.
  - Roca BR, Tully MA, Sansano O, Caserotti P, Coll L, Roqué M, Brond J, Blackburn NE, Wilson JJ, Rothenbacher D, McIntosh E, Deidda M, Andrade E, Giné M. Is education level, as a proxy for socio-economic position, related to device-measured and self-reported sedentary behavior in European older adults? A cross-sectional study from the SITLESS project. *Frontiers in*



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- Public Health. 2023; 11:1296821. DOI:10.3389/fpubh.2023.1296821. PMID:38169596. IF:5,200 (Q1/2D). Document type: Article.
- Rojas L, Rojas MX, Rosselli D, Ariza JG, Ruiz A, Cardona AF. Cost-utility analysis of genomic profiling in early breast cancer in Colombia. *Cost Effectiveness and Resource Allocation*. 2023; 21(1):42. DOI:10.1186/s12962-023-00449-5. PMID:37430303. IF:2,300 (Q3/7D). Document type: Article.
  - Roqué M, Giné M, Granados C, Perrotta C, Vilaró J. Chest physiotherapy for acute bronchiolitis in paediatric patients between 0 and 24 months old. *Cochrane Database Of Systematic Reviews*. 2023; 2023(4):CD004873. DOI:10.1002/14651858.CD004873.pub6. PMID:37010196. Document type: Article.
  - Sabater M, Martínez JC, Morales A, Ferrer M, Antequera A, Roqué M. Overview of systematic reviews of risk factors for prosthetic joint infection. *Revista Española De Cirugía Ortopédica Y Traumatología*. 2023; 67(5)DOI:10.1016/j.recot.2023.04.010. PMID:37116750. Document type: Review.
  - Saiz LC, Leache L, Gutierrez M, Erviti J, Reyes MXR. Efficacy and safety of chimeric antigen receptor T-cell (CAR-T) therapy in hematologic malignancies: a living systematic review on comparative studies. *Therapeutic Advances in Hematology*. 2023; 14:20406207231168211. DOI:10.1177/20406207231168211. PMID:37138698. IF:3,400 (Q2/5D). Document type: Review.
  - Salazar J, Bracchiglione J, Acosta R, Meza N, Meade A-G, Quintana MJ, Requeijo C, Rodríguez G, Santero M, Selva A, Solà I, Bonfill X, Salas K, Antequera A, Auladell A, Urrútia G, Meinardi P, Irassar J, Simancas D, Dorantes R, Merchán A, Cantero Y, Hernandez E, Sugañes M, Appropriateness of Systemic Oncological Treatments for Advanced Cancer (ASTAC) R. Systemic oncological treatments in patients with advanced pancreatic cancer: a scoping review and evidence map. *SUPPORTIVE CARE IN CANCER*. 2023; 31(2):100. DOI:10.1007/s00520-022-07564-8. PMID:36622453. IF:3,100 (Q1/3D). Document type: Review.
  - Salazar J, Bracchiglione J, Savall O, Antequera A, Bottaro D, Gutierrez M, Martinez S, Pericay C, Tibau A, Bonfill X, Appropriateness SYSTT. Treatment with anticancer drugs for advanced pancreatic cancer: a systematic review. *BMC CANCER*. 2023; 23(1):748. DOI:10.1186/s12885-023-11207-4. PMID:37573294. IF:3,800 (Q2/5D). Document type: Review.
  - Salgueiro C, Urrutia G, Cabanas R. Available apps for stroke telerehabilitation during coronavirus disease 2019 confinement in Spain. *Disability and Rehabilitation-Assistive Technology*. 2023; 18(5)DOI:10.1080/17483107.2021.1883751. PMID:33576299. IF:2,200 (Q2/4D). Document type: Article.
  - Sanca S, Espinola M, Caballero J, Canelo C. Effect of high-intensity interval training compared to moderate-intensity continuous training on body composition and insulin sensitivity in overweight and obese adults: A systematic review and meta-analysis. *Heliyon*. 2023; 9(10):e20402. DOI:10.1016/j.heliyon.2023.e20402. PMID:37800068. IF:4,000 (Q2/4D). Document type: Review.
  - Santero M, de Mas J, Rifà B, Clavero I, Rexach I, Cosp XB. Assessing the methodological strengths and limitations of the Spanish Society of Medical Oncology (SEOM) guidelines: a critical appraisal using AGREE II and AGREE-REX tool. *Clinical & Translational Oncology*. 2023; 26(1)DOI:10.1007/s12094-023-03219-0. PMID:37368198. IF:3,400 (Q3/6D). Document type: Article.
  - Santos A, Nalin C, Bortolotti G, Dominguez E, Daniela G, Cortési L, Pagani M, Momblan M, Gich I, Webb SM, Trevisan R, Resmini E. The effect of mindfulness therapy in acromegaly, a pilot study. *CLINICAL ENDOCRINOLOGY*. 2023; 98(3) DOI:10.1111/cen.14844. PMID:36342059. IF:3,200 (Q3/7D). Document type: Article.
  - Schunemann HJ, Brennan S, Akl EA, Hultcrantz M, Alonso P, Xia J, Davoli M, Rojas MX, Meerpohl JJ, Flottorp S, Guyatt G, Mustafa RA, Langendam M, Dahm P. The development methods of official GRADE articles and requirements for claiming the use of GRADE - A statement by the GRADE guidance group. *JOURNAL OF CLINICAL EPIDEMIOLOGY*. 2023; 159DOI:10.1016/j.jclinepi.2023.05.010.



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- PMID:37211327. IF:7,200 (Q1/1D). Document type: Editorial Material.
- Selva A, Mosconi G, Cacitti S, Odone A, Pylkkanen L, Solà I, Torà N, Russo S, Cadum E, Deandrea S. Participants' satisfaction with colorectal cancer screening programs: A systematic review. *PREVENTIVE MEDICINE*. 2023; 175:107706. DOI:10.1016/j.ypmed.2023.107706. PMID:37722458. IF:5,100 (Q1/3D). Document type: Article.
  - Sharif S, Meader N, Oddie SJ, Rojas MX, McGuire W. Probiotics to prevent necrotising enterocolitis in very preterm or very low birth weight infants. *Cochrane Database Of Systematic Reviews*. 2023; 2023(7):CD005496. DOI:10.1002/14651858.CD005496.pub6. PMID:37493095. Document type: Article.
  - Siebert M, Caquelin L, Madera M, Acosta R, Naudet F, Roqué M. Assessing the magnitude of changes from protocol to publication-a survey on Cochrane and non-Cochrane Systematic Reviews. *PeerJ*. 2023; 11:e16016. DOI:10.7717/peerj.16016. PMID:37810785. IF:2,700 (Q2/5D). Document type: Article.
  - Song Y, Puerta JB, Medina M, Canelo C, Valli C, Ballester M, Rocha C, García ML, Salas K, Kaloteraki C, Santero M, de Guzmán EN, Spoiala C, Gurung P, Willemen F, Cools I, Bleeker J, Poortvliet R, Laure T, van der Gaag M, Pacheco K, Zafra J, Mavridis D, Veroniki AA, Zevgiti S, Seitidis G, Alonso P, Groene O, González AI, Sunol R, Orrego C, Heijmans M. Self-Management Interventions for Adults Living with Type II Diabetes to Improve Patient-Important Outcomes: An Evidence Map. *Healthcare*. 2023; 11(24):3156. DOI:10.3390/healthcare11243156. PMID:38132046. IF:2,800 (Q2/5D). Document type: Review.
  - Steinberg J, Hughes S, Hui HR, Allsop MJ, Egger S, David M, Caruana M, Coxeter P, Carle C, Onyeka T, Rewais I, Iglesias MJM, Vives N, Wei FX, Abila DB, Carreras G, Santero M, O'Dowd EL, Lui GG, Tolani MA, Mullaoloo M, Lee SF, Landy R, Hanley SJB, Binefa G, Mcshane CM, Gizaw M, Selvamuthu P, Boukheris H, Nakaganda A, Ergin I, Moraes FY, Timilshina N, Kumar A, Vale DB, Molina A, Force LM, Campbell DJ, Wang YQ, Wan F, Baker AL, Singh R, Salam RA, Yuill S, Shah RC, Lansdorp I, Yusuf A, Aggarwal A, Murillo R, Torode JS, Kliewer EV, Bray F, Chan KKW, Peacock S, Hanna TP, Ginsburg O, Van M, Sullivan R, Roitberg F, Ilbawi AM, Soerjomataram I, Canfell K. Risk of COVID-19 death for people with a pre-existing cancer diagnosis before COVID-19-vaccination: A systematic review and meta-analysis. *INTERNATIONAL JOURNAL OF CANCER*. 2023; DOI:10.1002/ijc.34798. PMID:38083979. IF:6,400 (Q1/3D). Document type: Review.
  - Suclupe S, Efrain Pantoja Bustillos P, Bracchiglione J, Requeijo C, Salas K, Solà I, Merchán A, Uya J, Robleda G, Martinez MJ. Effectiveness of nonpharmacological interventions to prevent adverse events in the intensive care unit: A review of systematic reviews. *Australian Critical Care*. 2023; 36(5)DOI:10.1016/j.aucc.2022.11.003. PMID:36572576. IF:3,300 (Q1/2D). Document type: Review.
  - Sunol R, Gonzalez AI, Valli C, Ballester M, Seils L, Heijmans M, Poortvliet R, van der Gaag M, Rocha C, Leon M, Salas K, de Guzman EN, Kaloteraki C, Santero M, Spoiala C, Gurung P, Moadidine S, Wilemen F, Cools I, Bleeker J, Kancheva A, Ertl J, Laure T, Kancheva I, Veroniki AA, Zevgiti S, Beltran J, Canelo C, Zafra JH, Seitidis G, Mavridis D, Groene O, Alonso P, Orrego C, COMPAR C. Self-management interventions for adults living with obesity to improve patient-relevant outcomes: An evidence map. *PATIENT EDUCATION AND COUNSELING*. 2023; 110:107647. DOI:10.1016/j.pec.2023.107647. PMID:36739705. IF:3,500 (Q1/2D). Document type: Article.
  - Suzuki K, Teramoto A, Saez J, Nakakuki K, Bracchiglione J. Oral Health Interventions in Natural Disasters: A Scoping Review. *Disaster Medicine and Public Health Preparedness*. 2023; 17(12):e388. DOI:10.1017/dmp.2023.62. PMID:37157874. IF:2,700 (Q3/6D). Document type: Review.
  - Szigethy E, Dorantes R, Sugranes M, Madera M, Sola I, Urrútia G, Bonfill X. Frequency of anticancer drug use at the end of life: a scoping review. *Clinical & Translational Oncology*. 2023; DOI:10.1007/s12094-023-03234-1. PMID:37286888. IF:3,400 (Q3/6D). Document type: Review.



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- Tsokani S, Seitidis G, Christogiannis C, Kontouli KM, Nikolakopoulos S, Zevgiti S, Orrego C, Ballester M, Suñol R, Heijmans M, Poortvliet R, van der Gaag M, Alonso-Coello P, Canelo-Aybar C, Beltran J, González-González AI, de Graaf G, Veroniki AA, Mavridis D. Exploring the Effectiveness of Self-Management Interventions in Type 2 Diabetes: A Systematic Review and Network Meta-Analysis. *Healthcare*. 2023; 12(1):27. DOI:10.3390/healthcare12010027. PMID: 38200933. IF:2,800 (Q2/5D). Document type: Review.
- Valli C, Maraj M, Prokop A, Kaloteraki C, Steiner C, Rabassa M, Solà I, Zajac J, Johnston BC, Guyatt GH, Bala MM, Alonso P. People's Values and Preferences about Meat Consumption in View of the Potential Environmental Impacts of Meat: A Mixed-methods Systematic Review. *International Journal of Environmental Research and Public Health*. 2023; 20(1):286. DOI:10.3390/ijerph20010286. PMID:36612609. IF:4,614 (Q1/3D). Document type: Review.
- Vazquez JC, Antolin S, Ruiz M, Servitja S, Alba E, Barnadas A, Lluch A, Martin M, Rodríguez A, Sola I, Bonfill X, Urrutia G, Sánchez P. Dual neoadjuvant blockade plus chemotherapy versus monotherapy for the treatment of women with non-metastatic HER2-positive breast cancer: a systematic review and meta-analysis. *Clinical & Translational Oncology*. 2023; 25(4)DOI:10.1007/s12094-022-02998-2. PMID:36417083. IF:3,400 (Q3/6D). Document type: Review.
- Vazquez JC, Pinero A, de Castro FJ, Lluch A, Martin M, Barnadas A, Alba E, Rodríguez A, Rojo F, Gimenez J, Sola I, Quintana MJ, Bonfill X, Urrutia G, Sánchez P. The value of sentinel lymph-node biopsy in women with node-positive breast cancer at diagnosis and node-negative tumour after neoadjuvant therapy: a systematic review. *Clinical & Translational Oncology*. 2023; 25(2)DOI:10.1007/s12094-022-02953-1. PMID:36153763. IF:3,400 (Q3/6D). Document type: Review.
- Verdugo F, Bonfill X, Alonso P, Ávila C, Glick M, Carrasco A. How oral health care organizations formulate actionable statements to inform practice and policy: A protocol for a systematic survey. *F1000research*. 2023; 12DOI:10.12688/f1000research.141423.1. PMID:37981981. Document type: Article.
- Verdugo F, Bonfill X, Ortuño D, Glick M, Carrasco A. Policymakers' perceived barriers and facilitators in the use of research evidence in oral health policies and guidelines: a qualitative study protocol. *BMJ Open*. 2023; 13(2):e066048. DOI:10.1136/bmjopen-2022-066048. PMID:36828656. IF:2,900 (Q2/5D). Document type: Article.
- Vicente S, Robleda G, Gich I, Nolla T, Ponce J, Verd S, Ginovart G. Physiological responses and behavioural organization of very low birth weight infants during swaddled versus traditional weighing. *Nursing Open*. 2023; 10(10)DOI:10.1002/nop2.1943. PMID:37458256. IF:2,300 (Q2/4D). Document type: Article.
- Viegas R, da FA, Mendes R, Alves MD, Mcintosh E, Sansano O, Magaña JC, Rothenbacher D, Denking M, Caserotti P, Tully MA, Roqué M, Giné M. Relationship of the SITLESS intervention on medication use in community-dwelling older adults: an exploratory study. *Frontiers in Public Health*. 2023; 11:1238842. DOI:10.3389/fpubh.2023.1238842. PMID:38035303. IF:5,200 (Q1/2D). Document type: Article.
- Xie F, Shemilt I, Vale L, Ruiz F, Drummond MF, Lord J, Herrmann KH, Rojas MX, Zhang Y, Canelo C, Alonso P, Shamliyan T, Schünemann HJ. GRADE guidance 23: considering cost-effectiveness evidence in moving from evidence to health-related recommendations. *JOURNAL OF CLINICAL EPIDEMIOLOGY*. 2023; 162DOI:10.1016/j.jclinepi.2023.08.001. PMID:37597696. IF:7,200 (Q1/1D). Document type: Article.

## Evaluation of Public Health Policies and Programmes

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### DESCRIPTION

The main objective of our group is to advance in the research related to the evaluation of policies, programs, and other interventions in public health. We promote high-quality research, internationalization, and knowledge transfer to the scientific community, and citizens. We generate evidence on the effectiveness and impact of public policies, plans, or interventions (tobacco control law, mental health plan, urbanistic interventions) that may affect population health. We promote the development and application of innovative methodologies to evaluation with an equity and gender perspective.

### MAIN LINES OF RESEARCH

- Monitoring of behaviors and other health risk factors such as environmental exposure (FRESC survey and monitorization of second-hand smoke).
- Evaluation of public health policies and Action Plans (Tobacco control Law, Barcelona mental health action plan, housing with services, and transformation of schoolyards in Barcelona).
- Evaluation of public health programs and services (school-based prevention programmes, community-based interventions, breast cancer screening programs).

### SCIENTIFIC CHALLENGES

- To promote research into the evaluation of policies and programs.
- To support the debate on conceptual and methodological aspects of the impact evaluation of interventions on population health.
- To consolidate the group's research, foster-



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ring less developed aspects such as economic evaluation and evaluation of health protection interventions.

- To develop a theoretical corpus of concepts, principles, methods, and examples that contribute to filling the gap in undergraduate and postgraduate teaching regarding the design and evaluation of public policies, plans, and other interventions.
- To promote impact evaluation of policies, plans, and other interventions with an equity and gender perspective.

#### ACTIVE GRANTS

- López Medina, Maria Jose. Desigualtats socials en salut en la població infantil a Catalunya. DI-61 AGAUR. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2019-2023. 33.960,31 €.

#### DOCTORAL THESES DEFENDED

- Bartroli Checa, Montse. Disseny i avaluació d'un programa escolar d'educació emocional per a infants de 3 a 5 anys. 28/03/2023. Universitat Pompeu Fabra. Supervisors: Espelt Hernández, Albert; Bosque Prous, Marina. <http://hdl.handle.net/10803/688066>.

#### SCIENTIFIC PRODUCTION

- Amalia B, Fu M, Tigova O, Ballbè M, Paniello B, Castellano Y, Vyzikidou VK, O'Donnell R, Dobson R, Lugo A, Veronese C, Pérez R, Pascual JA, Cortés N, Gil F, Olmedo P, Soriano JB, Boffi R, Ruprecht A, Ancochea J, López MJ, Gallus S, Vardavas C, Semple S, Fernández E, the TackSHS Project I. Exposure to secondhand aerosol from electronic cigarettes at homes: A real-life study in four European countries. *SCIENCE OF THE TOTAL ENVIRONMENT*. 2023; 854:158668. DOI:10.1016/j.scitotenv.2022.158668. PMID:36099951. IF:9,800 (Q1/1D). Document type: Article.
- Arroyo P, Forcadell L, Abiétar DG, Juárez O, Sánchez F, López MJ, Vives C, Barbero BS, Pérez V, Albaladejo N, Perez G. Risk Factors For Cyberbullying Among Secondary Students in Urban Settings in Spain: A Cross-Sectional Study. *Journal Of Technology In Behavioral Science*. 2023. DOI:10.1007/s41347-023-00349-8. Document type: Article.
- Bach P, Corominas L, Grau M, Alsedà M, Álvarez J, Barrabeig I, Belver AI, Camps N, Minguell S, Carol M, Godoy P, Izquierdo C, Jané M, Martínez A, Parrón I, Pérez C, Rovira A, Sabaté M, Sala MR, Torner N, Vileu RM, de Andrés A, de Benito J, Camprubí E, Cunillé M, Fornis ML, Moreno A, Razquín E, Rius C, Sabaté S, de Simón M, Rodríguez V, Bartolomé R, Cornejo T, Guix S, Coronas L, Domínguez À, Soldevila N. Two successive outbreaks of acute gastroenteritis due to norovirus GII.6 in a holiday camp house. *Scientific Reports*. 2023; 13(1):15558. DOI:10.1038/s41598-023-42622-z. PMID:37730810. IF:4,600 (Q2/4D). Document type: Article.
- Bartroli M, Clotas C, Bosque M, Espelt A. Short report: Effectiveness of a universal preschool-based program for emotional education in 3-to 5-year-old children with autism spectrum conditions. *AUTISM*. 2023; :13623613231217058. DOI:10.1177/13623613231217058. PMID:38084746. IF:5,200 (Q1/2D). Document type: Article.
- Borrell C, Palència L, Marí M, Bartoll X, Gotsens M, Pasarín MI, Artazcoz L, Rodríguez M, López MJ, Pérez K. A City Surveillance System for Social Health Inequalities: The Case of Barcelona. *International Journal of Environmental Research and Public Health*. 2023; 20(4):3536. DOI:10.3390/ijerph20043536. PMID:36834231. IF:4,614 (Q1/3D). Document type: Article.
- Bosque L, Carrilero N, García A, López G, Siciliani L. Socioeconomic inequalities in waiting times for planned and cancer surgery: Evidence from Spain. *HEALTH ECONOMICS*. 2023; 32(5) DOI:10.1002/hec.4661. PMID:36772982. IF:2,100 (Q3/6D). Document type: Article.
- Canto MV, Guxens M, García A, López MJ, Marí M, García J, Ramis R. Air Pollution and Birth Outcomes: Health Impact and Economic Value Assessment in Spain. *International Journal of Environmental Research and Public Health*. 2023; 20(3):2290. DOI:10.3390/ijerph20032290. PMID:36767658. IF:4,614 (Q1/3D). Document type: Article.
- Carrilero N, Pérez V, Guilabert M, García A. Gender bias in pediatric care: Health professionals' opinions and perceptions. *Health Science Re-*



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- ports. 2023; 6(10):e1615. DOI:10.1002/hsr2.1615. PMID:37885465. Document type: Article.
- Cogollos R, Alvarez A, Domínguez F, Espelt A, Fuentes L, Puigpinós R. Social inequalities in the use of physiotherapy in women diagnosed with breast cancer in Barcelona: DAMA cohort. BREAST CANCER RESEARCH AND TREATMENT. 2023; DOI:10.1007/s10549-023-07191-9. PMID:38155271. IF:3,800 (Q2/5D). Document type: Article.
  - Continente X, Henderson E, López L, Fernández E, Tigova O, Semple S, O'Donnell R, Navas A, Cortés N, Ramírez N, Dobson R, López MJ, Castellano Y, Fu M, Ballbè M, Amalia B, Arechavala T, Gallus S, Lugo A, Liu X, Borroni E, Stival C, Colombo P, Clancy L, Keogan S, Byrne H, Behrakis P, Tzortzi A, Vardavas C, Vyzikidou VK, Bakelas G, Mattiampa G, Boffi R, Ruprecht A, De Marco C, Borgini A, Veronese C, Bertoldi M, Tittarelli A, Gorini G, Carreras G, Cortini B, Verdi S, Lachi A, Chellini E, López Á, Trapero M, Celdrán D, Radu C, Nguyen D, Starchenko P, Soriano JB, Ancochea J, Alonso T, Pastor MT, Erro M, Roca A, Pérez P, Castillo EG, TackSHS I. Exposure to secondhand and thirdhand smoke in private vehicles: Measurements in air and dust samples. ENVIRONMENTAL RESEARCH. 2023; 235:116681. DOI:10.1016/j.envres.2023.116681. PMID:37474087. IF:8,300 (Q1/1D). Document type: Article.
  - Cornejo T, Soldevila N, Coronas L, Alsedà M, Godoy P, Razquín E, Sabaté S, Guix S, Rodríguez V, Bartolomé R, Domínguez A, Álvarez J, Belver AI, Camps N, Minguell S, Carol M, Izquierdo C, Parrón I, Pérez C, Rovira A, Sabaté M, Sala MR, Vileu RM, Barrabeig I, Jané M, Martínez A, Torner N, de Benito J, Moreno A, Rius C, de Andrés A, Camprubí E, Cunillé M, Forn ML, de Simón M, the Working Group for the Study of Outbreaks of Acute Gastroenteritis in C. Epidemiology of GII.4 and GII.2 norovirus outbreaks in closed and semi-closed institutions in 2017 and 2018. Scientific Reports. 2023; 13(1):1659. DOI:10.1038/s41598-023-28448-9. PMID:36717621. IF:4,600 (Q2/4D). Document type: Article.
  - Forcadell L, Martinez OJ, Abiétar DG, López MJ, Sánchez F, Perez G. Healthy and Equitable Interpersonal Relationships, Health Inequalities and Socio-Educational Interventions: A Conceptual Framework for Action. JOURNAL OF SCHOOL HEALTH. 2023; 93(6)DOI:10.1111/josh.13318. PMID:36917972. IF:2,200 (Q3/6D). Document type: Article.
  - Gallus S, Lugo A, Stival C, Cerrai S, Clancy L, Filippidis FT, Gorini G, López MJ, López Á, Molinaro S, Odone A, Soriano JB, Tigova O, van den Brandt PA, Vardavas CI, Fernández E, the TackSHS Project I. Electronic Cigarette Use in 12 European Countries: Results From the TackSHS Survey. JOURNAL OF EPIDEMIOLOGY. 2023; 33(6) DOI:10.2188/jea.JE20210329. PMID:34776500. IF:4,700 (Q2/3D). Document type: Article.
  - Gonzalez H, Vives J, Bosque M, Folch C, Drou G, Muntaner C, Vives C, Barbaglia MG, Colom J, Espelt A. Gender inequalities in the prevalence of low mood and related factors in schooled adolescents during the 2019-2020 school year: DESK-cohort project. JOURNAL OF AFFECTIVE DISORDERS. 2023; 333DOI:10.1016/j.jad.2023.04.058. PMID:37084966. IF:6,600 (Q1/2D). Document type: Article.
  - Henderson E, Rodríguez LA, Continente X, Fernández E, Tigova O, Cortés N, Semple S, Dobson R, Tzortzi A, Gorini G, Geshanova G, Mons U, Przewozniak K, Precioso J, Brad R, Castellano Y, Fu M, Ballbè M, Amalia B, López MJ, Arechavala T, Gallus S, Lugo A, Liu X, Borroni E, Colombo P, O'Donnell R, Clancy L, Keogan S, Byrne H, Behrakis P, Vardavas C, Vyzikidou VK, Bakelas G, Mattiampa G, Boffi R, Ruprecht A, De Marco C, Borgini A, Veronese C, Bertoldi M, Tittarelli A, Carreras G, Cortini B, Verdi S, Lachi A, Chellini E, Nicolás ÁL, Trapero M, Guerrero DC, Radu C, Nguyen D, Starchenko P, Soriano JB, Ancochea J, Alonso T, Pastor MT, Erro M, Roca A, Pérez P, Castillo EG, the TackSHS project I. Measurement of airborne nicotine, as a marker of secondhand smoke exposure, in homes with residents who smoke in 9 European countries. ENVIRONMENTAL RESEARCH. 2023; 219:115118. DOI:10.1016/j.envres.2022.115118. PMID:36566961. IF:8,300 (Q1/1D). Document type: Article.
  - Jufresa E, Carrilero N, García A. The influence of general practitioner and patient sex on the treatment of major depression. Frontiers in Pharmacology. 2023; 14:1274774. DOI:10.3389/



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- fphar.2023.1274774. PMID:38027028. IF:5,600 (Q1/2D). Document type: Article.
- Keogan S, Alonso T, Sunday S, Hanafin J, Tigova O, Fernández E, López MJ, Gallus S, Semple S, Tzortzi A, Boffi R, Gorini G, López A, Arvind DK, Radu C, Soriano JB, Clancy L. Particle Exposure Hazards of Visiting Outdoor Smoking Areas for Patients with Asthma or COPD Even in EU Countries with Comprehensive Smokefree Laws. *International Journal of Environmental Research and Public Health*. 2023; 20(11):5978. DOI:10.3390/ijerph20115978. PMID:37297582. IF:4,614 (Q1/3D). Document type: Article.
  - Londono C, Serral G, Díez J, Martínez A, Franco M, Artazcoz L, Ariza C. Retail Food Environment around Schools in Barcelona by Neighborhood Socioeconomic Status: Implications for Local Food Policy. *International Journal of Environmental Research and Public Health*. 2023; 20(1):649. DOI:10.3390/ijerph20010649. PMID:36612971. IF:4,614 (Q1/3D). Document type: Article.
  - Madrona R, Sanz B, Perez V, Abietar DG, Sánchez F, Forcadell L, Perez G, Vives C. Sexism and intimate partner violence in adolescents. *Gaceta Sanitaria*. 2023; 37:2221. DOI:10.1016/j.gaceta.2022.02.0070213-9111. PMID:36113323. IF:1,900 (Q3/8D). Document type: Article.
  - Maynou L, Street A, García A. Living longer in declining health: Factors driving healthcare costs among older people. *SOCIAL SCIENCE & MEDICINE*. 2023; 327:115955. DOI:10.1016/j.socscimed.2023.115955. PMID:37196394. IF:5,400 (Q1/1D). Document type: Article.
  - Olivella M, García X, Checa MB, Cano GS, Albarracín GP. The problematic use of the mobile phone: cross-sectional analysis of the individual profile and associated factors. *Revista Española de Salud Pública*. 2023; 97:e202305036. IF:1,100 (Q4/10D). Document type: Article.
  - Pérez G, Bartroli M, Pasarín MI, Artazcoz L, Juárez O. Strategy for the promotion of equitable and healthy relationships in educational centers in Barcelona. *Gaceta Sanitaria*. 2023; 37:102286. DOI:10.1016/j.gaceta.2022.102286. PMID:36645958. IF:1,900 (Q3/8D). Document type: Article.
  - Pérez K, Santamariña E, Ferrando J, López MJ, Badiella L. Effectiveness of a Road Traffic Injury Prevention Intervention in Reducing Pedestrian Injuries, Barcelona, Spain, 2002–2019. *AMERICAN JOURNAL OF PUBLIC HEALTH*. 2023; 113(5) DOI:10.2105/AJPH.2022.307216. PMID:36821808. IF:12,700 (Q1/1D). Document type: Article.
  - Perez M, López DC, Guerra C, Rey J, Varela L, Santiago MI, Candal C, Montes A, López MJ, Dalmau R, Provencio M, Fernández E, Blanco A, Ruano A. Original Mortality Attributable to Environmental Tobacco Smoke Exposure in Spain in 2020. *ARCHIVOS DE BRONCONEUMOLOGIA*. 2023; 59(5) DOI:10.1016/j.arbres.2023.02.017. PMID:36967344. IF:8,000 (Q1/2D). Document type: Article.
  - Prieto R, Millet JP, Palma D, Barbaglia MG, Gibert CR, Barcelona CAS Working G. Latent Tuberculosis Infection in Users of Drug Dependence Care and Follow-up Centers in Barcelona in 2017–2021: A Cross-sectional Descriptive Study. *Open Respiratory Archives*. 2023; 5(3):100257. DOI:10.1016/j.opresp.2023.100257. PMID:37599795. Document type: Article.
  - Ramos P, Font M, Juárez O, Sánchez F, Manera M, Blanquer M. ¿Influyen los determinantes socioeconómicos en la oferta de los menús escolares?. *Nutrición Hospitalaria*. 2023; 40(4) DOI:10.20960/nh.04529. PMID:37409719. IF:1,200 (Q4/9D). Document type: Article.
  - San Pio MJ, Clotas C, Espelt A, López MJ, Bosque M, Juárez O, Bartroli M. Effectiveness of a preschool emotional education program administered over 3 grades: a cluster randomized controlled trial. *PUBLIC HEALTH*. 2023; 218 DOI:10.1016/j.puhe.2023.01.011. PMID:36965464. IF:5,200 (Q1/2D). Document type: Article.
  - Sánchez N, Barbaglia MG, Olivella M, Marcos NG, Gotsens M, Albaina AG, Rius C, Bartroli M, Pérez G. Community outbreak of COVID-19 among people who use drugs attending a harm reduction centre in Barcelona, Spain. *Harm Reduction Journal*. 2023; 20(1):74. DOI:10.1186/s12954-023-00804-y. PMID:37316829. IF:4,400 (Q1/2D). Document type: Article.
  - Sancho O, Clotas C, Bartroli M. Marco conceptual del juego de apuestas y sus daños asociados. *Revista Española de Salud Pública*. 2023; 97:e202312107. IF:1,100 (Q4/10D). Document type: Article.





## 5.1.4 Epidemiology, Public Health And Primary Care Area

- Valmayor S, González K, López MJ, Lacera P, Giménez P, Rumín A, Pasarín MI, Henderson E, Díez E. Evaluation of a smoke-free beaches intervention in Barcelona: a quasi-experimental study. *TOBACCO CONTROL*. 2023; :tc-2022-057873. DOI:10.1136/tc-2022-057873. PMID:37402576. IF:5,200 (Q1/2D). Document type: Article.
- Vázquez N, Continente X, Bartroli M, Juárez O, Muñoz L, Sánchez F, Pérez A, Ariza C, Reptes I. Fidelity of implementation of Reptes, an alcohol and cannabis selective prevention program for youngsters. *Gaceta Sanitaria*. 2023; 37:102323. DOI:10.1016/j.gaceta.2023.102323. PMID:37598579. IF:1,900 (Q3/8D). Document type: Article.
- Wiessing L, Banka P, Barbaglia MG, Belackova V, Belbaisi S, Blanken P, Carrieri P, Comiskey C, Dacosta D, Dom G, Fabricius V, Faria H, Ignjatova L, Inic N, Jacobsen B, Javakhishvili JD, Kamendy Z, Kapitany M, Kiss A, Kyprianou E, Marchand K, Millar T, Mravcik V, Mustafa NJY, Nordt C, Partanen M, Pedersen MU, Putkonen H, Razmadze M, Roux P, Schulte B, Seabra P, Sordo L, Strada L, Subata E, Thoma E, Torrens M, Walley AY, Yiasemi I. Opioid Agonist Maintenance Treatment Outcomes-The OPTIMUS International Consensus Towards Evidence-Based and Patient-Centred Care, an Interim Report. *International Journal of Mental Health and Addiction*. 2023; DOI:10.1007/s11469-023-01213-9. IF:8,000 (Q1/1D). Document type: Article.
- Xavier C-B, Guille P, Gemma S, Esther S-L, Angel M-H, Asun P-B. Understanding the relationship between gender and mental health in adolescence: the Gender Adherence Index (GAI). *EUROPEAN CHILD & ADOLESCENT PSYCHIATRY*. 2023; DOI:10.1007/s00787-023-02150-7. PMID:36763181. IF:6,400 (Q1/1D). Document type: Article.

## Urban Health Inequalities

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### DESCRIPTION

The GIUH is a consolidated group of researchers, with extensive expertise in collective health, social determinants of health, and environmental health/urban planning/housing, and with a long itinerary in research through national and international groups. The main objectives of the group are to deepen the knowledge of health and the determinants of health in urban areas, as well as to analyze their unequal distribution in population groups. In addition, it seeks to assess the impact of policies aimed at reducing health inequalities. Thus, the group's activity is located in the field of social and environmental epidemiology, where it works to make visible both inequalities and their causes in the formulation of inequitable policies, looking for points of intervention for action.

### MAIN LINES OF RESEARCH

- Health effects and its determinants of different environmental factors such as air pollution, environmental noise, or climate change, as well as other characteristics of the urban environment. Dr. Laia Font, Marc Marí.
- The relationship between housing and health, such as the mechanisms and mediators between residential insecurity, energy poverty, and health, and evaluate housing policies, such as cooperatives in cession of use. Dr. Ana Novoa, Dr. Juli Carrere.
- Evaluation of health impacts of urban planning policies and other policies aimed at reducing air pollution and environmental noise (e.g. Eixos Verds, Protegim les escoles), including road sa-



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fety, as well as policies for mitigating and adapting to climate change (e.g. climate shelters). Dr. Catherine Pérez, Dr. Anna Gómez.

- Evaluation of programs to promote equitable and healthy relationships on the reduction of gender violence and on improving the health of children, adolescents, and young people in schools from an intersectional perspective. Dr. Glòria Pérez, Dr. Olga Juárez.
- Inequality in the field of prevention (vaccines, early detection, etc.) and the promotion of health and well-being, and to develop and evaluate interventions aimed at preventing, and mitigating them. Dr. Èlia Díez.
- Evaluation of programs of community health implemented at neighborhood level (within the framework of Barcelona Salut als Barris) aimed at reducing social inequalities in health and analyzing the mechanisms that influence the effectiveness of the programmes. Dr. Maribel Pasarin, Dr. Ferran Daban.
- Health effects of determinants to safe, healthy, and sustainable eating, and evaluate the results, consistency, and effectiveness of control and surveillance programs and interventions related to food and marketing, production, and consumption environments. Dr. Maica Rodríguez, Samuel Portaña.
- Relationship between working conditions and health, including lack of access to work, job insecurity, or involuntary reduced working hours, and time poverty, among other situations. This line includes both paid work and unpaid domestic and care work Dr. Imma Cortés, Dr. Lucía Artazcoz.
- Some areas that are cross sectional to all areas such as social inequalities in health according to the different axes of inequality. It is the line with the longest trajectory, with the group having extensive experience in the in-depth study of health inequalities according to gender, social class, territory, age, and ethnicity, as well as the effect of the intersection between the different axes. It highlights the activity in deepening the social construction of social class, its measurement, and its impact on health and health inequalities. It also includes extensive experience in gender inequalities in health and their intersection with social class. Dr. Borrell, Dr. Lucía Artazcoz.

#### SCIENTIFIC CHALLENGES

- Understanding and addressing health inequalities. The persistence of health inequalities based on various socio-demographic factors presents a scientific challenge. Effective interventions hinge upon a comprehensive understanding of the intricate interplay between social determinants of health and health outcomes.
- Harnessing digitalization, data accessibility, and big data analytics. The scientific community faces the challenge of leveraging digitalization and accessing vast datasets for meaningful analysis. Overcoming barriers to data accessibility, along with the development of sophisticated analytical tools, is imperative for extracting actionable insights from the increasing volume of health data.
- Promoting multi-disciplinary collaboration in public health research. The complexity of public health issues necessitates interdisciplinary collaboration to elucidate multifaceted challenges. Bridging disciplinary divides and fostering collaboration across research groups are critical scientific endeavors for addressing the intricacies of public health challenges effectively.
- Translating research findings into practical solutions. One of the foremost scientific challenges in public health research is the translation of empirical findings into tangible and effective interventions and policies. Bridging the gap between research and practice demands innovative strategies and robust implementation frameworks to ensure the seamless integration of evidence-based solutions into real-world settings.
- To develop protein nanopharmaceuticals for the activation of the immune system against cancer as a more effective nano-immuno-oncology approach more than current treatments.

#### ACTIVE GRANTS

- Díez David, Èlia. Efectividad de una intervención sobre la retención vacunal entre las enfermeras pediátricas y los pediatras: Un estudio de metodología mixta. PI21/01710. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 141.570,00 €.
- Novoa Pardo, Ana. Impacto en salud y bienestar de la vivienda cooperativa en cesión de uso.



#### 5.1.4 Epidemiology, Public Health And Primary Care Area

PI18/01761. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 75.020,00 €.

- Perez Gonzalez, Catherine. Injury Surveillance System. Partnership for Healthy Cities. Non-competitive. Duration: 2022-2023. 38.800,00 €.

#### GRANTS AWARDED

- Novoa Pardo, Ana & Perez Gonzalez, Catherine. INSeguridad residencial e infancia: impacto en salud y propuesta de abordajes para la Protección y empoderamiento de la infancia afectada (INSPIRA). PI23/01634. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 140.000,00 €.
- Juarez Martinez, Olga & Perez Albarracin, Gloria. Evaluación de una estrategia de promoción de relaciones saludables i equitativas en el contexto escolar). PI23/01636. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 50.000,00 €.

#### DOCTORAL THESES DEFENDED

- Forcadell i Díez, Lluís. Saludables i equitatives: disseny i avaluació d'intervencions socioeducatives de promoció de les relacions saludables i equitatives en contextos d'educació formal. 21/12/2023. Universitat Pompeu Fabra. Supervisors: Pérez Albarracín, Glòria; Juárez Martínez, Olga. <http://hdl.handle.net/10803/689857>.

#### SCIENTIFIC PRODUCTION

- Arroyo P, Forcadell L, Abiétar DG, Juarez O, Sánchez F, López MJ, Vives C, Barbero BS, Pérez V, Albaladejo N, Perez G. Risk Factors For Cyberbullying Among Secondary Students in Urban Settings in Spain: A Cross-Sectional Study. *Journal Of Technology In Behavioral Science*. 2023. DOI:10.1007/s41347-023-00349-8. Document type: Article.
- Arias de la Torre J, Vilagut G, Ronaldson A, Valderas JM, Bakolis I, Dregan A, Molina AJ, Navarro F, Perez K, Bartoll X, Elices M, Perez V, Serrano A, Martin V, Alonso J. Reliability and cross-country equivalence of the 8-item version of the Patient Health Questionnaire (PHQ-8) for the assessment of depression: results from 27 countries in Europe. *Lancet Regional Health-Europe*. 2023; 31:100659. DOI:10.1016/j.lanep.2023.100659. PMID:37332385. Document type: Article.

- Arias de la Torre J, Vilagut G, Ronaldson A, Bakolis I, Dregan A, Navarro-Mateu F, Pérez K, Szücs A, Bartoll-Roca X, Molina AJ, Elices M, Pérez-Solá V, Martín V, Serrano-Blanco A, Valderas JM, Alonso J. Reconsidering the Use of Population Health Surveys for Monitoring of Mental Health. *JMIR Public Health Surveill*. 2023; 9:e48138. DOI:10.2196/48138. PMID: 37995112. IF:8,500 (Q1/1D). Document type: Article.
- Bartoll X, Palència L, Calvo MJ, Pérez K. Tendencias y desigualdades en la esperanza de vida (en buena salud) por barrios durante la epidemia de COVID-19 en Barcelona. *Gaceta Sanitaria*. 2023; 37:102267. DOI:10.1016/j.gaceta.2022.102267. PMID:36347169. IF:1,900 (Q3/8D). Document type: Article.
- Benavides FG, Borrell C. The need for university links for public health professionals. *Gaceta Sanitaria*. 2023; 37:102308. DOI:10.1016/j.gaceta.2023.102308. PMID:37285740. IF:1,900 (Q3/8D). Document type: Article.
- Benitez D, González P, Gómez A, Marí M, Oliveras L. Association of drought conditions and heavy rainfalls with the quality of drinking water in Barcelona (2010-2022). *Journal of Exposure Science and Environmental Epidemiology*. 2023; DOI:10.1038/s41370-023-00611-4. PMID:38030824. IF:4,500 (Q1/2D). Document type: Article.
- Borrell C, Palència L, Marí M, Bartoll X, Gotsens M, Pasarín MI, Artazcoz L, Rodríguez M, López MJ, Pérez K. A City Surveillance System for Social Health Inequalities: The Case of Barcelona. *International Journal of Environmental Research and Public Health*. 2023; 20(4):3536. DOI:10.3390/ijerph20043536. PMID:36834231. IF:4,614 (Q1/3D). Document type: Article.
- Borrell C. Health inequalities in *Gaceta Sanitaria*, from 1988 to 2022. *Gaceta Sanitaria*. 2023; 37:102291. DOI:10.1016/j.gaceta.2023.102291. PMID:36806941. IF:1,900 (Q3/8D). Document type: Editorial Material.
- Canto MV, Guxens M, García A, López MJ, Marí M, García J, Ramis R. Air Pollution and Birth Outcomes: Health Impact and Economic Value Assessment in Spain. *International Journal of Environmental Research and Public Health*.



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- 2023; 20(3):2290. DOI:10.3390/ijerph20032290. PMID:36767658. IF:4,614 (Q1/3D). Document type: Article.
- Continente X, Henderson E, López L, Fernández E, Tigova O, Semple S, O'Donnell R, Navas A, Cortés N, Ramírez N, Dobson R, López MJ, Castellano Y, Fu M, Ballbè M, Amalia B, Arechavala T, Gallus S, Lugo A, Liu X, Borroni E, Stival C, Colombo P, Clancy L, Keogan S, Byrne H, Behrakis P, Tzortzi A, Vardavas C, Vyzikidou VK, Bakelas G, Mattiampa G, Boffi R, Ruprecht A, De Marco C, Borgini A, Veronese C, Bertoldi M, Tittarelli A, Gorini G, Carreras G, Cortini B, Verdi S, Lachi A, Chellini E, López Á, Trapero M, Celdrán D, Radu C, Nguyen D, Starchenko P, Soriano JB, Ancochea J, Alonso T, Pastor MT, Erro M, Roca A, Pérez P, Castillo EG, TackSHS I. Exposure to secondhand and thirdhand smoke in private vehicles: Measurements in air and dust samples. ENVIRONMENTAL RESEARCH. 2023; 235:116681. DOI:10.1016/j.envres.2023.116681. PMID:37474087. IF:8,300 (Q1/1D). Document type: Article.
  - Daniel G Abiétar, Francesca Sánchez-Martínez, Olga Juárez, Sara Trujillo-Alemán, Lluís Forcadell-Díez, Carmen Vives-Cases, Belén Sanz-Barbero, Vanesa Pérez-Martínez, María José López, Maria del Carmen Davó-Blanes y Glòria Pérez. El efecto del capital social en la violencia en la pareja adolescente desde una perspectiva de interseccionalidad. Journal of Feminist, Gender and Women Studies. 2023; (14):16-38. DOI:10.15366/jfgws2023.14.002. Document type: Article.
  - Díez J, Taulet G, Fontán M, González Y, Cereijo L, Sandín M, Rodríguez E, Franco M, Borrell C, Bilal U, Gullón P. Trends and determinants of social inequities in cardiovascular risk factors in Spain: a mixed-methods study. Gaceta Sanitaria. 2023; 37:102298. DOI:10.1016/j.gaceta.2023.102298. PMID:37004266. IF:1,900 (Q3/8D). Document type: Article.
  - Fernández S, Perez G, Piñero M, Reyes A, Pérez K, Artazcoz L, Borrell C. Effect of COVID-19 prevention as part of an urban renewal programme. PUBLIC HEALTH. 2023; 223DOI:10.1016/j.puhe.2023.07.014. PMID:37666182. IF:5,200 (Q1/2D). Document type: Article.
  - Font L, Rico M, Marí M, Oliveras L, Trapero M, Pérez G, Valero N, Bartoll X, Realp E, Gómez A. Estimating ambient air pollution mortality and disease burden and its economic cost in Barcelona. ENVIRONMENTAL RESEARCH. 2023; 216(Pt 1):114485. DOI:10.1016/j.envres.2022.114485. PMID:36206924. IF:8,300 (Q1/1D). Document type: Article.
  - Forcadell L, Bosch M, Espinel V, Abietar DG, Puig V, Martinez OJ, Perez G. An evaluation of teacher training to promote healthy and equitable relationships: transforming or reproducing?. Gaceta Sanitaria. 2023; 37:102338. DOI:10.1016/j.gaceta.2023.102338. PMID:38006665. IF:1,900 (Q3/8D). Document type: Article.
  - Forcadell L, Martinez OJ, Abiétar DG, López MJ, Sánchez F, Perez G. Healthy and Equitable Interpersonal Relationships, Health Inequalities and Socio-Educational Interventions: A Conceptual Framework for Action. JOURNAL OF SCHOOL HEALTH. 2023; 93(6)DOI:10.1111/josh.13318. PMID:36917972. IF:2,200 (Q3/6D). Document type: Article.
  - Forcadell L, Rius C, Salobral R, Sánchez N, Mendiorez J, Godoy P, Jarque EB, Ferrandiz D, Cervera DM, Suriñach BJ, Vilalta A, Guadalupe V, Basilio JM, Tapiol SF, Pérez G. A large outbreak of COVID-19 linked to an end of term trip to Menorca (Spain) by secondary school students in summer 2021. PLoS One. 2023; 18(2):e0280614. DOI:10.1371/journal.pone.0280614. PMID:36735702. IF:3,700 (Q2/4D). Document type: Article.
  - Forcadell L, Sánchez N, Piñero M, Pila M, Reyes A, Salobral R, Olivella M, Fernández S, Pérez G. Germina: herramienta para la detección automática de agrupaciones de casos de COVID-19. Gaceta Sanitaria. 2023; 37:102321. DOI:10.1016/j.gaceta.2023.102321. PMID:37696159. IF:1,900 (Q3/8D). Document type: Note.
  - Gonzalez-Marin P, Vazquez-Vera H, López-Gay A, Peralta A, Solana-Solana M, Fernández A. Gentrification and its association with health inequalities in Barcelona (2011–2017). Frontiers in Environmental Health. 2023; (2). DOI:10.3389/fenvh.2023.1202149. Document type: Article.
  - Grau E, Suppi R, Rodríguez M, Serratosa J, Bolao A, Lundén J, Hau P, Melo de Vasconcelos



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- F, Åberg R, Blomgren C, Lambert M, Leppik K, Vågsholm I, Kautto AH, Lueckl J, Abeln S, Kamphausen R, Bammens E, Georgiades F, Altenburgs J, Portaña S. Digitalization and official food safety inspections at retail establishments. *FOOD CONTROL*. 2023; 154:109950. DOI:10.1016/j.foodcont.2023.109950. IF:6,000 (Q1/2D). Document type: Article.
- Henderson E, Rodríguez LA, Continente X, Fernández E, Tigova O, Cortés N, Semple S, Dobson R, Tzortzi A, Gorini G, Geshanova G, Mons U, Przewozniak K, Precioso J, Brad R, Castellano Y, Fu M, Ballbè M, Amalia B, López MJ, Arechavala T, Gallus S, Lugo A, Liu X, Borroni E, Colombo P, O'Donnell R, Clancy L, Keogan S, Byrne H, Behrakis P, Vardavas C, Vyzikidou VK, Bakelas G, Mattiampa G, Boffi R, Ruprecht A, De Marco C, Borgini A, Veronese C, Bertoldi M, Tittarelli A, Carreras G, Cortini B, Verdi S, Lachi A, Chellini E, Nicolás ÁL, Trapero M, Guerrero DC, Radu C, Nguyen D, Starchenko P, Soriano JB, Ancochea J, Alonso T, Pastor MT, Erro M, Roca A, Pérez P, Castillo EG, the TackSHS project I. Measurement of airborne nicotine, as a marker of secondhand smoke exposure, in homes with residents who smoke in 9 European countries. *ENVIRONMENTAL RESEARCH*. 2023; 219:115118. DOI:10.1016/j.envres.2022.115118. PMID:36566961. IF:8,300 (Q1/1D). Document type: Article.
  - Londono C, Serral G, Díez J, Martínez A, Franco M, Artazcoz L, Ariza C. Retail Food Environment around Schools in Barcelona by Neighborhood Socioeconomic Status: Implications for Local Food Policy. *International Journal of Environmental Research and Public Health*. 2023; 20(1):649. DOI:10.3390/ijerph20010649. PMID:36612971. IF:4,614 (Q1/3D). Document type: Article.
  - López N, Puig V, Vives A, Olave P, Gotsens M. Social inequalities in self-perceived health in Chile, does the urban environment matter?: a cross-sectional study. *Archives of Public Health*. 2023; 81(1):128. DOI:10.1186/s13690-023-01136-w. PMID:37420299. IF:3,300 (Q2/5D). Document type: Article.
  - Madrona R, Sanz B, Perez V, Abietar DG, Sánchez F, Forcadell L, Perez G, Vives C. Sexism and intimate partner violence in adolescents. *Gaceta Sanitaria*. 2023; 37:2221. DOI:10.1016/j.gaceta.2022.02.0070213-9111. PMID:36113323. IF:1,900 (Q3/8D). Document type: Article.
  - Martínez MA, Mari M, Sánchez N, Rodríguez M, Perez G, Pasarin MI, Rius C, Artazcoz L, Prieto R, Perez K, Borrell C. Socioeconomic inequalities in COVID-19 incidence during the first six waves in Barcelona. *INTERNATIONAL JOURNAL OF EPIDEMIOLOGY*. 2023; DOI:10.1093/ije/dyad105. PMID:37494962. IF:7,700 (Q1/1D). Document type: Article.
  - Olivella M, García X, Bartroli M, Serral G, Pérez G. El uso problemático del teléfono móvil: análisis transversal del perfil individual y factores asociados. *Revista Española de Salud Publica*. 2023; 97:e202305036. PMID:37132395. IF:1,100 (Q4/10D). Document type: Article.
  - Ortiz J, Carrere J, Salom J, Novoa AM. Energy consumption and indoor environmental quality evaluation of a cooperative housing nZEB in Mediterranean climate. *BUILDING AND ENVIRONMENT*. 2023; 228:109795. DOI:10.1016/j.buildenv.2022.109795. IF:7,400 (Q1/1D). Document type: Article.
  - Pérez G, Bartroli M, Pasarín MI, Artazcoz L, Juárez O. Strategy for the promotion of equitable and healthy relationships in educational centers in Barcelona. *Gaceta Sanitaria*. 2023; 37:102286. DOI:10.1016/j.gaceta.2022.102286. PMID:36645958. IF:1,900 (Q3/8D). Document type: Article.
  - Pérez K, Santamariña E, Ferrando J, López MJ, Badiella L. Effectiveness of a Road Traffic Injury Prevention Intervention in Reducing Pedestrian Injuries, Barcelona, Spain, 2002-2019. *AMERICAN JOURNAL OF PUBLIC HEALTH*. 2023; 113(5) DOI:10.2105/AJPH.2022.307216. PMID:36821808. IF:12,700 (Q1/1D). Document type: Article.
  - Rocklöv J, Semenza JC, Dasgupta S, Robinson E, Abd El Wahed A, Alcayna T, Arnés C, Bailey M, Bärnighausen T, Bartumeus F, Borrell C, Bouwer LM, Bretonnière PA, Bunker A, Chavardes C, van KR, Encarnação J, González N, Guo J, Johnson K, Koopmans MPG, Mániz M, Michaelakis A, Montalvo T, Omazic A, Palmer JRB, Preet R, Romanello M, Shafiul M, Sikkema RS, Terrado M, Treskova M, Urquiza D, IDAlert C, Lowe R. Decision-support tools to build climate resilience against



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- emerging infectious diseases in Europe and beyond. *Lancet Regional Health-Europe*. 2023; 32:100701. DOI:10.1016/j.lanep.2023.100701. PMID:37583927. Document type: Review.
- Rodríguez I, Porthé V, Asensio A, Díez È. Vaccine hesitancy: Opinion of people responsible for the care of infants in Barcelona. *Vacunas*. 2023; 24(1) DOI:10.1016/j.vacun.2022.08.003. Document type: Article.
  - Samper Amargós M, González-Viana A, Vergara Duarte M, Rúa MIP. El rol de la enfermería en el ámbito de la salud. *Gac Sanit*. 2023; 37:102337. DOI:10.1016/j.gaceta.2023.102337. PMID: 38007960. IF:1,900 (Q3/8D). Document type: Article.
  - Sánchez N, Barbaglia MG, Olivella M, Marcos NG, Gotsens M, Albaina AG, Rius C, Bartroli M, Pérez G. Community outbreak of COVID-19 among people who use drugs attending a harm reduction centre in Barcelona, Spain. *Harm Reduction Journal*. 2023; 20(1):74. DOI:10.1186/s12954-023-00804-y. PMID:37316829. IF:4,400 (Q1/2D). Document type: Article.
  - Valmayor S, González K, López MJ, Lacera P, Giménez P, Rumín A, Pasarín MI, Henderson E, Díez E. Evaluation of a smoke-free beaches intervention in Barcelona: a quasi-experimental study. *TOBACCO CONTROL*. 2023; :tc-2022-057873. DOI:10.1136/tc-2022-057873. PMID:37402576. IF:5,200 (Q1/2D). Document type: Article.
  - van KR, Tonne C, Borrell C, Nilsson M, Lowe R. Approaching unsafe limits: climate-related health inequities within and beyond Europe. *Lancet Regional Health-Europe*. 2023; 31:100683. DOI:10.1016/j.lanep.2023.100683. PMID:37520669. Document type: Note.
  - Vasquez C, Fernández A, Sánchez E, Bennett M, Borrell C. Gender-based differences in the meanings and uses of housing for health and everyday life: An intersectional approach. *WOMENS STUDIES INTERNATIONAL FORUM*. 2023; 99:102761. DOI:10.1016/j.wsif.2023.102761. IF:1,400 (Q3/6D). Document type: Article.
  - Vázquez N, Continente X, Bartroli M, Juárez O, Muñoz L, Sánchez F, Pérez A, Ariza C, Reptes I. Fidelity of implementation of Reptes, an alcohol and cannabis selective prevention program for youngsters. *Gaceta Sanitaria*. 2023; 37:102323. DOI:10.1016/j.gaceta.2023.102323. PMID:37598579. IF:1,900 (Q3/8D). Document type: Article.

## Transmissible Diseases

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### DESCRIPTION

Our group focuses its activity in the area of the epidemiology of communicable diseases, developing lines of collaborative and multidisciplinary research in the surveillance, prevention and control mainly of the following communicable diseases: tuberculosis, HIV/sexually transmitted infections, hepatitis, vaccinate diseases, and vaccine hesitancy and vector borne diseases. In addition, we develop research in the area of community health workers (CHW) and their intervention in the migrant population with communicable diseases prevention and control.

- Tuberculosis:
  - Evaluation of interventions to improve surveillance and tuberculosis (TB) control, diagnosis, treatment, and prevention.
  - Predictors of TB in a cohort of TB-infected contacts to determine the disease incidence at 2 and 5 years in Catalonia.
  - Characterization of TB in vulnerable populations: immigrants, homeless, children, bad adherence TB patients, HIV, etc.
  - Latent TB infection characterization, prescription, and treatment completion in vulnerable populations.
- Sexually transmitted infections (STI) / HIV:
  - Use of information and communication technologies for the prevention and control of STI/HIV: a) Creation of Apps to promote sexual health both in HIV-positive and HIV-negative men. b) Use of Apps to offer rapid tests outside the sanitary circuit





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- New technologies: APPS for HIV and STD contact tracing.
- Study of the proportion of pelvic inflammatory disease due to chlamydia.
- Study of HIV contacts to determine the incidence among them.
- CHW for communicable diseases control: with the immigration increase we have incorporated CHW that aids in the prevention and control of these diseases. They act as mediators and translators.
- Incidence studies of mumps, whooping cough, and STIs, as well as the influence of the crisis on some communicable diseases such as TB and hepatitis. Study of factors influencing the transmission of pertussis in homes as well as the effectiveness of immunization and chemoprophylaxis.
- Outbreaks:
  - Investigation of the causes and implementation of control measures as in the case of different outbreaks by norovirus.
  - Characterization of Mpox cases in Barcelona during two epidemics and implementation of prevention and control measures.
- To monitor vaccine hesitancy, study its determinants, and develop interventions to reduce and prevent it:
  - Estimation of vaccine refusal in families with children under 15 years-old in Barcelona.
  - Knowledge, attitudes and beliefs about systematic childhood vaccines in pediatric health-care workers in Barcelona.
- Vector-borne diseases: cases surveillance and environmental factors related to vector distribution, specially *Aedes albopictus* and *Culex pipiens*, and their impact on risk of local transmission of arboviral diseases.

The group is composed of a multidisciplinary group of epidemiologists, public health professionals and doctors of different specialties who work in the clinic field, at the laboratory or in the epidemiological surveillance of communicable infectious diseases.

### MAIN LINES OF RESEARCH

Tuberculosis:

- Use of new technologies to improve tuberculosis (TB) control, diagnostic, treatment, and prevention: video DOT, website of the Barcelona TB Research Unit, twitter and Enfermedades Emergentes Journal. Role of diabetes in different clinical presentations and evolution of TB.
- Evaluation of COVID-19 pandemic in the prevention and control activities in tuberculosis patients and the impact on the future incidence.
- Evaluation of interventions to improve surveillance and tuberculosis (TB) control, diagnosis, treatment among injecting drug users.
- Predictors of TB in a cohort of TB-infected contacts to determine the disease incidence at 2 and 5 years in Catalonia.
- Characterization of TB in vulnerable populations: immigrants, homeless, children, bad adherence TB patients, HIV, Diabetes, etc.
- Latent TB infection characterization, prescription, and treatment completion in vulnerable populations.

Sexually transmitted infections (STI) / VIH:

- Use of information and communication technologies for the prevention and control of STI/HIV:
  - a) Creation of Apps to promote sexual health both in HIV-positive and HIV-negative men.
  - b) Use of Apps to offer rapid tests outside the sanitary circuit
- New technologies: APPS for HIV and STD contact tracing.
- Characterization of Mpox cases in Barcelona during two epidemics.
- Study of HIV contacts to determine the incidence among them.

Community health workers (CHW) for communicable diseases control: with the immigration increase we have incorporated CHW aid in the prevention and control of these diseases. They act as mediators and translators.

Incidence studies of mumps, whooping cough and STIs, as well as the influence of the crisis on some



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communicable diseases such as TB and hepatitis. Study of factors influencing the transmission of pertussis in homes as well as the effectiveness of immunization and chemoprophylaxis.

Outbreaks and COVID-19:

- Investigation of the causes and implementation of control measures as in the case of different outbreaks by norovirus.
- COVID-19 outbreak characterization in different settings in Barcelona city.
- Impact of COVID-19 in incidence and mortality in nursing homes and associated factors.
- Vaccination hesitancy and COVID-19.
- To assess if there is a difference in the amount of viable SARS-CoV-2 virus released by the vaccinated individuals in comparison with non-vaccinated. Can vaccinated people transit COVID-19? To study the systemic and local immune response in both groups of patients.

To monitor vaccine hesitancy, study its determinants, and develop interventions to reduce it and prevent it:

- Estimation of vaccine refusal in families with children under 15 years-old in Barcelona.
- knowledge, attitudes, and beliefs about systematic childhood vaccines in pediatric healthcare workers in Barcelona.

Vector-borne diseases:

- Environmental factors related to vector distribution, specially *Aedes albopictus*, and *Culex pipiens*, and their impact on risk of local transmission of arboviral diseases.

#### SCIENTIFIC CHALLENGES

- Prevent sexually transmitted infections and other transmissible diseases.
- Evaluate HIV screening programs in different gay venues.
- Improve detection and research into causes of C hepatitis.
- Improve detection and control measures of outbreaks.

- Improve adherence to tuberculosis and latent tuberculosis infection.
- STD/HIV and TB contact tracing and screening.
- Cost-effective analysis of public health interventions.

#### ACTIVE GRANTS

- Montalvo Porro, Tomas. An early warning and response system for the detection and prevention of vector-borne disease importation and spread in the Mediterranean (IDAlert). IDAlert. Unión Europea. Duration: 2022-2027. 93.917,00 €.

#### GRANTS AWARDED

- Millet Vilanova, Joan Pau. Caracterización y factores asociados a tener un tratamiento de la tuberculosis alargado en España. 1451/2022. Sociedad Española de Neumología y Cirugía Torácica (SEPAR). Duration: 2023-2024. 12.000,00 € (ASPB).

#### DOCTORAL THESES DEFENDED

- García Carrasco, Mireia. Reticència vacunal en els professionals sanitaris de pediatria de Barcelona. 31/03/2023. Universitat Autònoma de Barcelona. Supervisors: Rius Gibert, Cristina; Porta Serra, Miquel. <http://hdl.handle.net/10803/690095>.
- Tamarit Romero, Arantxa. Evaluación de herramientas para un manejo asistencial más personalizado, integral y eficaz para las personas con tuberculosis. 11/12/2023. Universitat Autònoma de Barcelona. Supervisors: Vilaplana, Cristina; Sánchez MontalvÀ, Adrià; Millet Vilanova, Joan Pau.

#### SCIENTIFIC PRODUCTION

- Alarcón M, Palma D, Alberny M, Ruiz R, Guayta R, García de Olalla P, Rius C. Response Rate, Acceptability and Effectiveness of an Intervention Offering HIV/STI Testing Via Apps Among Gay, Bisexual, and Other Men Who Have Sex With Men in Barcelona, Spain, from 2016 to 2020. AIDS AND BEHAVIOR. 2023; DOI:10.1007/s10461-023-04165-2. PMID:37768426. IF:4,400 (Q1/2D). Document type: Article.
- Bach P, Corominas L, Grau M, Alsedà M, Álvarez J, Barrabeig I, Belver AI, Camps N, Minguell S, Carol M, Godoy P, Izquierdo C, Jané M, Martínez A, Parrón I, Pérez C, Rovira A, Sabaté M, Sala



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- MR, Torner N, Vileu RM, de Andrés A, de Benito J, Camprubí E, Cunillé M, Fornis ML, Moreno A, Razquín E, Rius C, Sabaté S, de Simón M, Rodríguez V, Bartolomé R, Cornejo T, Guix S, Coronas L, Domínguez À, Soldevila N. Two successive outbreaks of acute gastroenteritis due to norovirus GII.6 in a holiday camp house. *Scientific Reports*. 2023; 13(1):15558. DOI:10.1038/s41598-023-42622-z. PMID:37730810. IF:4,600 (Q2/4D). Document type: Article.
- Blanco J, López I, Cayuela L, Majó N, Busquets N, Montalvo T, Senar JC. Native and invasive bird interactions increase the spread of Newcastle disease in urban environments. *BIOLOGICAL INVASIONS*. 2023; DOI:10.1007/s10530-023-03213-1. IF:2,900 (Q2/3D). Document type: Article.
  - Cornejo T, Soldevila N, Coronas L, Alsedà M, Godoy P, Razquín E, Sabaté S, Guix S, Rodríguez V, Bartolomé R, Domínguez A, Álvarez J, Belver AI, Camps N, Minguell S, Carol M, Izquierdo C, Parrón I, Pérez C, Rovira A, Sabaté M, Sala MR, Vileu RM, Barrabeig I, Jané M, Martínez A, Torner N, de Benito J, Moreno A, Rius C, de Andrés A, Camprubí E, Cunillé M, Fornis ML, de Simón M, the Working Group for the Study of Outbreaks of Acute Gastroenteritis in C. *Epidemiology of GII.4 and GII.2 norovirus outbreaks in closed and semi-closed institutions in 2017 and 2018*. *Scientific Reports*. 2023; 13(1):1659. DOI:10.1038/s41598-023-28448-9. PMID:36717621. IF:4,600 (Q2/4D). Document type: Article.
  - Diest A, Vilagut G, Alayo I, Ferrer M, Amigo F, Amann BL, Aragon A, Aragonés E, Del Barco AA, Campos M, Del Cura I, Espuga M, Gonzalez A, Haro JM, Larrauri A, López N, de Salazar AM, Molina JD, Orti RM, Parellada M, Pelayo JM, Perez A, Pijoan JI, Plana N, Puig T, Rius C, Rodríguez C, Sanz F, Serra C, Urreta I, Kessler RC, Bruffaerts R, Vieta E, Perez V, Alonso J, Mortier P, MIND-COVID GRP. Traumatic stress symptoms among Spanish healthcare workers during the COVID-19 pandemic: a prospective study. *Epidemiology and Psychiatric Sciences*. 2023; 32:e50. DOI:10.1017/S2045796023000628. PMID:37555258. IF:8,100 (Q1/1D). Document type: Article.
  - Domínguez A, Soldevila N, Toledo D, Parrón I, Millet JP, Barrabeig I, Godoy P, Transmission Catalonia Spain TB. Factors Associated with Treatment Prescription to -Pulmonary Tuberculosis Contacts in Catalonia (2019–2021): A Population-Based Epidemiological Study. *Vaccines*. 2023; 11(12):1800. DOI:10.3390/vaccines11121800. PMID:38140204. IF:7,800 (Q1/2D). Document type: Article.
  - Ferraguti M, Puente JMD, Brugueras S, Millet JP, Rius C, Valsecchi A, Figuerola J, Montalvo T. Spatial distribution and temporal dynamics of invasive and native mosquitoes in a large Mediterranean city. *SCIENCE OF THE TOTAL ENVIRONMENT*. 2023; 896:165322. DOI:10.1016/j.scitotenv.2023.165322. PMID:37414178. IF:9,800 (Q1/1D). Document type: Article.
  - Forcadell L, Rius C, Salobral R, Sánchez N, Mendioroz J, Godoy P, Jarque EB, Ferrandiz D, Cervera DM, Suriñach BJ, Vilalta A, Guadalupe V, Basilio JM, Tapiol SF, Pérez G. A large outbreak of COVID-19 linked to an end of term trip to Menorca (Spain) by secondary school students in summer 2021. *PLoS One*. 2023; 18(2):e0280614. DOI:10.1371/journal.pone.0280614. PMID:36735702. IF:3,700 (Q2/4D). Document type: Article.
  - Galimany E, Navarro J, Martino I, Aymí R, Cermeno P, Montalvo T. Gulls as potential sentinels for urban litter: combining nest and GPS-tracking information. *ENVIRONMENTAL MONITORING AND ASSESSMENT*. 2023; 195(4):521. DOI:10.1007/s10661-023-11133-9. PMID:36988754. IF:3,000 (Q3/6D). Document type: Article.
  - Gimeno M, García JA, Afan I, Aymi R, Montalvo T, Navarro J. Age-related differences in foraging behaviour at sea and interactions with fishing vessels in an opportunistic urban gull. *ICES JOURNAL OF MARINE SCIENCE*. 2023; 80(9) DOI:10.1093/icesjms/fsac120. IF:3,300 (Q1/2D). Document type: Article.
  - Godoy S, Parron I, Millet JP, Cayla JA, Follia N, Carol M, Orcau A, Alsedà M, Toledo D, Ferrus G, Plans P, Barrabeig I, Clotet L, Domínguez A, Godoy P. Losses in the Care Cascade for Latent Tuberculosis Infection in the Tracing Contact Studies. *Pathogens*. 2023; 12(12):1403. DOI:10.3390/pathogens12121403. IF:3,700 (Q2/5D). Document type: Article.



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- Guede D, Guerras JM, González-Recio P, Donat M, Hoyos J, Moreno A, Palma D, Belza MJ. Preocupación por el consumo de drogas entre hombres gays, bisexuales y otros hombres que tienen sexo con hombres usuarios de chemsex en España. *Revista Española de Drogodependencias*. 2023; 48(4) 16-37. Document type: Article.
- Günther G, Guglielmetti L, Leu C, Lange C, van F, Hasan H, Khachatryan N, Aroyan H, Kabasakalyan E, Knappik M, Skrahina A, Klimuk D, Nikolenka A, Muylle I, Milanov V, Velkovska D, Tarinska N, Bachiyiska E, Jankovic M, Pieridou D, Adamide T, Nicolaou N, Vasakova M, Sukholytka M, Kopec-kà E, Folkvardsen DB, Svensson E, Danilovits M, Kummik T, Vasankari T, Fréchet M, Nahmiash A, Togonidze T, Avaliani Z, Kinkladze I, Aspindzelashvili R, Bichashvili T, Losaberidze G, Merabishvili T, Kalsdorf B, Manika K, Tsiakitzis K, Bakos A, Ægis-dóttir TR, Michelsen GS, Karlsdóttir K, McLaughlin A-M, Fitzgibbon M, Chemtob D, Codecasa LR, Ferrarese M, Torri S, Gjocaj M, Kuksa L, Davidaviciene E, Wirtz G, Perrin M, Asciak AP, Chesov D, de Lange W, Akkerman O, Poposka BI, Mack U, Jensenius M, Kvalvik L, Mengshoel AT, Kruczak K, Duarte R, Ribeiro N, Ibraim E, Kaluzhenina A, Barkanova O, Pesut D, Solovic I, Svetina P, Souza M-LD, Millet J-P, Casas X, Vives M, Bruchfeld J, Dalemo P, Jonsson J, Aeschbacher K, Keller P, Özkara S, Tiberi S, Chen C, Terleeva Y, Dudnyk A, Tuberculosis Network European Trials G. Availability and costs of medicines for the treatment of tuberculosis in Europe. *CLINICAL MICROBIOLOGY AND INFECTION*. 2023; 29(1)DOI:10.1016/j.cmi.2022.07.026. PMID:35961488. IF:14,200 (Q1/1D). Document type: Article.
- Gutiérrez MA, Díaz DP, Cantón MLF, Fernández L, de Olalla PG, Gibert CR. Trends in Sexual Health of Gay, Bisexual, and Other Men Who Have Sex with Men, and Transgender Individuals: Apps Driven Testing Program for HIV and Other STIs in Barcelona, Spain (2016-2023). *JOURNAL OF COMMUNITY HEALTH*. 2023; DOI:10.1007/s10900-023-01310-9. PMID:38063976. IF:5,900 (Q1/1D). Document type: Article.
- Jacques C, Alarcón M, Barbera MJ, Fuertes I, Martin G, López J, Vives Á, Rodríguez R, Ros M, Rius C, De Olalla PG. Epidemiological Characteristics and Factors Associated with Repeat Sexually Transmitted Infections in Barcelona, Spain Over a Decade. *ARCHIVES OF SEXUAL BEHAVIOR*. 2023; DOI:10.1007/s10508-023-02711-6. PMID:37875628. IF:3,800 (Q1/2D). Document type: Article.
- Lühsen DS, Zavitsanou E, Cerecedo C, Pardo M, Palmer JRB, Bartumeus F, Montalvo T, Michaelakis A, Lowe R. Adult *Aedes albopictus* in winter: implications for mosquito surveillance in southern Europe. *Lancet Planetary Health*. 2023; 7(9):e729-e731. DOI:10.1016/S2542-5196(23)00170-5. PMID:37673540. IF:25,700 (Q1/1D). Document type: Note.
- Martín R, Pericas C, Bruguera A, Rosell G, Martínez E, Díaz Y, Alonso L, Nomah DK, Blanco JL, Domingo P, Alvarez P, Linares MS, Laborda CV, Mera A, Isbert SC, Johansen IS, Miró JM, Casabona J, Llibre JM, PISCIS GRP. Mpox: Clinical Outcomes and Impact of Vaccination in People with and without HIV: A Population-Wide Study. *Microorganisms*. 2023; 11(11):2701. DOI:10.3390/microorganisms11112701. PMID:38004713. IF:4,500 (Q2/4D). Document type: Article.
- Martínez H, Martró E, Montoro M, Diaz Y, Muntada E, Romano P, Moreno S, Mora R, Villegas L, Mena J, Roqueta Q, Hernández J, Vázquez M, Rius C, Román F, Not A, Muntane L, Colom J, Casabona J, Agustí C. An online hepatitis C virus self-sampling strategy for gay, bisexual, and other men who have sex with men and trans women: TESTATE C PLUS 2020-2021. *Journal Of Evidence Based Medicine*. 2023; 16(4)DOI:10.1111/jebm.12566. PMID:38146223. IF:7,300 (Q1/2D). Document type: Letter.
- Martinez MA, Mari M, Sánchez N, Rodríguez M, Perez G, Pasarin MI, Rius C, Artazcoz L, Prieto R, Perez K, Borrell C. Socioeconomic inequalities in COVID-19 incidence during the first six waves in Barcelona. *INTERNATIONAL JOURNAL OF EPIDEMIOLOGY*. 2023; DOI:10.1093/ije/dyad105. PMID:37494962. IF:7,700 (Q1/1D). Document type: Article.
- Martínez-Baz I, Bullón-Vela V, Soldevila N, Torner N, Palma D, García Cenoz M, Pérez G, Burgui C, Castilla J, Godoy P, Domínguez A, Toledo D. Assessment of Knowledge and Attitudes Over Time in Postacute COVID-19 Environments: Protocol



## 5.1.4 Epidemiology, Public Health And Primary Care Area

- for an Epidemiological Study. *JMIR Res Protoc.* 2023; 12:e52114. DOI:10.2196/52114. PMID: 37995118; IF:1,700. Document type: Article.
- Palma D, Alarcón M, García de Olalla P, Guerras J-M, Pericas C, García J, Barberá MJ, Ayerdi O, Vera M, Román A, Belza MJ, Rius C. Hepatitis C antibody prevalence and active hepatitis C infection in HIV-negative gay, bisexual, and other men who have sex with men in Barcelona and Madrid, Spain (March 2018-March 2021). *Ijrid Regions.* 2023; 8DOI:10.1016/j.ijregi.2023.07.001. PMID:37554356. Document type: Article.
  - Palma D. Acciones comunitarias desde la vigilancia epidemiológica. *Comunicación y salud: el gran reto del siglo XXI.* 2023; (18):249-264. ISBN:9788470747342. Document type: Book chapter.
  - Parrón I, Carol M, Bes N, Izquierdo C, Godoy P, Barrabeig I, Sala MR, Minguell S, Ferras J, Rius C, Martínez AI, Domínguez À; Working Group for the Study of Outbreaks of Acute Gastroenteritis in Catalonia. The impact of COVID-19 pandemic on the incidence of acute gastroenteritis outbreaks in Catalonia (Spain). *Epidemiol Infect.* 2023; 152:e10. DOI:10.1017/S0950268823001851. PMID: 38073577. IF: 4,200 (Q2/4D). Document type: Article.
  - Politi J, Donat M, Guerras JM, Ayerdi O, Palma D, García JN, Barrio G, Belza MJ, Methysos GRP. Gaps in HIV and Hepatitis C Testing Among 3486 HIV-Negative Men Who have Sex with Men in Spain in the Era of Highly Effective Antiviral Therapies. *JOURNAL OF COMMUNITY HEALTH.* 2023; DOI:10.1007/s10900-023-01259-9. PMID:37561245. IF:5,900 (Q1/1D). Document type: Article.
  - Porta M, Pumarega J, Gasull M, Aguilar R, Henríquez LA, Basagaña X, Zumbado M, Villar J, Rius C, Mehta S, Vidal M, Jimenez A, Campi L, Lop J, Pérez OL, Dobaño C, Moncunill G. Individual blood concentrations of persistent organic pollutants and chemical elements, and COVID-19: A prospective cohort study in Barcelona. *ENVIRONMENTAL RESEARCH.* 2023; 223:115419. DOI:10.1016/j.envres.2023.115419. PMID:36740154. IF:8,300 (Q1/1D). Document type: Article.
  - Prieto R, Millet JP, Palma D, Barbaglia MG, Gibert CR, Barcelona CAS Working G. Latent Tuberculosis Infection in Users of Drug Dependence Care and Follow-up Centers in Barcelona in 2017–2021: A Cross-sectional Descriptive Study. *Open Respiratory Archives.* 2023; 5(3):100257. DOI:10.1016/j.opresp.2023.100257. PMID:37599795. Document type: Article.
  - Pumarega J, Gasull M, Koponen J, Campi L, Rantakokko P, Henríquez LA, Aguilar R, Donat C, Zumbado M, Villar J, Rius C, Santiago P, Vidal M, Jimenez A, Iglesias M, Dobaño C, Moncunill G, Porta M. Prepandemic personal concentrations of per- and polyfluoroalkyl substances (PFAS) and other pollutants: Specific and combined effects on the incidence of COVID-19 disease and SARS-CoV-2 infection. *ENVIRONMENTAL RESEARCH.* 2023; 237(Pt 2):116965. DOI:10.1016/j.envres.2023.116965. PMID:37652221. IF:8,300 (Q1/1D). Document type: Article.
  - Rocklöv J, Semenza JC, Dasgupta S, Robinson E, Abd El Wahed A, Alcayna T, Arnés C, Bailey M, Bärnighausen T, Bartumeus F, Borrell C, Bouwer LM, Bretonnière PA, Bunker A, Chavardes C, van KR, Encarnação J, González N, Guo J, Johnson K, Koopmans MPG, Mániz M, Michaelakis A, Montalvo T, Omazic A, Palmer JRB, Preet R, Romanello M, Shafiul M, Sikkema RS, Terrado M, Treskova M, Urquiza D, IDAlert C, Lowe R. Decision-support tools to build climate resilience against emerging infectious diseases in Europe and beyond. *Lancet Regional Health-Europe.* 2023; 32:100701. DOI:10.1016/j.lanepe.2023.100701. PMID:37583927. Document type: Review.
  - Sadowski C, Belknap R, Holland DP, Moro RN, Chen MP, Wright A, Millet JP, Cayla JA, Scott NA, Borisov A, Gandhi NR. Symptoms and Systemic Drug Reactions in Persons Receiving Weekly Rifapentine Plus Isoniazid (3HP) Treatment for Latent Tuberculosis Infection. *CLINICAL INFECTIOUS DISEASES.* 2023; 76(12)DOI:10.1093/cid/ciad083. PMID:36815322. IF:11,800 (Q1/1D). Document type: Article.
  - Sánchez N, Barbaglia MG, Olivella M, Marcos NG, Gotsens M, Albaina AG, Rius C, Bartroli M, Pérez G. Community outbreak of COVID-19 among people who use drugs attending a harm reduction center in Barcelona, Spain. *Harm Reduction*



## 5.1.4 Epidemiology, Public Health And Primary Care Area

Journal. 2023; 20(1):74. DOI:10.1186/s12954-023-00804-y. PMID:37316829. IF:4,400 (Q1/2D).  
Document type: Article.

- Sánchez S, Muñoz X, Montalvo T, Ojanguren I, Romero C, Senar JC, Peracho V, Cruz MJ. Sensitization to avian and fungal proteins in different work environments. *Allergy Asthma and Clinical Immunology*. 2023; 19(1):96. DOI:10.1186/s13223-023-00852-w. PMID:37957771. IF:2,700 (Q3/8D).  
Document type: Article.
- Scott NA, Sadowski C, Vernon A, Arevalo B, Beer K, Borisov A, Cayla JA, Chen M, Feng PJ, Moro RN, Holland DP, Martinson N, Millet JP, Miro JM, Belknap R. Using a medication event monitoring system to evaluate self-report and pill count for determining treatment completion with self-administered, once-weekly isoniazid and rifapentine. *Contemporary Clinical Trials*. 2023; 129:107173. DOI:10.1016/j.cct.2023.107173. PMID:37004811. IF:2,200 (Q4/8D).  
Document type: Article.
- Vez M, Gimenez J, Sánchez A, Montalvo T, Navarro J. Changes in the feeding ecology of an opportunistic predator inhabiting urban environments in response to COVID-19 lockdown. *Royal Society Open Science*. 2023; 10(4):221639. DOI:10.1098/rsos.221639. PMID:37063991. IF:3,500 (Q2/4D).  
Document type: Article.
- Vilaplana C, Giner M, Dominguez A, Morros R, Pericas C, Alamo D, Toledo D, Gallego C, Redondo A, Grau M. Atherosclerosis, Cardiovascular Disease, and COVID-19: A Narrative Review. *Biomedicines*. 2023; 11(4):1206. DOI:10.3390/biomedicines11041206. PMID:37189823. IF:4,700 (Q1/3D).  
Document type: Review.

## 5.1.4 Epidemiology, Public Health And Primary Care Area

## Primary Care

### Group leader

Brotons Cuixart, Carles (EAP SARDENYA)

### Researchers

Casasa Plana, Albert (EAP SARDENYA)

Fernández Valverde, Diana Elisabeth (EAP SARDENYA)

Galan Diez, Maria Luisa (EAP SARDENYA)

Ichazo Tobella, Begoña (EAP SARDENYA)

Monteserin Nadal, Rosa (EAP SARDENYA)

Moral Pelaez, Irene (EAP SARDENYA)

Puig Palma, Mireia (EAP SARDENYA)

Rayo Martinez, Elisabet (EAP SARDENYA)

Reyes Reyes, Carlen (EAP SARDENYA)

Sellares Sallas, Jaume (EAP SARDENYA)

Serrano Pons, Helena (EAP SARDENYA)

Vila García, Judit (EAP SARDENYA)

Vilella Moreno, Maria Teresa (EAP SARDENYA)

### Research Technicians

Tolra Mabilon, Jordi (EAP SARDENYA)



## DESCRIPTION

The research unit at EAP Sardenya, affiliated with the Hospital of Sant Pau Research Institute, acts as coordinator of vv research. Established in March 2002, the unit engages in research projects funded by competitive grants from public institutions and pharmaceutical industry-supported clinical trials. Current research areas focus on cardiovascular disorders and adult immunizations. Recently, pharmacoepidemiology and drug safety in primary care have been added. The research unit, led by Dr. Brotons Cuixart, comprises two family physicians, epidemiologists, research nurses, a statistician, and administrative staff.

## MAIN LINES OF RESEARCH

- Cardiovascular research line (Hypertension, Diabetes, Lipids). Dr. Carlos Brotons Cuixart.
- Immunization. Dr. Carlos Brotons Cuixart.
- Pharmacoepidemiology and drug safety. Dra Carlen Reyes Reyes.

## SCIENTIFIC CHALLENGES

- To implement multicenter research projects in primary care.
- To encourage collaboration with other research groups of the Biomedical Research Institute Sant Pau.
- To encourage the dissemination of the results in peer reviewed scientific journals.
- To increase the number of clinicians participating and conducting research in primary care.

## 5.1.4 Epidemiology, Public Health And Primary Care Area

## SCIENTIFIC PRODUCTION

- Brotons C. The challenge of therapy adherence in clinical practice. *European Journal of Preventive Cardiology*. 2023; 30(2)DOI:10.1093/eurjpc/zvac197. PMID:36062950. IF:8,300 (Q1/2D). Document type: Editorial Material.
- Brotons C, Moral-Peláez I, Vicuña J, Ameixeiras C, Fernández-Lavandera C, Sánchez-Chaparro MÁ. Update and validation of the lifetime cardiovascular risk in Spain: IBERLIFERISK2. *Clin Investig Arterioscler*. 2023; 35(3):115-122. DOI:10.1016/j.arteri.2022.09.003. PMID: 36344347. IF:1,600 (Q3/7D). Document type: Article.
- Gené A, Casasa A, Puig T, de La Figuera M, Jimenez MJ, Fité J, Roman J, Bellmunt S. Normal Infrarenal Aortic Diameter in Men and Women in a Mediterranean Area. *ANNALS OF VASCULAR SURGERY*. 2023; 92DOI:10.1016/j.avsg.2022.12.087. PMID:36639098. IF:1,500 (Q3/8D). Document type: Article.
- Guan YF, Puenpatom A, Johnson MG, Zhang Y, Zhao YJ, Surber J, Weinberg A, Brotons C, Kozlov R, López R, Coetzee K, Santiagué J, Du JJ, Williams A, Brown M, Paschke A, De Anda C, Norquist JM. Impact of Molnupiravir Treatment on Patient-Reported Coronavirus Disease 2019 (COVID-19) Symptoms in the Phase 3 MO-VE-OUT Trial: A Randomized, Placebo-Controlled Trial. *CLINICAL INFECTIOUS DISEASES*. 2023; 77(11)DOI:10.1093/cid/ciad409. PMID:37466374. IF:11,800 (Q1/1D). Document type: Article.
- Herrera D, Sanz M, Shapira L, Brotons C, Chapple I, Frese T, Graziani F, Hobbs FDR, Huck O, Hummers E, Jepsen S, Kravtchenko O, Madianos P, Molina A, Ungan M, Vilaseca J, Windak A, Vinker S. Association between periodontal diseases and cardiovascular diseases, diabetes, and respiratory diseases: Consensus report of the Joint Workshop by the European Federation of Periodontology (EFP) and the European arm of the World Organization of Family Doctors (WONCA Europe). *JOURNAL OF CLINICAL PERIODONTOLOGY*. 2023; 50(6)DOI:10.1111/jcpe.13807. PMID:36935200. IF:6,700 (Q1/1D). Document type: Review.
- Martín E, Brotons C, García AR, Sanz FV, Vargas MF, Amengual AM, Garrote JAD, Vicente MCS, Banegas JR, Carratalá VP. Luces y sombras de la Guía Europea ESC-2021 de Prevención de la Enfermedad Cardiovascular en la Práctica Clínica. *Revista Española de Salud Pública*. 2023; 97:e202308064. IF:1,100 (Q4/10D). Document type: Article.
- Martín E, Brotons C, Ruiz A, Villafañe F, Frías M, Moyá A, Divisón JA, Seoane MC, Banegas JR, Pallarés V. Lights and shadows of the 2021 ESC Guidelines on cardiovascular disease prevention in clinical practice. *Revista Española de Salud Pública*. 2023; 97PMID:37921403. IF:1,100 (Q4/10D). Document type: Article.
- Zhou XD, Targher G, Byrne CD, Somers V, Kim SU, Chahal C, Wong VWS, Cai JJ, Shapiro MD, Eslam M, Steg PG, Sung KC, Misra A, Li JJ, Brotons C, Huang YL, Papatheodoridis GV, Sun AJ, Yilmaz Y, Chan WK, Huang H, Mendez N, Alqahtani SA, Cortez H, Lip GYH, de Knecht RJ, Ocama P, Romero M, Fudim M, Sebastiani G, Son JW, Ryan JD, Ikonomidis I, Treeprasertsuk S, Pastori D, Lupsor M, Tilg H, Ghazinyan H, Boursier J, Hamaguchi M, Nguyen MH, Fan JG, Goh GBB, Al Mahtab M, Hamid S, Perera N, George J, Zheng MH. An international multidisciplinary consensus statement on MAFLD and the risk of CVD. *Hepatology International*. 2023; 17(4)DOI:10.1007/s12072-023-10543-8. PMID:37204656. IF:6,600 (Q1/3D). Document type: Article.



# 5.1.5 Translational Medicine Area



**Dídac Mauricio**  
Area Director

Sant Pau Hospital is a tertiary high-complexity university hospital and, together with Fundació Puigvert, covers all specialties in medical care. This complexity leads to a high variety of biomedical translational research to improve patient's care in multiple fields including inflammatory or immunological processes and on factors linked to the innate immune system, osteoporosis, nephrology, surgery, aging-related macular degeneration, microbiology and infectious diseases, diabetes, pituitary, and other endocrine diseases, respiratory diseases, or perinatal health research and clinical approaches based on human cells and tissues. The main focus of this research area is evidence-based translational medicine to improve patients' care.

## RESEARCH GROUPS

### Inflammatory Diseases

Vidal Alcorisa, Silvia

### Endocrinology, Diabetes and Nutrition

Mauricio Puente, Dídac

### Pituitary Gland Disorders

Webb Youdale, Susana

### Digestive Diseases

Maria Angels

### Microbiology and Infectious Diseases

Navarro Risueño, Ferran

### Multi-organ Damage and Rheumatology

Corominas Macias, Hector

### Chronic Respiratory Diseases

Plaza Moral, Vicente

### Regenerative Medicine and Tissue Bioengineering

Castells Sala, Cristina

### General and Digestive Surgery

Moral Duarte, Antonio

### Nephrology

Guirado Perich, Lluís

### Women and Perinatal Health

Llurba Olive, Elisa

### Advanced Medical Imaging, Artificial Intelligence, and Imaging-Guided Therapy

Munuera Del Cerro, Josep Lluís

(Consolidated from November 2023)

## Inflammatory Diseases

### Group leader

Vidal Alcorisa, Silvia (IR)

### Researchers

Alserawan De Lamo, Leticia (UAB)

Calvet Lacruz, Anna (FGS)

De La Calle Martin, Oscar (FGS)

Franco Leyva, Teresa (FGS)

Juarez Rubio, Candido (FGS)

Lynton Pons, Elionor (FGS)

Mariscal Rodríguez, Anais (FGS)

Martinez Martinez, Laura (FGS)

Moga Naranjo, Maria Esther (FGS)

### Research Technicians

Alejandro Santiago, Jose (IR)

Canto Naves, Elisabeth (IR)

Esteban Aguilera, Cristina (IR)

Mulet Gual, Maria (IR)

Ortiz De Juana, Maria Angels (IR)

Osuna Gomez, Ruben (IR)



### DESCRIPTION

The Inflammatory Diseases group is a multidisciplinary team: Our research aims are: a) to study etiopathogenic mechanisms of immune-mediated diseases to develop tools to advance toward a more personalized medicine; b) to find biomarkers of response to immunotherapy treatments in cancer and chronic inflammatory diseases to select the most suitable drugs and to identify the patient population that can benefit from them, and c) to analyze the involvement immune system in the pathogenesis of autoimmune processes, immunodeficiencies, and immunosenescence.

### MAIN LINES OF RESEARCH

- The role of the immune system in the development and perpetuation of autoimmune, immune mediated diseases and chronic inflammatory processes.
- The immunological response associated with the clinical course during immunomodulatory therapies.
- The involvement of autoantibodies, components of the adaptive immune system, in the pathogenesis of autoimmune processes.
- Mechanisms involved in immunodeficiency.
- Immunosenescence.

### SCIENTIFIC CHALLENGES

- To study regulatory pathways in chronic inflammatory diseases to identify cellular and molecular therapeutic targets.
- To understand the appearance and evolution of

## 5.1.5 Translational Medicine Area

autoimmune events, immunodeficiencies, infections, and cardiovascular diseases to improve diagnosis tools.

- To decipher the immune response involved in the development or the control of tumors to discover new biomarkers of prognosis to immunotherapies.
- To elucidate biomarkers related to immune sense and susceptibility to infections.
- To characterize cellular immune responses in immunological disorders such as infections, hypersensitivity reactions and immunodeficiencies.
- Different strategies were applied according to the goal and pathology:
- Characterization of cell populations in complex human biological fluids by multiparametric flow cytometry analysis complemented with dimensionality reduction and data visualization techniques.
- Study the expression and dynamics of inflammatory mediators with advance clustering analysis.
- Identification of new specificities of autoantibodies in subgroups of patients.
- Study of mechanisms involved in immunodeficiency caused by alterations of molecular components.

## ACTIVE GRANTS

- Vidal Alcorisa, Silvia. Estudio del perfil pro-inflamatorio de las plaquetas y sus derivados en pacientes con artritis reumatoide para identificar biomarcadores de inflamación y dianas terapéuticas. PI20/00184. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 87.120,00 €.
- Vidal Alcorisa, Silvia. Determination of circulating leukocyte-platelet complexes & PD-L1 expression on circulating cells in patients with advanced SCLC patients receiving anti-PD-L1 blockade agents in combination with platinum and etoposide. Non-competitive. PNC00088/6. Roche Farma SA. Duration: 2021-2023. 40.000,00 €.
- Vidal Alcorisa, Silvia. In vitro assessment of cytokine production in HBV patients. IIBSP-PRG-2021-57. Non-competitive. PRECIGEN. Duration: 2021-2023. 29.940,00 €.

## GRANTS AWARDED

- Mariscal Rodríguez, Anais. Análisis comparativo de los resultados de especificidades antigénicas de muestras de neuropatías autoinmunes y síndromes miasténicos. IIBSP-NEU-2023-63. Duration: 2023-2023.
- Mariscal Rodríguez, Anais. Detección de anticuerpos anti-sintetasa: comparación entre métodos. IIBSP-AAS-2023-87. Duration: 2023-2024.
- Moga Naranjo, Maria Esther. Estudio VAN: correlación de la sensibilidad in Vitro de pacientes con alergia respiratoria y alimentaria mediante la utilización de ImmunoCap, Alex y Noveos. IIBSP-VAN-2022-74 (Estudio VAN). Duration: 2023-2024.
- Vidal Alcorisa, Silvia. Therapeutic targets in mechanisms of tolerance for autoimmune disease patients, 2nd part (IL-11). Non-competitive. PRECIGEN. Duration: 2023-2025. 75.000,00 €.

## DOCTORAL THESES DEFENDED

- Julià Agulló, Germa. Comparació de la resposta immune als pacients de COVID-19 amb evolució greu i moderada. 12/09/2023. Universitat Autònoma de Barcelona. Supervisors: Vidal Alcorisa, Sílvia.
- Ronny de la Torre Cevallos. Immunodeficiencias Primarias en Ecuador: Como crear un sistema de diagnóstico estructurado. 15/11/ 2023. Universitat Autònoma de Barcelona. Supervisors: Martínez Martínez, Laura; de la Calle Martín, Óscar.

## SCIENTIFIC PRODUCTION

- Albiol N, Lynton E, Aso O, Moga E, Vidal S, Gomez L, Santiago JA, Triquell M, Roch N, Lazaro E, Gonzalez I, López J, Esquirol A, Sierra J, Martino R, García I. mRNA-1273 SARS-CoV-2 vaccine in recently transplanted allogeneic hematopoietic cell transplant recipients: Dynamics of cellular and humoral immune responses and booster effect. LEUKEMIA RESEARCH. 2023; 132:107347. DOI:10.1016/j.leukres.2023.107347. PMID:37356281. IF:2,700 (Q3/7D). Document type: Article.
- Blanco Y, Escudero D, Lleixà C, Llufríu S, Egri N, García RR, Alba M, Aguilar E, Artola M, Aldea Novo M, Alvarez S, Caballero E, Cabrera-Maqueda JM,



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- Fonseca E, Guasp M, Hernando A, Martínez-Hernández E, Olivé-Cirera G, López-Contreras J, Martín-Aguilar L, Martínez-Martínez L, Rombauts A, Rodés M, Sabater L, Sepulveda M, Solana E, Tejada-Illa C, Vidal-Fernández N, Vilella A, Fortuny C, Armangué T, Dalmau JO, Querol L, Saiz A. mRNA COVID-19 Vaccination Does Not Exacerbate Symptoms or Trigger Neural Antibody Responses in Multiple Sclerosis. *Neurol Neuroimmunol Neuroinflamm.* 2023; 10(6):e200163. DOI: 10.1212/NXI.0000000000200163. PMID: 37679040. IF:8,800 (Q1/1D). Document type: Article.
- Canto E, Anguera G, Jimenez N, Mellado B, Ramirez O, Mariscal A, Maroto P, Vidal S. Association between the Immunophenotype of Peripheral Blood from mCRPC Patients and the Outcomes of Radium-223 Treatment. *Diagnostics.* 2023; 13(13):2222. DOI:10.3390/diagnostics13132222. PMID:37443615. IF:3,600 (Q2/4D). Document type: Article.
  - d'Alessandro M, Gangi S, Soccio P, Canto E, Osuna R, Bergantini L, Cameli P, Fabbri G, Croce S, Scioscia G, Montuori G, Fanetti M, Moriondo G, Mezzasalma F, Castillo D, Lacedonia D, Vidal S, Bargagli E. The Effects of Interstitial Lung Diseases on Alveolar Extracellular Vesicles Profile: A Multicenter Study. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.* 2023; 24(4):4071. DOI:10.3390/ijms24044071. PMID:36835481. IF:5,600 (Q1/3D). Document type: Article.
  - García B, Van Den Rym A, Martínez L, Franco T, Pérez JJ, Markle J, Cubillos C, Marín AV, Recio MJ, Regueiro JR, Navarro A, Mestre C, Ferreras C, Martín C, Mena R, de la Calle C, López A, Fernández M, Pérez A, López E, Sánchez S, Casanova J-L, Martínez R, de la Calle O, Pérez de Diego R. Inherited human ezrin deficiency impairs adaptive immunity. *JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY.* 2023; 152(4):997-1009.e11. DOI:10.1016/j.jaci.2023.05.022. PMID:37301410. IF:14,200 (Q1/1D). Document type: Article.
  - Laghi L, Román E, Lan Q, Nieto JC, Canalda A, Poca M, Sánchez MB, Clària J, Alvarado E, Cuyàs B, Sánchez E, Vidal S, Guarner C, Escorsell À, Manichanh C, Soriano G. A multistrain probiotic increases the serum glutamine/glutamate ratio in patients with cirrhosis: a metabolomic analysis. *Hepatology Communications.* 2023; 7(4):e0072. DOI:10.1097/HC9.0000000000000072. PMID:37026745. IF:5,100 (Q2/3D). Document type: Letter.
  - Lleixà C, Caballero M, Pascual E, Martín L, Vidal N, Tejada C, Valdés E, Zárate E, Vesperinas A, Collet R, Franco T, Martínez L, Moga E, Cortés E, Rojas R, Gómez B, Gil A, González C, Brieva L, Martínez S, Querol L. Antibodies against the flotillin-1/2 complex in patients with multiple sclerosis. *Brain Communications.* 2023; 5(2):fcad109. DOI:10.1093/braincomms/fcad109. PMID:37091585. Document type: Article.
  - Martínez L, Irure J, Jurado A, Roy G, Montes MA, Barrios Y, Rodríguez B, Vergara E, Prada A, Rojo R, Vargas ML, G. Laboratory and clinical practices in antinuclear antibody detection and related antigens: recommendations from a Spanish multicentre survey. *IMMUNOLOGIC RESEARCH.* 2023; 71(5)DOI:10.1007/s12026-023-09389-x. PMID:37195550. IF:4,400 (Q2/5D). Document type: Article.
  - Mulet M, Osuna R, Zamora C, Artesero I, Arús M, Vera P, Cordon A, Vilalta N, San P, Abril A, Moliné A, Morán I, López J, Vidal S. Dysregulated neutrophil extracellular traps formation in sepsis. *IMMUNOLOGY.* 2023; 170(3)DOI:10.1111/imm.13676. PMID:37381594. IF:6,400 (Q2/3D). Document type: Article.
  - Navarro V, Puig L, Vidal S, Ramírez J, Llamas M, Fernández C, Almodóvar R, Pinto JA, Galíndez E, Zarco P, Joven B, Gratacós J, Juanola X, Blanco R, Arias S, Sanz J, Queiro R, Canete JD. The paradigm of IL-23-independent production of IL-17F and IL-17A and their role in chronic inflammatory diseases. *Frontiers in Immunology.* 2023; 14:1191782. DOI:10.3389/fimmu.2023.1191782. PMID:37600764. IF:7,300 (Q1/3D). Document type: Review.
  - Osuna R, Barril S, Mulet M, Atenza CZ, Millan P, Pardessus A, Brough DE, Sabzevari H, Semnani RT, Castillo D, Vidal S. The immunoregulatory role of IL-35 in patients with interstitial lung disease. *IMMUNOLOGY.* 2023; 168(4)DOI:10.1111/imm.13596. PMID:36273280. IF:6,400 (Q2/3D). Document type: Article.
  - Osuna R, Castellvi I, Mulet M, Ortiz MA, Brough DE, Sabzevari H, Semnani RT, Vidal S. Impai-



### 5.1.5 Translational Medicine Area

red Regulation by IL-35 in Systemic Sclerosis. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(13):10567. DOI:10.3390/ijms241310567. PMID:37445745. IF:5,600 (Q1/3D). Document type: Article.

- Pérez S, Grijota MD, Anibarro L, Rabuñal R, Sabria J, Gijón P, Pomar V, García M, Domínguez Á, Trigo M, Santos MJ, Cebollero A, Rodríguez S, Moga E, Penas A, Martos C, Ruiz MJ, García EI, Alcaide F, Santin M. Reversions of QuantiFERON-TB Gold Plus in tuberculosis contact investigation: A prospective multicentre cohort study. PLoS One. 2023; 18(8):e0285917. DOI:10.1371/journal.pone.0285917. PMID:37647315. IF:3,700 (Q2/4D). Document type: Article.

## Endocrinology, Diabetes, and Nutrition

### Group leader

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Niño-Narvion García, Julia (IR)

Subias Burrel, Miguel (IR)

Vlacho, Bogdan (CIBER)



### DESCRIPTION

Our group, led by Dídac Mauricio, is a multidisciplinary team consisting of endocrinologists, pharmacologists, biologists, and nutritionists. The group has different research lines in the area of diabetes and its associated metabolic diseases and complications, encompassing epidemiological, clinical, and translational research. This is a highly active, productive, and competitive group, both at national and international levels, a member of XARTEC Salut network, AGAUR, and with 2 research groups belonging to Centro de investigación biomédica en red (CIBER, ISCIII).

### MAIN LINES OF RESEARCH

- Complications of diabetes, atherosclerosis, and cardiovascular disease (D. Mauricio; ORCID: 0000-0002-2868-0250): This line encompasses clinical and translational studies on the pathogenesis, biomarker, and early detection and treatment of these complications leading most of the burden in terms of morbidity and mortality in diabetes. Several projects in precision medicine in diabetes are currently underway.
- Epidemiology of diabetes, primary care research, and research with large databases (D. Mauricio): This line is focused on the research of epidemiological aspects of diabetes using different sources of real-world data, with large databases, especially the SIDIAP database (real-world evidence) in collaboration with J. Franch (IDIAP Jordi Gol research institute).
- Endocrinological diseases and pregnancy (R. Corcoy; ORCID: 0000-0001-5055-6814): Senior



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researcher in diabetes in pregnancy and technologies in the management of diabetes, such as insulin pumps and glucose sensors. This researcher's team has participated in landmark studies in gestational diabetes, such as the CONCEPT trial.

- Thyroid nodular disease and cancer (E. Mato; ORCID: 0000-0001-8121-9335): Tumoral thyroid disease poses a diagnostic and therapeutic challenge. This researcher focuses on the contribution of lipid metabolism in nodular thyroid malignancies.
- Diabetes and cardiovascular risk factors (A. Pérez; ORCID: 0000-0001-5528-1143): This line studies the contribution of lipoprotein metabolism disorders to cardiovascular disease in patients with diabetes, dyslipidemia, and obesity.
- Cellular injury in diabetes and associated metabolic diseases (J. Julve; ORCID: 0000-0002-6531-2246): The general objective is to identify new biomarker candidates for the diagnosis/prognosis of hepatic and myocardial complications; and the evaluation of new therapeutic strategies in this area in experimental models and in patients.

## SCIENTIFIC CHALLENGES

### Endocrine neoplasms

- Molecular markers of the epithelial lineage: expression of the ABCG2 gene/BCRP1 transporter.
- Transcriptomics and proteomics as prediction and prognosis instruments for epithelial thyroid cancer.
- Intramural CELL-NANO-THYROID project: investigation of human mesenchymal cell capacity as an instrument for administering anti-tumour cell drugs in the form of conjugated nanoparticles.
- Role of cholesterol & cholesterol metabolites in thyroid neoplasms differentiation.
- Assessment of glycosylated immunoglobulins as serologic markers of thyroid carcinoma.

### Autoimmune Diabetes Mellitus

- Classic type 1 autoimmune diabetes mellitus: discovery of genes that influence susceptibility to autoimmune diabetes (classic type 1).
- LADA type diabetes: prevalence of metabolic

syndrome among patients with LADA compared to prevalence among patients with classic type 1 diabetes, type 2 diabetes, and the general non-diabetic population in European countries.

### Diabetes and pregnancy

- Clinical research aimed at optimizing care for women with pre-gestational and gestational diabetes at preconception, pregnancy, birth, and postpartum stages. Specifically, addressing the relevance of adequacy of pregnancy weight gain, maternal predictive characteristics, and association with pregnancy outcomes.

### Technology, Telemedicine, and Intelligent Systems for Therapeutic Optimization of Diabetes Mellitus

- Technology in the treatment of diabetes with a special focus on insulin (new insulins, pumps), and glucose measurement including sensors.
- Development of a technological platform for the prediction, prevention, and treatment of obesity, DM, HTA, dyslipidemia, and cardiometabolic risk.

### Optimization of the Treatment of Obesity, Hyperlipidaemia, Metabolic Syndrome, and Complications

- Mechanisms linking diabetes, obesity, and dyslipidemia with cardiovascular disease.
- Optimal treatment and prevention of cardiovascular risk associated with obesity, hyperlipidemia, metabolic syndrome, and diabetes.

### Diabetic complications: atherosclerosis and microvascular disease

- Clinical and translational studies that explore research in the pathogenesis, biomarkers, and early detection and treatment of microvascular and chronic complications, especially atherosclerosis.

### Precision medicine in diabetes

- Genotyping and deep phenotyping of people with diabetes.
- Use of artificial intelligence in the characterization of diabetes.

### Diabetic epidemiology: primary care research, with large databases.

- Research on diabetes mellitus in Primary Health Care of Catalonia. In recent years, the group has developed projects using the SIDIAP database, in different aspects of real-world evidence.



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- Use of AI as an approach to characterize diabetes mellitus using real-world practice databases.

Clinical trials in the area of the Endocrinology, Diabetes, and Nutrition Research Group.

- There are currently 28 ongoing clinical trials in our group.

Nicotinamide supplementation

- Research on the role of nicotinamide (NAM) supplementation in several tissues of experimental models (brain, intestinal epithelial, cardiac).
- Study of the effects of NAM on the intestinal microbiome and its relationship with diabetes.
- Identification of new NAM-sensitive biomarkers to fight diabetes.

### ACTIVE GRANTS

- Corcoy Pla, Rosa. Desarrollo de una herramienta para la determinación de riesgo genético y prevención personalizada de la diabetes gestacional. RTC2019-007406-1. Ministerio de Ciencia e Innovación (MICINN). Duration: 2020-2023. 158.119,34 €.
- Corcoy Pla, Rosa. Medical comorbidities in bipolar disorder: clinical validation of risk factors and biomarkers to improve prevention and treatment (BIPCOM). EraPerMed Corcoy. Unión Europea (GenCat FUNDING - Acciones complementarias). Duration: 2023-2025. 199.977,00 €.
- Genua Trullós, Idoia. Contractes Rio Hortega 2021. CM21/00077. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 65.000,00 €
- Genua Trullós, Idoia. SED 2021. Sociedad Española de Diabetes (SED). Duration: 2021-2023. 20.000,00 €.
- Julve Gil, Josep. Potencial terapéutico de la suplementación con nicotinamida sobre la adiposidad, señalización de la insulina y de la enfermedad hígado graso no alcohólico. PI21/00770. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 122.210,00 €.
- Mauricio Puente, Didac. Caracterización de subgrupos de diabetes tipo 2 al diagnóstico: un paso necesario hacia la medicina de precisión en diabetes. PI21/01163. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 159.720,00 €.

- Mauricio Puente, Didac. ImpactT2D: una estrategia genómica para implementar medicina de precisión en la diabetes tipo 2. PMP21/00100. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2025. 207.900,00 €.

- Mauricio Puente, Didac. Study of the differential lipidome in thyroid follicular adenomas and carcinomas using mass spectrometry images. Sociedad Española de Endocrinología y Nutrición. Duration: 2021-2023. 25.000,00 €.

- Mauricio Puente, Didac. Gestational diabetes and complications among pregnant women attended in primary care sexual and reproductive health services in Catalonia. PCDE 2021/4 PCD Europe. Research Grant 2021. Duration: 2021-2024. 10.000,00 € (CIBER).

- Mauricio Puente, Didac. Epidemiology of SARS-CoV-2 in persons with diabetes mellitus and obesity in Catalonia – Study epiCOVID19DMO. PCDE 2021/4. Primary Care Diabetes Europe. Research Grant 2020. COV20/01301 (EPICOID19DMO). Duration: 2021-2023. 10.000,00 € (CIBER).

- Rojo López, Marina Idalia. Descubrimiento y validación de marcadores de predicción de diabetes tipo 2. SLT017/20/000107. Departament de Salut Generalitat de Catalunya. Duration: 2021-2023. 103.040,20 €.

### DOCTORAL THESES DEFENDED

- Dòria Cervós, Montse. Comorbiditats i mesura de qualitat de vida en el pacient amb peu diabètic en diferents situacions clíniques. 18/04/2023. Universitat Autònoma de Barcelona. Supervisors: Mauricio Puente, Dídac; Hernández García, Marta; Puig Domingo, Manuel Luis. <http://hdl.handle.net/10803/690447>.
- Puig Jové, Carles. Marcadores séricos y alteraciones en el metabolismo lipídico y su relación con la disfunción miocárdica subclínica en sujetos con diabetes mellitus. 05/07/2023. Universitat Autònoma de Barcelona. Supervisors: Alonso Pedrol, Núria; Mauricio Puente, Dídac; Puig Domingo, Manuel Luis.
- Revilla Senra, Giovanna. Action of cholesterol, 27-hydroxycholesterol and adipose tissue in Thyroid Cancer. 22/12/2023. Universitat Autònoma de Barcelona. Supervisors: Escolà Gil, Joan Carles; Mató Matute, Eugènia; Blanco Vaca, Francisco.





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## SCIENTIFIC PRODUCTION

- Alcubierre N, Granado M, Bogdanov P, Hernandez C, Ramos H, Castelblanco E, Real J, Rubinat E, Traveset A, Hernandez M, Jurjo C, Vioque J, Navarrete EM, Simo R, Mauricio D. Caffeine and the Risk of Diabetic Retinopathy in Type 2 Diabetes Mellitus: Findings from Clinical and Experimental Studies. *Nutrients*. 2023; 15(5):1169. DOI:10.3390/nu15051169. PMID:36904168. IF:5,900 (Q1/2D). Document type: Article.
- Ampudia FJ, Ugarte E, Chico A, García J, Galan M. Spanish Consensus on the Use of isCGM in the Management of Patients With Insulin Therapy: The MONITOR Project. *Journal Of Diabetes Science And Technology*. 2023; 17(5):19322968221087270. DOI:10.1177/19322968221087270. PMID:35466722. Document type: Article.
- Arrobas T, Guijarro C, Campuzano R, Rodríguez M, Valderrama JF, Pérez A, Botana MA, Morais A, García JA, Obaya JC, Castilla L, Pallares V, Egocheaga I, Salgueira M, Castellanos MM, Mostaza JM, Gómez JJ, Buño A, en representacion Y. Consensus document for lipid profile determination and reporting in Spanish clinical laboratories. What parameters should be included in a basic lipid profile?. *Endocrinología Diabetes y Nutrición*. 2023; 70(7). DOI:10.1016/j.endinu.2023.02.002. IF:1,900 (Q4/9D). Document type: Article.
- Arrobas T, Guijarro C, Campuzano R, Rodríguez M, Valderrama JF, Pérez A, Botana MA, Morais A, García JA, Obaya JC, Castilla L, Pallares V, Egocheaga I, Salgueira M, Castellanos MM, Mostaza JM, Gómez JJ, Buño A, en representacion Y. Consensus document for lipid profile determination and reporting in Spanish clinical laboratories. What parameters should be included in a basic lipid profile?. *Cirugía Cardiovascular*. 2023; 30(3). DOI:10.1016/j.circv.2023.02.001. Document type: Article.
- Arrobas T, Guijarro C, Campuzano R, Rodríguez M, Valderrama JF, Pérez A, Botana MA, Morais A, García JA, Obaya JC, Castilla L, Pallares V, Egocheaga I, Salgueira M, Castellanos MM, Mostaza JM, Gómez JJ, Buño A, en representacion Y. Consensus document for lipid profile determination and reporting in Spanish clinical laboratories. Rec: *Cardioclínica*. 2023; 58(2). DOI:10.1016/j.rccl.2022.11.004. Document type: Article.
- Arrobas T, Guijarro C, Campuzano R, Rodríguez M, Valderrama JF, Pérez A, Botana MA, Morais A, García JA, Obaya JC, Castilla L, Pallares V, Egocheaga I, Salgueira M, Castellanos MM, Mostaza JM, Gómez JJ, Buño A, en representacion Y. Consensus document for lipid profile determination and reporting in Spanish clinical laboratories. What parameters should be included in a basic lipid profile?. *REVISTA CLINICA ESPAÑOLA*. 2023; 223(7). DOI:10.1016/j.rce.2022.11.001. PMID:37302464. IF:2,900 (Q2/5D). Document type: Article.
- Arrobas T, Guijarro C, Campuzano R, Rodríguez M, Valderrama JF, Pérez A, Botana MA, Morais A, García JA, Obaya JC, Castilla L, Pallares V, Egocheaga I, Salgueira M, Castellanos MM, Mostaza JM, Gómez JJ, Buño A. Documento de consenso para la determinación e informe del perfil lipídico en laboratorios clínicos españoles: ¿qué parámetros debe incluir un perfil lipídico básico?. *AVANCES IN LABORATORY MEDICINE-AVANCES EN MEDICINA DE LABORATORIO*. 2023; 4(2). DOI:10.1515/almed-2023-0010. Document type: Article.
- Battelino T, Alexander CM, Amiel SA, Arreaza G, Beck RW, Bergenstal RM, Buckingham BA, Carroll J, Ceriello A, Chow E, Choudhary P, Close K, Danne T, Dutta S, Gabbay R, Garg S, Heverly J, Hirsch IB, Kader T, Kenney J, Kovatchev B, Laffel L, Maahs D, Mathieu C, Mauricio D, Nimri R, Nishimura R, Scharf M, Del Prato S, Renard E, Rosentock J, Saboo B, Ueki K, Umpierrez GE, Weinzimer SA, Phillip M. Continuous glucose monitoring and metrics for clinical trials: an international consensus statement. *Lancet Diabetes & Endocrinology*. 2023; 11(1). DOI:10.1016/S2213-8587(22)00319-9. PMID:36493795. IF:44,500 (Q1/1D). Document type: Review.
- Bellido V, Freckman G, Pérez A, Galindo RJ. Accuracy and Potential Interferences of Continuous Glucose Monitoring Sensors in the Hospital. *Endocrine Practice*. 2023; 29(11). DOI:10.1016/j.eprac.2023.06.007. PMID:37369291. IF:4,200 (Q2/4D). Document type: Review.
- Bellon F, Solà I, Gimenez G, Hernández M, Metzendorf MI, Rubinata E, Mauricio D. Periope-



## 5.1.5 Translational Medicine Area

- rative glycaemic control for people with diabetes undergoing surgery. *Cochrane Database of Systematic Reviews*. 2023; (8):CD007315. DOI:10.1002/14651858.CD007315.pub3. PMID:37526194. IF:8,400 (Q1/2D). Document type: Review.
- Bermudez M, Marti M, Castro E, Bretones MD, Farras C, Gonzalez J, Pamplona R, Lecube A, Mauricio D, Cambray S, Valdivielso JM, Fernández E, ILERVAS C. Cumulative tobacco consumption has a dose-dependent effect on atheromatosis burden and improves severe atheromatosis prediction in asymptomatic middle-aged individuals: The ILERVAS study. *ATHEROSCLEROSIS*. 2023; 375. DOI:10.1016/j.atherosclerosis.2023.05.002. PMID:37276714. IF:5,300 (Q2/3D). Document type: Article.
  - Bundo M, Vlachó B, Llussa J, Bobe I, Aivar M, Ciria C, Martínez A, Real J, Mata M, Cos X, Doria M, Viade J, Franch J, Mauricio D. Prediction of outcomes in subjects with type 2 diabetes and diabetic foot ulcers in Catalan primary care centers: a multicenter observational study. *Journal of Foot and Ankle Research*. 2023; 16(1):8. DOI:10.1186/s13047-023-00602-6. PMID:36849888. IF:2,900 (Q2/3D). Document type: Article.
  - Canyelles M, Blanco F, Pérez A, Escolà JC. Comment on Huh et al. Remnant Cholesterol Is an Independent Predictor of Type 2 Diabetes: A Nationwide Population-Based Cohort Study. *Diabetes Care*. 2023;46:305-312. *DIABETES CARE*. 2023; 46(10):e203. DOI:10.2337/dc23-0774. PMID:37729500. IF:16,200 (Q1/1D). Document type: Letter.
  - Chico A, de Solis SN, Lainez M, Rius F, Cuesta M. Efficacy, Safety, and Satisfaction with the Accu-Chek Insight with Diabeloop Closed-Loop System in Subjects with Type 1 Diabetes: A Multicenter Real-World Study. *Diabetes Technology & Therapeutics*. 2023; 25(4). DOI:10.1089/dia.2022.0449. PMID:36724301. IF:5,400 (Q1/3D). Document type: Article.
  - Chico A, Moreno J, Fernández D, Solá E. The Hybrid Closed-Loop System Tandem t:slim X2™ with Control-IQ Technology: Expert Recommendations for Better Management and Optimization. *Diabetes Therapy*. 2023; 15(1). DOI:10.1007/s13300-023-01486-2. PMID:37857988. IF:3,800 (Q2/5D). Document type: Article.
  - Corral M, Arpa B, Rosell E, Egia L, Mora C, Stratmann T, Sánchez A, Casanovas A, Esquerda JE, Mauricio D, Vives M, Verdaguer J. NOD mouse dorsal root ganglia display morphological and gene expression defects before and during autoimmune diabetes development. *Frontiers in Endocrinology*. 2023; 14:1176566. DOI:10.3389/fendo.2023.1176566. PMID:37334284. IF:5,200 (Q1/3D). Document type: Article.
  - Dieberger AM, Obermayer B, Harreiter J, Desoye G, van MNM, Simmons D, Corcoy R, Perez JMA, Kautzky A, Damm P, Mathiesen E, Jensen DM, Andersen LLT, Dunne F, Lapolla A, Dalfrá MG, Bertolotto A, Jelsma JGM, Galjaard S, Wender E, Zawiejska A, Hill D, Devlieger R, Snoek FJ, DALI Core Investigator G. Physical activity and sedentary time across pregnancy and associations with neonatal weight, adiposity and cord blood parameters: a secondary analysis of the DALI study. *INTERNATIONAL JOURNAL OF OBESITY*. 2023; 47(9). DOI:10.1038/s41366-023-01347-9. PMID:37500924. IF:4,900 (Q2/3D). Document type: Article.
  - Escalada J, Pérez A, Rica I. Is the Spanish type 1 diabetes mellitus registry really necessary?. *Endocrinología Diabetes y Nutrición*. 2023; 70(10). DOI:10.1016/j.endinu.2023.05.002. PMID:38000969. IF:1,900 (Q4/9D). Document type: Article.
  - Falkenhain D, Muniesa C, Estrach MT, Morillo M, Peñate Y, Acebo E, Pujol RM, García MP, Machan S, Medina S, Botella R, Fernández de Misa R, Blanes M, Flórez A, Pérez G, Izu R, Yanguas I, Silva E, Pérez A, Prieto L, Zayas A, Parera ME, Pérez A, Aspe L, Román C, Sánchez MP, Bassas J, Domínguez JD, Calzado L, Navedo M, Ortiz A, Servitje O, Polo I, Torres I, Hernández MN, Mitxelena J, García A, García I, Ortiz PL. Primary Cutaneous Lymphoma Registry of the Spanish Academy of Dermatology and Venereology (AEDV): Data for the First 5 Years. *Actas Dermo-Sifiliográficas*. 2023; 114(4). DOI:10.1016/j.ad.2022.11.010. PMID:36529273. Document type: Article.
  - Frontino G, Succurro E, Corcoy R, Scialabba F, Poloniato A, Scavini M. Current and future trends



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- in gestational diabetes diagnosis, care and neonatal outcomes. *Frontiers in Endocrinology*. 2023; 14:1270472. DOI:10.3389/fendo.2023.1270472. PMID:38098867. IF:5,200 (Q1/3D). Document type: Editorial Material.
- García A, Balsells M, Solà I, Gich I, Corcoy R. Impact of gestational diabetes mellitus treatment on medium/long-term outcomes after pregnancy: A systematic review and meta-analysis. *DIABETIC MEDICINE*. 2023; 40(1):e14998. DOI:10.1111/dme.14998. PMID:36326694. IF:3,500 (Q3/6D). Document type: Article.
  - García E, Gil P, Miñambres I, Benitez A, Rodríguez C, Claudi L, Julve J, Benitez S, Sánchez JL, Rives J, García X, Vilades D, Perez A, Llorente V. Increased sLRP1 and decreased atrial natriuretic peptide plasma levels in newly diagnosed T2DM patients are normalized after optimization of glycemic control. *Frontiers in Endocrinology*. 2023; 14:1236487. DOI:10.3389/fendo.2023.1236487. PMID:37635956. IF:5,200 (Q1/3D). Document type: Article.
  - Genua I, Iruzubieta P, Rodríguez JC, Pérez A, Crespo J. NAFLD and type 2 diabetes: A practical guide for the joint management. *Gastroenterología y Hepatología*. 2023; 46(10). DOI:10.1016/j.gastrohep.2022.12.002. PMID:36584750. IF:1,900 (Q4/10D). Document type: Review.
  - Giannella A, Castelblanco E, Zambon CF, Basso D, Hernandez M, Ortega E, Alonso N, Mauricio D, Avogaro A, Ceolotto G, Vigili de Kreutzenberg S. Circulating Small Noncoding RNA Profiling as a Potential Biomarker of Atherosclerotic Plaque Composition in Type 1 Diabetes. *DIABETES CARE*. 2023; 46(3). DOI:10.2337/dc22-1441. PMID:36577032. IF:16,200 (Q1/1D). Document type: Article.
  - Giménez G, Vinals C, Mata M, Vlachos B, Real J, Franch J, Ortega E, Mauricio D. Epidemiology of the first-ever cardiovascular event in people with type 1 diabetes: a retrospective cohort population-based study in Catalonia. *Cardiovascular Diabetology*. 2023; 22(1):179. DOI:10.1186/s12933-023-01917-1. PMID:37452416. IF:9,300 (Q1/1D). Document type: Article.
  - Goh SY, Kosiborod MN, Lam CSP, Cavender MA, Kohsaka S, Norhammar A, Birkeland KI, Holl RW, Mauricio D, Tangri N, Shaw JE, Thureson M, Fenici P, Kim DJ, REAL Investigators Study CVDGRP. Lower risk of cardiovascular events and death associated with initiation of sodium-glucose cotransporter-2 inhibitors versus sulphonylureas: Analysis from the CVD-REAL 2 study. *DIABETES OBESITY & METABOLISM*. 2023; 25(8). DOI:10.1111/dom.15092. PMID:37055714. IF:5,800 (Q1/3D). Document type: Letter.
  - Gomez F, Menéndez E, Conde S, Conget I, Novials A, Olmedo IS, Tinahones F, San Laureano FC, de la Torre ML, Carazo AM, Hospital J, Nivelá OB, Menéndez E, Cosmas LM, Payeras F, Gomez IL, Bayo J, Montalbán C, Gomez F, de Luis D, Diaz G, López A, Santos E, Jimenez LML, Alvarez V, Samper BB, Ballesteros AC, Gomez BD, Conget I, Perez M, Soldevila B, Flores IC, García MH, Ricart W, Colet AM, Biescas EC, Ampudia FJ, Hernandez A, Sánchez C, Pico A, Escibano JRD, Montañana CF, Pedro T, Abellan P, Rossetti P, Morales FM, Enciso F, Gonzalez AS, Guerrero DB, Cano RL, López JMG, Melero V, Martin J, Mira SA, Serrano MB, Sanfeliu MB, Pascual AC, Gomez FJD, Fernández M, Illán F, Martínez A, Llenas LF, Gaztambide S, Gomez CRF, Oleaga A, de Salinas M, López JP, Gomez AL, Sancho A, Lozano MF, Galan IR, Caimari M, Cardona R, Leon MC, Gonzalez GC, Diez F, Rodríguez PC, Roldan B, del Villar NGP, Perez PR, Rica I, López ID, SED SED1 Study I. Physical activity patterns in type 1 diabetes in Spain: The SED1 study. *BMC Sports Science Medicine and Rehabilitation*. 2023; 15(1):92. DOI:10.1186/s13102-023-00695-3. PMID:37491278. IF:1,900 (Q3/6D). Document type: Article.
  - Gracia A, López A, Lazaro JL, Perez A, Pomares FJ, Fernández LM, Gil VF, Chicharro E. Consensus-based recommendations on physical activity and exercise in patients with diabetes at risk of foot ulcerations: a Delphi study. *Brazilian Journal of Physical Therapy*. 2023; 27(2):100500. DOI:10.1016/j.bjpt.2023.100500. PMID:37079949. IF:3,400 (Q1/2D). Document type: Article.
  - Iruzubieta P, Bataller R, Arias MT, Arrese M, Calleja JL, Castro G, Cusi K, Dillon JF, Martinez ML, Mateo M, Perez A, Rinella ME, Romero M, Schattenberg JM, Zelber S, Crespo J, Lazarus JV. Research Priorities for Precision Medicine in NAFLD. *Clinics in Liver Disease*. 2023; 27(2).



## 5.1.5 Translational Medicine Area

- DOI:10.1016/j.cld.2023.01.016. PMID:37024222. IF:5,100 (Q2/3D). Document type: Article.
- Jayaraman S, Pérez A, Miñambres I, Sánchez JL, Gursky O. LDL binding to cell receptors and extracellular matrix is proatherogenic in obesity but improves after bariatric surgery. *JOURNAL OF LIPID RESEARCH*. 2023; 64(11):100451. DOI:10.1016/j.jlr.2023.100451. PMID:37777014. IF:6,500 (Q1/2D). Document type: Article.
  - Julián MT, Ballesta S, Pera G, Pérez A, Soldevila B, Caballería L, Morillas R, Expósito C, Martínez-Escudé A, Puig M, Franch J, Torán P, Cusi K, Julve J, Mauricio D, Alonso N. Abdominal obesity and dysglycemia are risk factors for liver fibrosis progression in NAFLD subjects: A population-based study. *Frontiers in Endocrinology*. 2023; 13:1051958. DOI:10.3389/fendo.2022.1051958. PMID:36714592. IF:5,200 (Q1/3D). Document type: Article.
  - Julve J, Genua I, Quifer P, Yanes O, Barranco M, Hernandez M, Junza A, Capellades J, Granado M, Alonso N, Castelblanco E, Mauricio D. Circulating metabolomic and lipidomic changes in subjects with new-onset type 1 diabetes after optimization of glycemic control. *DIABETES RESEARCH AND CLINICAL PRACTICE*. 2023; 197:110578. DOI:10.1016/j.diabres.2023.110578. PMID:36804334. IF:5,100 (Q2/3D). Document type: Article.
  - Ling S, Zaccardi F, Vlachos B, Li P, Gattus JR, Mata M, Franch J, Kosiborod MN, Gillies C, Fenici P, Mauricio D, Shah BR, Khunti K. All-cause and cardiorenal mortality in 6 million adults with and without type 2 diabetes: A comparative, trend analysis in Canada, Spain, and the UK. *DIABETES OBESITY & METABOLISM*. 2023; 25(1). DOI:10.1111/dom.14856. PMID:36056765. IF:5,800 (Q1/3D). Document type: Article.
  - López A, Padro T, Villaplana VD, Muñoz N, Pérez A, Vilahur G, Badimon L. Vascular and Platelet Effects of Tomato Soffritto Intake in Overweight and Obese Subjects. *Nutrients*. 2023; 15(24):5084. DOI:10.3390/nu15245084. PMID:38140343. IF:5,900 (Q1/2D). Document type: Article.
  - Mangas N, Mateu M, Martínez MJ, López A, Pujol I, Martínez C, Corcoy R. Hybrid closed-loop systems can help patients with extreme fear of hypoglycemia or hyperglycemia. *Hormones-International Journal of Endocrinology and Metabolism*. 2023; 22(3). DOI:10.1007/s42000-023-00451-9. PMID:37198528. IF:3,200 (Q3/7D). Document type: Article.
  - Masson W, Barbagelata L, Godínez E, Genua I, Nogueira JP. Association between hepatic steatosis and lipoprotein(a) levels in non-alcoholic patients: A systematic review. *Indian Journal Of Gastroenterology*. 2023; DOI:10.1007/s12664-023-01457-2. PMID:38036914. Document type: Review.
  - Mathiesen ER, Alibegovic AC, Corcoy R, Dunne F, Feig DS, Hod M, Jia T, Kalyanam B, Kar S, Kautzky A, Marchesini C, Rea RD, Damm P, EXPECT G. Insulin degludec versus insulin detemir, Both in combination with insulin aspart, in the treatment of pregnant women with type 1 diabetes (EXPECT): an open-label, multinational, randomised, controlled, non-inferiority trial. *Lancet Diabetes & Endocrinology*. 2023; 11(2). DOI:10.1016/S2213-8587(22)00307-2. PMID:36623517. IF:44,500 (Q1/1D). Document type: Article.
  - Mauricio D, Gratacòs M, Franch J. Diabetic microvascular disease in non-classical beds: the hidden impact beyond the retina, the kidney, and the peripheral nerves. *Cardiovascular Diabetology*. 2023; 22(1):314. DOI:10.1186/s12933-023-02056-3. PMID:37968679. IF:9,300 (Q1/1D). Document type: Review.
  - Mauricio D, Vlachos B, Ortega E, Cos X, Mata M, Real J, Fernández B, Franch J. Outcome of COVID-19 infection in people with diabetes mellitus or obesity in the primary care setting in Catalonia, Spain: A retrospective cohort study of the initial three waves. *Primary Care Diabetes*. 2023; 17(1). DOI:10.1016/j.pcd.2022.12.002. PMID:36528549. IF:2,900 (Q2/5D). Document type: Article.
  - Mendoza LC, Tashkova M, Corcoy R, Dornhorst A. Pregnancy induces longitudinal changes in urinary C-peptide creatinine ratio in women with type 1 diabetes. *DIABETIC MEDICINE*. 2023; 41(1):e15154. DOI:10.1111/dme.15154. PMID:37227744. IF:3,500 (Q3/6D). Document type: Article.
  - Miñambres I, de Hollanda A, Villarrasa N, Pellitero S, Rubio MA, Flores L, Caixàs A, Lobo S, Martínez



## 5.1.5 Translational Medicine Area

- Jl, Acevedo B, Moizé V, Andreu A, Escalada J, S, S, S, A, S, S. Obesity and fertility. Position statement. *Endocrinología Diabetes y Nutrición*. 2023; 70. DOI:10.1016/j.endinu.2022.10.002. IF:1,900 (Q4/9D). Document type: Article.
- Miñambres I, de Hollanda A, Vilarrasa N, Pellitero S, Rubio MA, Flores L, Caixàs A, Lobo S, Martínez Jl, Acevedo B, Moizé V, Andreu A, Escalada J, S. Obesity and fertility. Position statement. *Endocrinología Diabetes y Nutrición*. 2023; 70 Suppl 1. DOI:10.1016/j.endien.2023.03.003. PMID:36907798. IF:1,900 (Q4/9D). Document type: Article.
  - Mollo A, Vlachó B, Gratacos M, Mata M, Rubinat E, Berenguera A, Real J, Puig R, Cos X, Franch J, Khunti K, Mauricio D, INTEGRA GRP. Impact of a multicomponent healthcare intervention on glycaemic control in subjects with poorly controlled type 2 diabetes: The INTEGRA study. *DIABETES OBESITY & METABOLISM*. 2023; 25(4). DOI:10.1111/dom.14951. PMID:36546592. IF:5,800 (Q1/3D). Document type: Article.
  - Mollo A, Vlachó B, Gratacos M, Mata M, Rubinat E, Osso AB, Cos FX, Franch J, Khunti K, Mauricio D. A multicomponent health care intervention is associated with improved glycaemic control in subjects with poorly controlled type 2 diabetes compared with routine care: The INTEGRA study. *DIABETES OBESITY & METABOLISM*. 2023; 25(12). DOI:10.1111/dom.15250. PMID:37608473. IF:5,800 (Q1/3D). Document type: Article.
  - Monroy G, Fernández C, Olmo R, Martínez MJ, DE Leiva A, Corcoy R. Breastfeeding is associated with a delayed decrease in postprandial maternal glucose concentration. *Minerva Endocrinology*. 2023; 48(4). DOI:10.23736/S2724-6507.23.03962-3. PMID:37158811. Document type: Article.
  - Muller D, Freemantle N, Bonadonna RC, Mauquoi C, Bigot G, Bonnemaire M, Gourdy P, Mauricio D. Glycaemic Control in People with Type 2 Diabetes Mellitus Switching from Basal Insulin to Insulin Glargine 300 U/ml (Gla-300): Results from the REALI Pooled Database. *Diabetes Therapy*. 2023; 14(2). DOI:10.1007/s13300-022-01356-3. PMID:36596946. IF:3,800 (Q2/5D). Document type: Article.
  - Muñoz JP, Sánchez P, Diarte E, Zorzano A, Blanco F, Julve J. FTY720-P, a Biased S1PR Ligand, Increases Mitochondrial Function through STAT3 Activation in Cardiac Cells. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(8):7374. DOI:10.3390/ijms24087374. PMID:37108539. IF:5,600 (Q1/3D). Document type: Article.
  - Navas M, Almendra R, Puertas L, Jimenez F, Julve J, Perez B, Consegal M, Kassan M, Martinez J, Rodríguez C, Galan M. Targeting mitochondrial stress with Szeto-Schiller 31 prevents experimental abdominal aortic aneurysm: Crosstalk with endoplasmic reticulum stress. *BRITISH JOURNAL OF PHARMACOLOGY*. 2023; 180(17). DOI:10.1111/bph.16077. PMID:36964990. IF:7,300 (Q1/1D). Document type: Article.
  - Nino J, Rojo MI, Martínez P, Rossell J, Ruiz AJ, Alonso N, Ramos B, Mauricio D, Julve J. NAD plus Precursors and Intestinal Inflammation: Therapeutic Insights Involving Gut Microbiota. *Nutrients*. 2023; 15(13):2992. DOI:10.3390/nu15132992. PMID:37447318. IF:5,900 (Q1/2D). Document type: Review.
  - Niño-Narvión J, Camacho M, Julve J. NAD+ Precursors: A Physiological Reboot? *Nutrients*. 2023; 15(20):4479. DOI: 10.3390/nu15204479. PMID: 37892554. IF:5,900 (Q1/2D). Document type: Editorial Material.
  - Ortega E, Vlachó B, Treserres RP, Mata M, Altes A, Mauricio D, Franch J. Severe hypertriglyceridemia prevalence at a primary care setting in Catalonia, Spain. *Journal of Clinical Lipidology*. 2023; 17(6). DOI:10.1016/j.jacl.2023.09.002. PMID:37741728. IF:4,400 (Q2/3D). Document type: Article.
  - Padro T, López A, Pérez A, Vilahur G, Badimon L. Dietary ?3 Fatty Acids and Phytosterols in the Modulation of the HDL Lipidome: A Longitudinal Crossover Clinical Study. *Nutrients*. 2023; 15(16):3637. DOI:10.3390/nu15163637. PMID:37630826. IF:5,900 (Q1/2D). Document type: Article.
  - Pedro J, Barrios V, Sánchez V, Tamargo J, Arrieta F, Gámez JM, Gimeno JA, Escobar C, Gómez JJ, Pérez A, en nombre S. Treatment of hypertriglyceridaemia with icosapent ethyl in patients with high/very high cardiovascular risk. *Consensus*



## 5.1.5 Translational Medicine Area

- document of the Sociedad Española de Cardiología. *Endocrinología Diabetes y Nutrición*. 2023; 70. DOI:10.1016/j.endinu.2022.03.004. IF:1,900 (Q4/9D). Document type: Article.
- Pedro J, Barrios V, Sánchez V, Tamargo J, Arrieta F, Gámez JM, Gimeno JA, Escobar C, Gómez JJ, Pérez A, Working Groups of Cardiovascular Pharmacotherapy of the Sociedad Española de Ca. Treatment of hypertriglyceridaemia with icosapent ethyl in patients with high/very high cardiovascular risk. Consensus document of the Sociedad Española de Cardiología [Spanish Society of Cardiology] and the Sociedad Española de Diabetes [Spanish Diabetes Society]. *Endocrinología Diabetes y Nutrición*. 2023; 70(Suppl.1). DOI:10.1016/j.endien.2022.11.009. PMID:36402735. IF:1,900 (Q4/9D). Document type: Article.
  - Pennells L, Kaptoge S, Ostergaard HB, Read SH, Carinci F, Franch J, Petitjean C, Taylor O, Hageman SHJ, Xu Z, Shi FC, Spackman S, Gualdi S, Holman N, Costa R, Bonnet F, Brenner H, Kiechl S, Lawlor DA, Potier L, Schottker B, Sofat R, Volzke H, Willeit J, Baltane Z, Fava S, Janos S, Lavens A, Pildava S, Poljicanin T, Pristas I, Rossing P, Sascha R, Scheidt C, Stotl I, Tibor G, Urbancic V, Vanherwegen AS, Vistisen D, Du Y, Walker MR, Willeit P, Ference B, De Bacquer D, Halle M, Huculeci R, McEvoy JW, Timmis A, Vardas P, Dorrestijn J, Graham I, Wood A, Eliasson B, Herrington W, Danesh J, Mauricio D, Benedetti MM, Sattar N, Visseren FLJ, Wild S, Di E, Balkau B, Fumeron F, Stocker H, Holleczeck B, Schipf S, Schmidt CO, Doerr M, Tilg H, Leitner C, Notdurfter M, Taylor J, Dale C, Prieto D, Gillum RF, Buble T, Ivanko P, Carstensen B, Heidemann C, Gall T, Sandor J, Lepiksone J, Magri CJ, Azzopardi J, Real J, Vlachos B, Mata M, SCORE2 GRP, ESC Cardiovascular Risk C, ERFC I, SIDIAP I. SCORE2-Diabetes: 10-year cardiovascular risk estimation in type 2 diabetes in Europe. *EUROPEAN HEART JOURNAL*. 2023; 44(28). DOI:10.1093/eurheartj/ehad260. PMID:37247330. IF:39,300 (Q1/1D). Document type: Article.
  - Pérez A, Redondo J, Romera I, Lizán L, Santos MRD, Díaz S, Orozco D. Disease and Economic Burden of Poor Metabolic and Weight Control in Type 2 Diabetes in Spain: A Systematic Literature Review. *Diabetes Therapy*. 2023; DOI:10.1007/s13300-023-01503-4. PMID:37989829. IF:3,800 (Q2/5D). Document type: Review.
  - Reis A, Rocha S, Dias IH, Costa R, Soares R, Sánchez JL, Perez A, de Freitas V. Type 2 Diabetes mellitus alters the cargo of (poly)phenol metabolome and the oxidative status in circulating lipoproteins. *Redox Biology*. 2023; 59:102572. DOI:10.1016/j.redox.2022.102572. PMID:36516720. IF:11,400 (Q1/1D). Document type: Article.
  - Revilla G, Al Qtaish N, Caruana P, Sainz M, López T, Rodríguez F, Paez V, Li CD, Vallverdú NF, Edwards M, Moral A, Pérez JI, Escolà JC, Pedraz JL, Gallego I, Corcoy R, Céspedes MV, Puras G, Mato E. Lenvatinib-Loaded Poly(lactic-co-glycolic acid) Nanoparticles with Epidermal Growth Factor Receptor Antibody Conjugation as a Preclinical Approach to Therapeutically Improve Thyroid Cancer with Aggressive Behavior. *Biomolecules*. 2023; 13(11):1647. DOI:10.3390/biom13111647. PMID:38002329. IF:5,500 (Q1/3D). Document type: Article.
  - Revilla G, Ruiz L, Vallverdu NF, Santamaria P, Moral A, Perez JI, Li CD, Fuste V, Lerma E, Corcoy R, Pitoia F, Escola JC, Mato E. Low-Density Lipoprotein Receptor Is a Key Driver of Aggressiveness in Thyroid Tumor Cells. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(13):11153. DOI:10.3390/ijms241311153. PMID:37446330. IF:5,600 (Q1/3D). Document type: Article.
  - Rodríguez R, Granado M, de Oca A, Julian MT, Domingo M, Codina P, Santiago E, Cediell G, Julve J, Rossell J, Masana L, Mauricio D, Lupon J, Bayes A, Alonso N. Fatty Acid Binding Proteins 3 and 4 Predict Both All-Cause and Cardiovascular Mortality in Subjects with Chronic Heart Failure and Type 2 Diabetes Mellitus. *Antioxidants*. 2023; 12(3):645. DOI:10.3390/antiox12030645. PMID:36978893. IF:7,000 (Q1/1D). Document type: Article.
  - Rojo MI, Bermúdez M, Castro E, Farràs C, Torres G, Pamplona R, Lecube A, Valdivielso JM, Fernández E, Julve J, Castelblanco E, Franch J, Alonso N, Granado M, Mauricio D, Miquel E, Ortega M, Barbé F, González J, Barril S, Sánchez M, Portero M, Jové M, Hernández M, Rius F, Godoy P,



## 5.1.5 Translational Medicine Area

- Alonso MM, ILERVAS C. Low adherence to the Mediterranean diet is associated with increased prevalence and number of atherosclerotic plaques in the ILERVAS cohort. *ATHEROSCLEROSIS*. 2023; 380:117191. DOI:10.1016/j.atherosclerosis.2023.117191. PMID:37586219. IF:5,300 (Q2/3D). Document type: Article.
- Rossell J, Rojo MI, Julve J, Mauricio D. The Bittersweet Beat: Diabetes Complications. *Journal of Clinical Medicine*. 2023; 12(12):4018. DOI:10.3390/jcm12124018. PMID:37373711. IF:3,900 (Q2/4D). Document type: Editorial Material.
  - Roth L, Dogan S, Tuna BG, Aranyi T, Benitez S, Borrell M, Bozaykut P, De Meyer GRY, Duca L, Durmus N, Fonseca D, Fraenkel E, Gillery P, Giudici A, Jaisson S, Johansson M, Julve J, Lucas AK, Martinet W, Maurice P, McDonnell BJ, Ozbek EN, Pucci G, Pugh C, Rochfort KD, Roks A, Rotllan N, Shadiow J, Sohrabi Y, Spronck B, Szeri F, Terentes D, Aydin ET, Tura O, Ucar E, Yetik G. Pharmacological modulation of vascular ageing: A review from VascAgeNet. *AGEING RESEARCH REVIEWS*. 2023; 92:102122. DOI:10.1016/j.arr.2023.102122. PMID:37956927. IF:13,100 (Q1/1D). Document type: Review.
  - Sánchez E, Sánchez M, López C, Bermúdez M, Valdivielso JM, Farras C, Pamplona R, Torres G, Mauricio D, Castro E, Fernández E, Lecube A. Is There a Link between Obesity Indices and Skin Autofluorescence? A Response from the ILERVAS Project. *Nutrients*. 2023; 15(1):203. DOI:10.3390/nu15010203. PMID:36615860. IF:5,900 (Q1/2D). Document type: Article.
  - Sanjurjo L, Castelblanco E, Julve J, Villalmanzo N, Tellez E, Ramirez A, Alonso N, Mauricio D, Sarrías MR. Contribution of Elevated Glucose and Oxidized LDL to Macrophage Inflammation: A Role for PRAS40/Akt-Dependent Shedding of Soluble CD14. *Antioxidants*. 2023; 12(5):1083. DOI:10.3390/antiox12051083. PMID:37237950. IF:7,000 (Q1/1D). Document type: Article.
  - Simo R, Franch J, Vlachó B, Real J, Amado E, Flores J, Mata M, Ortega E, Rigla M, Valles J-A, Hernandez C, Mauricio D. Rapid Reduction of HbA1c and Early Worsening of Diabetic Retinopathy: A Real-world Population-Based Study in Subjects With Type 2 Diabetes. *DIABETES CARE*. 2023; 46(9). DOI:10.2337/dc22-2521. PMID:37428631. IF:16,200 (Q1/1D). Document type: Article.
  - Sprankel L, Vizarraga D, Martín J, Manger S, Meier J, Marcos M, Julve J, Rotllan N, Scheffer MP, Escolà JC, Langer JD, Piñol J, Fita I, Frangakis AS. Essential protein P116 extracts cholesterol and other indispensable lipids for Mycoplasmas. *NATURE STRUCTURAL & MOLECULAR BIOLOGY*. 2023; 30(3). DOI:10.1038/s41594-023-00922-y. PMID:36782049. IF:16,800 (Q1/1D). Document type: Article.
  - Tejera C, Chico A, Azriel S, Lardies B, Gomez F, Area S. Connected Insulin Pens and Caps: An Expert's Recommendation from the Area of Diabetes of the Spanish Endocrinology and Nutrition Society (SEEN). *Diabetes Therapy*. 2023; 14(7). DOI:10.1007/s13300-023-01417-1. PMID:37188930. IF:3,800 (Q2/5D). Document type: Article.
  - Tobias DK, Merino J, Ahmad A, Aiken C, Benham JL, Bodhini D, Clark AL, Colclough K, Corcoy R, Cromer SJ, Duan D, Felton JL, Francis EC, Gillard P, Gingras V, Gaillard R, Haider E, Hughes A, Ikle JM, Jacobsen LM, Kahkoska AR, Kettunen JLT, Kreienkamp RJ, Lim LL, Männistö J, Massey R, McLennan NM, Miller RG, Morieri ML, Most J, Naylor RN, Ozkan B, Patel KA, Pilla SJ, Prystupa K, Raghavan S, Rooney MR, Schön M, Semnani Z, Sevilla M, Svalastoga P, Takele WW, Tam CH, Thuesen A, Tosur M, Wallace AS, Wang CC, Wong JJ, Yamamoto JM, Young K, Amouyal C, Andersen MK, Bonham MP, Chen M, Cheng F, Chikowore T, Chivers SC, Clemmensen C, Dabelea D, Dawed AY, Deutsch AJ, Dickens LT, DiMeglio LA, Dudenhöffer M, Evans C, Fernández MM, Fitipaldi H, Fitzpatrick SL, Gitelman SE, Goodarzi MO, Grieger JA, Guasch M, Habibi N, Hansen T, Huang C, Harris A, Ismail HM, Hoag B, Johnson RK, Jones AG, Koivula RW, Leong A, Leung GW, Libman IM, Liu K, Long SA, Lowe WLJR, Morton RW, Motala AA, Onengut S, Pankow JS, Pathirana M, Pazmino S, Perez D, Petrie JR, Powe CE, Quinteros A, Jain R, Ray D, Ried M, Saeed Z, Santhakumar V, Kanbour S, Sarkar S, Monaco GSF, Scholtens DM, Selvin E, Sheu WH, Speake C, Stanislawski MA, Steenackers N, Steck AK, Stefan N, STØYJ, Taylor R, Tye SC, Ukke GG, Urazbayeva M, Van der Schueren



## 5.1.5 Translational Medicine Area

- B, Vazier C, Wentworth JM, Hannah W, White SL, Yu G, Zhang Y, Zhou SJ, Beltrand J, Polak M, Aukrust I, de Franco E, Flanagan SE, Maloney KA, McGovern A, Molnes J, Nakabuye M, Njølstad PR, Pomares H, Provenzano M, Saint C, Zhang C, Zhu Y, Auh S, de Souza R, Fawcett AJ, Gruber C, Mekonnen EG, Mixter E, Sherifali D, Eckel RH, Nolan JJ, Philipson LH, Brown RJ, Billings LK, Boyle K, Costacou T, Dennis JM, Florez JC, Gloyn AL, Gomez MF, Gottlieb PA, Greeley S, Griffin K, Hattersley AT, Hirsch IB, Hivert MF, Hood KK, Josefson JL, Kwak SH, Laffel LM, Lim SS, Loos RJJ, Ma RCW, Mathieu C, Mathioudakis N, Meigs JB, Misra S, Mohan V, Murphy R, Oram R, Owen KR, Ozanne SE, Pearson ER, Perng W, Pollin TI, Pop R, Pratley RE, Redman LM, Redondo MJ, Reynolds RM, Semple RK, Sherr JL, Sims EK, Sweeting A, Tuomi T, Udler MS, Vesco KK, Vilsbøll T, Wagner R, Rich SS, Franks PW. Second international consensus report on gaps and opportunities for the clinical translation of precision diabetes medicine. *NATURE MEDICINE*. 2023; 29(10). DOI:10.1038/s41591-023-02502-5. PMID:37794253. IF:82,900 (Q1/1D). Document type: Article.
- Torres JK, Niño J, Martínez P, Diarte EMG, Méndez KA, del Olmo TV, Rotllan N, Julián MT, Alonso N, Mauricio D, Camacho M, Muñoz JP, Rossell J, Julve J. Nicotinamide Prevents Diabetic Brain Inflammation via NAD<sup>+</sup>-Dependent Deacetylation Mechanisms. *Nutrients*. 2023; 15(14):3083. DOI:10.3390/nu15143083. PMID:37513501. IF:5,900 (Q1/2D). Document type: Article.
  - Velilla TA, Guijarro C, Ruiz RC, Piñero MR, Marcos JFV, Pérez AP, López M, López AM, Donaire J, Obaya JC, Guerra LC, Carratalá VP, Cabello IE, Lazo MS, Rodrigo MMC, Prieto JMM, Doblas JJG, Soto AB, Multidisciplinar GRP. Consensus document for lipid profile determination and reporting in Spanish clinical laboratories. What parameters should be included in a basic lipid profile?. *Clinica E Investigacion En Arteriosclerosis*. 2023; 35(2). DOI:10.1016/j.arteri.2022.10.002. PMID:36925360. Document type: Article.
  - Velilla TA, Guijarro C, Ruiz RC, Piñero MR, Marcos JF, Pérez AP, López A, López AM, Donaire J, Obaya JC, Guerra LC, Carratalá VP, Cabello IE, Lazo MS, Rodrigo MMC, Prieto JMM, Doblas JJG, Soto AB, Multidisciplinary F. Consensus document for lipid profile testing and reporting in Spanish clinical laboratories: what parameters should a basic lipid profile include?. *ADVANCES IN LABORATORY MEDICINE-AVANCES EN MEDICINA DE LABORATORIO*. 2023; 4(2). DOI:10.1515/almed-2023-0047. PMID:38075943. Document type: Article.
  - Velilla TA, Guijarro C, Ruiz RC, Piñero MR, Marcos JFV, Pérez AP, López MAB, López AM, Donaire JAG, Obaya JC, Guerra LC, Carratalá VP, Cabello IE, Lazo MS, Rodrigo MMC, Prieto JMM, Doblas JJG, Soto AB, en representacion Y. Consensus document for lipid profile determination and reporting in Spanish clinical laboratories. What parameters should a basic lipid profile include?. *Neurology Perspectives*. 2023; 3(2):100126. DOI:10.1016/j.neurop.2023.100126. Document type: Article.
  - Vlachos B, Mata M, Fernández B, Liebana LR, Barrot J, Franch J. Adherence to the therapeutic guidelines recommendations among the people with type 2 diabetes mellitus and obesity, frailty, or recent diagnosis, attended in primary health care centers in Spain: A cross-sectional study. *Frontiers in Medicine*. 2023; 10:1138956. DOI:10.3389/fmed.2023.1138956. PMID:37035300. IF:3,900 (Q2/4D). Document type: Article.
  - Xie X, Liu J, García A, Chico A, Mateu M, Amigó J, Adelantado JM, Corcoy R. Gestational weight gain and pregnancy outcomes in women with type 1 and type 2 diabetes mellitus. *ACTA DIABETOLOGICA*. 2023; 60(5). DOI:10.1007/s00592-023-02031-0. PMID:36707439. IF:3,800 (Q2/5D). Document type: Article.
  - Xie X, Liu J, García A, Chico A, Mateu M, Amigó J, Adelantado JM, Corcoy R. Gestational weight gain in women with type 1 and type 2 diabetes mellitus is related to both general and diabetes-related clinical characteristics. *Hormones-International Journal of Endocrinology and Metabolism*. 2023; DOI:10.1007/s42000-023-00497-9. PMID:37845472. IF:3,200 (Q3/7D). Document type: Article.



## Pituitary Gland Disorders

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### DESCRIPTION

We investigate pituitary diseases & their impact, i.e., acromegaly, Cushing's sd. (coordinators of the European registry ERCUSYN), hypopituitarism among others. We are currently carrying out the project "Epidemiology in Catalonia" & investigating residual myopathy and its impact on psychological aspects and health-related quality of life (with specific questionnaires developed by us and used worldwide) after treating these diseases, pathophysiology of oxytocin deficiency and precision medicine in acromegaly, thanks to a recently funded project by the IMPACT strategy in a multicentric study.

### MAIN LINES OF RESEARCH

- ERCUSYN: European Registry of Cushing's Syndrome. Maintenance and operation of the database contains more than 2500 patients and is the largest one so far worldwide on these patients. Leaders SM Webb & A Santos.
- Study of the physiological and pathological secretion of oxytocin in humans besides pregnancy and lactation. Identification and clinical relevance of an oxytocin deficient state in patients with hypothalamic and pituitary diseases, who are presumably at highest risk for an oxytocin deficiency. Leader A Aulinas.
- Effects of Mindfulness therapy in patients with acromegaly and Cushing's syndrome. Leader A Santos.
- Spanish Molecular Registry on Pituitary Adenomas (REMAH study). Leaders J Gil and SM Webb.
- ACROFAST and ACROMICS: Personalized Medicine in acromegaly, to identify markers with a



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- therapeutic value. Leaders J Gil, A Aulinas and SM Webb.
- Epidemiology of hypothalamic-pituitary diseases in Catalonia. Leaders A Aulinas and SM Webb.
- Study of bone microarchitecture and resistance and factors that determine them in Cushing's syndrome or acromegaly in remission. Model for investigating the body's bone-fat interaction. Leader SM Webb.
- Role of myosteatosis in the development and persistence of residual muscle weakness in treated acromegaly and Cushing syndrome. Study of the involved mechanisms. Leader SM Webb.
- Pathophysiology of sleep disorders in patients with hypothalamic and pituitary damage, using a multidisciplinary approach. Leader A Aulinas.

### SCIENTIFIC CHALLENGES

- Evaluate long-term persistent morbidity and mortality in patients who have had Cushing's syndrome or acromegaly, bone quality, psychological outcomes, muscular dysfunction, and quality of life.
- Analyze and update the European database of patients with Cushing syndrome (ERCUSYN), which in 2023 included over 2400 patients, with partners from 61 centers in 27 countries.
- Identification of a provocative test to unmask an oxytocin deficient state in patients with hypothalamic and pituitary diseases using a randomized, crossover, placebo-controlled design.
- Increase our understanding of oxytocin physiology and pathophysiology in healthy humans and clinical conditions (patients with hypothalamic and pituitary diseases, obesity, and eating disorders).
- Conduct in vitro molecular analysis of operated pituitary adenomas within the REMAH (Molecular Registry of Pituitary Adenomas) study, sponsored by the Spanish Endocrinology and Nutrition Society (SEEN), to investigate personalized markers of therapeutic response (mainly in acromegaly, corticotroph adenomas, and non-functioning pituitary adenomas).
- Analyze clinical and molecular aspects of pituitary adenomas diagnosed at a young age, in collaboration with Hospital Universitario Cruces.

- Perform the first epidemiological study in Catalonia on hypothalamic-pituitary diseases and compare it with the PADRIS database of CatSalut.
- Personalized Medicine (IMPACT strategy) through next-generation precision medicine in the diagnosis and treatment of Acromegaly.

### ACTIVE GRANTS

- Aulinas Maso, Anna. Convocatoria Beca Junior Fundacion SEEN Proyecto de investigación 2021. PCN00018. Sociedad Española de Endocrinología y nutrición (SEEN). Duration: 2021-2023. 15.000,00 €.
- Aulinas Maso, Anna. Identificación y relevancia clínica de un estado deficiente de oxitocina: estudio piloto fisiopatológico aleatorizado, cruzado y controlado con placebo. PI20/01165. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 210.540,00 €.
- Aulinas Maso, Anna. Epidemiología de las enfermedades de la hipófisis en Cataluña y análisis de la asistencia prestada a los pacientes. IIBSP-EHH-2021-41. Duration: 2021-2023.

### SCIENTIFIC PRODUCTION

- Amodru V, Ferriere A, Tabarin A, Castinetti F, Tsagarakis S, Toth M, Feelders RA, Webb SM, Reincke M, Netea R, Kastelan D, Elenkova A, Maiter D, Ragnarsson O, Santos A, Valass E, ERCUSYN GRP. Cushing's syndrome in the elderly: data from the European Registry on Cushing's syndrome. *EUROPEAN JOURNAL OF ENDOCRINOLOGY*. 2023; 188(4). DOI:10.1093/ejendo/lvad008. PMID:36749009. IF:5,800 (Q1/3D). Document type: Article.
- Asla Q, Sarda H, Segui N, de Pinillos GM, Mazari-co I, Capel I, Rives J, Suarez J, avila V, Torres MM, Saigi I, Palacios N, Urgell E, Webb SM, Fernández M, Oriola J, Mora M, Tondo M, Aulinas A. Clinical and outcome comparison of genetically positive vs. negative patients in a large cohort of suspected familial hypocalciuric hypercalcemia. *ENDOCRINE*. 2023; DOI:10.1007/s12020-023-03560-y. PMID:38214877. IF:3,700 (Q3/6D). Document type: Article.
- Aulinas A, Muhammed M, Becker KR, Asanza E, Hauser K, Stern C, Gyduis J, Holmes T, Murray HB, Breithaupt L, Micali N, Misra M, Eddy KT, Tho-



## 5.1.5 Translational Medicine Area

- mas JJ, Lawson EA. Oxytocin response to food intake in avoidant/restrictive food intake disorder. *EUROPEAN JOURNAL OF ENDOCRINOLOGY*. 2023; 189(2). DOI:10.1093/ejendo/lvad087. PMID:37474111. IF:5,800 (Q1/3D). Document type: Article.
- Biagetti B, Iglesias P, Villar R, Moure MD, Paja M, Araujo M, Ares J, Alvarez C, Vicente A, Guivernau EA, Novoa I, Perez FG, Camara R, Lecumberri B, Gomez CG, Bernabeu I, Manjon L, Gaztambide S, Cordido F, Webb SM, Menéndez EL, Diez JJ, Simo R, Puig M. Mortality in Acromegaly Diagnosed in Older Individuals in Spain Is Higher in Women Compared to the General Spanish Population. *JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM*. 2023; 108(9). DOI:10.1210/clinem/dgad141. PMID:36916151. IF:5,800 (Q1/3D). Document type: Article.
  - Gil J, Marques M, Valassi E, Serra G, Salinas I, Xifra G, Casano P, Carrato C, Biagetti B, Sesmilo G, Marcos J, Rodríguez H, Rueda A, Aulinas A, Blanco A, Hostalot C, Simó A, Muñoz F, Rico M, Ibanez J, Cordero E, Webb SM, Jordà M, Puig M. Molecular characterization of epithelial-mesenchymal transition and medical treatment related-genes in non-functioning pituitary neuroendocrine tumors. *Frontiers in Endocrinology*. 2023; 14:1129213. DOI:10.3389/fendo.2023.1129213. PMID:37033229. IF:5,200 (Q1/3D). Document type: Article.
  - Marques M, Gil J, Jordà M, Puig M. Predictors of Response to Treatment with First-Generation Somatostatin Receptor Ligands in Patients with Acromegaly. *ARCHIVES OF MEDICAL RESEARCH*. 2023; 54(8):102924. DOI:10.1016/j.arcmed.2023.102924. PMID:38042683. IF:7,700 (Q1/2D). Document type: Article.
  - Marques M, Gil J, Valassi E, Hernández M, Biagetti B, Giménez O, Martínez S, Carrato C, Pons L, Villar R, Araujo M, Blanco C, Simón I, Simó A, Xifra G, Vázquez F, Pavón I, García R, Zavala R, Hanzu FA, Mora M, Aulinas A, Vilarrasa N, Librizzi S, Calatayud M, de Miguel P, Alvarez C, Picó A, Sampedro M, Salinas I, Fajardo C, Cámara R, Bernabéu I, Jordà M, Webb SM, Marazuela M, Puig M. Revisiting the usefulness of the short acute octreotide test to predict treatment outcomes in acromegaly. *Frontiers in Endocrinology*. 2023; 14:1269787. DOI:10.3389/fendo.2023.1269787. PMID:38027102. IF:5,200 (Q1/3D). Document type: Article.
  - O'Toole D, Kunz PL, Webb SM, Goldstein G, Khawaja S, McDonnell M, Boiziau S, Gueguen D, Houchard A, Jr A, Prebtani A. PRESTO 2: An International Survey to Evaluate Patients' Injection Experiences with the Latest Devices/Formulations of Long-Acting Somatostatin Analog Therapies for Neuroendocrine Tumors or Acromegaly. *ADVANCES IN THERAPY*. 2023; 40(2). DOI:10.1007/s12325-022-02360-6. PMID:36502449. IF:3,800 (Q2/4D). Document type: Article.
  - Santos A, Nalin C, Bortolotti G, Dominguez E, Daniela G, Cortési L, Pagani M, Momblan M, Gich I, Webb SM, Trevisan R, Resmini E. The effect of mindfulness therapy in acromegaly, a pilot study. *CLINICAL ENDOCRINOLOGY*. 2023; 98(3). DOI:10.1111/cen.14844. PMID:36342059. IF:3,200 (Q3/7D). Document type: Article.
  - Valassi E, Manichanh C, Amodru V, Fernández PG, Gaztambide S, Yanez F, Martel L, Puig M, Webb SM. Gut microbial dysbiosis in patients with Cushing's disease in long-term remission. Relationship with cardiometabolic risk. *Frontiers in Endocrinology*. 2023; 14:1074757. DOI:10.3389/fendo.2023.1074757. PMID:37342265. IF:5,200 (Q1/3D). Document type: Article.
  - Webb SM, Valassi E. Quality of life in pituitary diseases. *Endocrinologia Diabetes y Nutricion*. 2023; 70(7). DOI:10.1016/j.endien.2023.03.021. PMID:37516611. IF:1,900 (Q4/9D). Document type: Editorial Material.

## Digestive Diseases

### Group leader

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### Researchers

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 Sainz Saenz-Torre, Sergio (FGS)  
 Sánchez Ardid, Elisabet (CIBER)  
 Soriano Pastor, German (FGS)  
 Torras Colell, Javier (FGS)  
 Villanueva Sánchez, Candido (FGS)

### Research Technicians

Giordano, Antonio (IR)  
 Guinart Cuadra, Albert (IR)



### DESCRIPTION

Our research group is highly heterogeneous and includes both clinical and experimental research. Our experience in clinical research has a wide circulation starting more than 30 years ago. Experimental studies have also been done including gastroenterological as well as hepatic diseases either with high prevalence (alcoholic and viral liver diseases, non-alcoholic steatohepatitis, inflammatory bowel disease, etc) or outstanding relevance (variceal bleeding, esophageal diseases, Barrett's esophagus, etc). Indeed, our group plays an important role in the structure of CIBERhd (ISCIII).

### MAIN LINES OF RESEARCH

Experimental research: (These research lines are led by: Dr. Carlos Guarnier, Dr. Germán Soriano, Dr. Cándid Villanueva, Dra. Edilmar Alvarado, Dra. Elisabet Sánchez).

- Experimental rat model of cirrhosis and ascites.
- Mechanisms and prevention of bacterial translocation in rats with cirrhosis.
- Experimental model of spontaneous and induced bacterial peritonitis: physiopathology and treatment.
- MiRNAs expression profile in inflammatory bowel disease after stimulation with toll-like receptor ligands.

Clinical investigation: (These research lines are led by: Dr. Àngels Escorsell, Dr. Carlos Guarnier, Dr. Germán Soriano, Dr. Cándid Villanueva, Dra. Edilmar Alvarado, Dr. Gallego, Dr. Guarnier Argente, Dra Esther García Planella, Dr. Xavier Torras).



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- Physiopathology, diagnosis, treatment, and prevention of bacterial infections, ascites and hepatorenal syndrome in cirrhosis.
- Diagnosis and treatment of hepatic encephalopathy in cirrhosis.
- Cognitive impairment, falls, and quality of life in patients with cirrhosis.
- Physiopathology, diagnosis, treatment, and prevention of digestive haemorrhage due to non-varicose origin.
- Physiopathology, diagnosis, treatment, and prevention of portal hypertension related complications.
- Diagnosis and treatment of chronic hepatitis B and C.
- Diagnosis, prevention and treatment of non-alcoholic fatty liver disease.
- Diagnosis and treatment of hepatocarcinoma.
- Physiopathology, diagnosis, and treatment of intestinal inflammatory disease (inflammatory bowel disease).
- Diagnosis and treatment in advanced gastrointestinal endoscopy.
- Diagnosis and treatment of acute pancreatitis.
- Prevention of acute post-ERCP pancreatitis.
- Chronic pancreatitis and pancreatic neoplasms: molecular studies, early detection, and treatment.
- Evaluation of acute alcohol hepatitis.
- Consolidate the pancreatic illness research line.
- Consolidate the inflammatory bowel disease research line.
- Consolidate the polyps and colon cancer research line.
- Develop a digestive endoscopy research line.
- Consolidate the endoscopy unit as CSUR (central for reference and excellency) in peroral endoscopic myotomy in Spain.
- Group CIBERehd-ivs.

### ACTIVE GRANTS

### SCIENTIFIC CHALLENGES

- Alvarado Tapias, Edilmar. Contractes Juan Rodés 2020. JR20/00047. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2025. 180.000,00 €.
- Alvarado Tapias, Edilmar. Identificación de biomarcadores no invasivos de reversión en la enfermedad hepática por alcohol a través del estudio: vesículas extracelulares y parámetros hemodinámicos. PI21/01995. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 87.120,00 €.
- Escorsell Mañosa, Maria Angels. PATOLOGIA DIGESTIVA. 2022 INV-1 00048. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 66.217,84 €.
- Roman Abal, Eva Maria. Fragilidad en pacientes con cirrosis: efecto de una intervención multifactorial (ejercicio domicilio, aminoácidos ramificados y probióticos). PR-415/2020. Fundació Infermeria i Societat. Duration: 2021-2023. 5.280,00 €.
- Soriano Pastor, German. Fragilidad en pacientes con cirrosis: valor pronóstico del ángulo de fase en pacientes hospitalizados y efecto de una intervención multifactorial (ejercicio en domicilio, aminoácidos ramificados y probiótico). PI19/00275. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 141.570,00 €.
- Villanueva Sánchez, Candid. Caracterización de la interrelación entre la hipertensión portal y la inflamación en la circulación intra-hepática y sistémica en la cirrosis descompensada. PI22/01917. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 93.170,00 €.
- Consolidate the CIBEREHD, CIBER, Institut de salut Carlos III research group by studying complications in cirrhosis.
- Research Grup de Recerca de la UAB (Universitat Autònoma de Barcelona): Grup de Recerca de Complicacions de la Cirrosi Hepàtica.
- Grup de Recerca Consolidad de la Generalitat (SGR).
- Expand the hepatology research lab and develop new research.
- Consolidate the portal hypertension research group.
- Consolidate the non-alcoholic fatty liver disease research group.



## 5.1.5 Translational Medicine Area

## GRANTS AWARDED

- Roig Ramos, Cristina. Utilidad de los criterios ICCE para la preselección de pacientes con sospecha de enfermedad de Crohn tributarios a estudio con cápsula endoscópica, ¿estamos utilizando los criterios adecuados?. IIBSP-ICC-2023-125. Duration: 2023.

## DOCTORAL THESES DEFENDED

- Colán Hernández, Juan. Aspectos técnicos de la ecoendoscopia y colangiopancreatografía retrógrada endoscópica. 02/05/2023. Universitat Autònoma de Barcelona. Supervisors: Guarner Argente, Carlos; Guarner Aguilar, Carlos. <http://hdl.handle.net/10803/690367>
- Romero Mascarell, Cristina. Optimització de l'estudi de l'intestí prim en la malaltia de Crohn: Càpsula endoscòpica, enterografia per ressonància magnètica i calprotectina fecal. 17/11/2023. Universitat de Barcelona. Supervisors: González Suárez, Begoña; Fernández Esparrach, Maria Gloria.

## SCIENTIFIC PRODUCTION

- Acosta MBD, Fernández A, Mesonero F, García FJ, Casanova MJ, Fernández M, Canete F, de Castro L, Gutierrez A, Sicilia B, Cano V, Merino O, de Francisco R, Gonzalez I, Suris G, Torrealba L, Ferreira R, Castro B, Marquez L, Sobrino A, Elorza A, Calvet X, Varela P, Vicente R, Bujanda L, Lario L, Mancenido N, García MF, Iglesias E, Rodríguez C, Piqueras M, Rosique J, Lucendo AJ, Benitez O, García M, Olivares D, Gonzalez C, López B, Alvarado VJM, Spicakova K, Brotons A, Bermejo F, Almela P, Ispizua N, Gilabert P, Tardillo C, Munoz F, Navarro P, Dominguez R, Sendra P, Hinojosa E, Sainz E, Martin MD, Carpio D, Ricart E, Caballol B, Nunez L, Barrio J, Gisbert JP, Iborra M, Calafat M, Hernandez V, Perez R, Cabriada JL, Domenech E, Rodríguez I, ENEIDA R. Long-Term Outcomes of Biological Therapy in Crohn's Disease Complicated With Internal Fistulizing Disease: BIOSCOPE Study From GETECCU. AMERICAN JOURNAL OF GASTROENTEROLOGY. 2023; 118(6). DOI:10.14309/ajg.0000000000002152. PMID:36516073. IF:9,800 (Q1/2D). Document type: Article.
- Alvarado-Tapias E, Marti-Aguado D, Kennedy K, Fernández-Carrillo C, Ventura-Cots M, Morales-Arreaez D, Atkinson SR, Clemente-Sánchez A, Argemi J, Bataller R. Bariatric Surgery Is Associated with Alcohol-Related Liver Disease and Psychiatric Disorders Associated with AUD. Obes Surg. 2023; 33(5):1494-1505. DOI: 10.1007/s11695-023-06490-w. PMID: 36881347. IF:2,900 (Q2/3D). Document type: Article.
- Bas F, Loras C, Pardo A, Ballester R, Huertas C, Guarner C, Colan J, Consiglieri CF, Andujar X, Vilanova M, González F, Pardo L, Maisterra S, Ruiz P, García A, Tebé C, Videla S, Gornals JB. Management of small subepithelial tumors by endoscopic banding without resection and single-incision needle-knife-assisted biopsy sampling: a prospective multicenter study. GASTROINTESTINAL ENDOSCOPY. 2023; 98(6). DOI:10.1016/j.gie.2023.05.057. PMID:37263361. IF:7,700 (Q1/2D). Document type: Article.
- Bazaga S, García FJ, Tormo J, Moreno BM, Sanchiz V, Gornals JB, Loras C, Terán A, Vazquez E, Sanz RP, Súbtíl JC, Pérez A, Porta FU, Vila JJ, de la Serna C, Couto I, Guarner C, Perez M, R. Endoscopic ultrasound-guided gallbladder drainage with long-term lumen-apposing metal stent indwell: 1-year results from a prospective nationwide observational study. JOURNAL OF GASTROENTEROLOGY AND HEPATOLOGY. 2023; DOI:10.1111/jgh.16392. PMID:37920889. IF:4,100 (Q2/5D). Document type: Article.
- Bazaga S, García FJ, Tormo J, Moreno BM, Sanchiz V, Suria C, García A, Gornals JB, Chavarria C, Loras C, García FJ, Teran A, Vazquez E, Sanz RP, Perez L, Subtil JC, Perez A, Porta FU, Bea VB, de la Serna C, García IP, Colan J, Huertas C, Guarner C, Perez M, RNPAL Natl lumen M. Endoscopic removal of lumen-apposing metal stents - risk factors for stent embedment, complex removals, and adverse events: analysis from a multicenter prospective case series. ENDOSCOPY. 2023; 55(7). DOI:10.1055/a-2030-4158. PMID:36882089. IF:9,300 (Q1/1D). Document type: Article.
- Calleja JL, de la Poza G, Hidalgo L, Aguilera Sancho MV, Torras X, Santos de Lamadrid R, Maté C, Sánchez G. Patient journey of individuals tested for HCV in Spain: LiverTAl, a retrospective analysis of EHRs through natural language processing. Gastroenterologia y Hepatologia. 2023; 46(7). DOI:10.1016/j.gastrohep.2022.10.012.



## 5.1.5 Translational Medicine Area

- PMID:36273653. IF:1,900 (Q4/10D). Document type: Article.
- Carrión JA, Graupera I, Vergara M, Morillas RM, Pericàs JM, Poca M, Amador A, Fernández R, Monllor T, Muñoz L, Bartres C, Genescà J, Ginés P, Fornis X. Position paper of the Catalan Society of Gastroenterology about hepatic elastography 2022. *Gastroenterologia y Hepatologia*. 2023; 46(9). DOI:10.1016/j.gastrohep.2022.11.005. PMID:36435378. IF:1,900 (Q4/10D). Document type: Article.
  - Casas D, Lamuela LJ, Gomollón F, Arbonés JM, Caballol B, Gisbert JP, Rivero M, Sánchez E, García LA, Casbas AG, Merino O, Márquez L, Laredo V, Martín MD, Serrano PL, Menéndez SR, González C, Parga LD, Moya MC, Fuentes E, Esteve M, Iborra M, Gil MD, Barreiro M, Lorente RH, Mancenido N, Calafat M, Rodríguez I, Capo JG, Payeras MA, Alvarado VJM, Tardillo C, Bujanda L, Muñoz JF, Nieto YB, Bermejo F, Almela P, Navarro M, Montiel PM, Gutiérrez CR, Van M, Sesé E, Pérez TM, Ricart E, Chaparro M, García MJ, López A, Sicilia B, Orts B, López A, Martín E, Pérez JL, de Francisco R, García E, Domenech E, García S, G. Effectiveness and Safety of Ustekinumab in Elderly Patients with Crohn's Disease: Real World Evidence From the ENEIDA Registry. *Journal of Crohns & Colitis*. 2023; 17(1). DOI:10.1093/ecco-jcc/jjac108. PMID:35913456. IF:8,000 (Q1/2D). Document type: Article.
  - Castillo E, Ríos R, Aràjol C, Gely C, Márquez L, Calafat M, González C, Cañete F, Mesonero F, Guardiola J, García E, Mañosa M, Domènech E. Clinical and endoscopic outcomes of patients with colonic Crohn's disease treated with 5-aminosalicylates as monotherapy. *Gastroenterologia y Hepatologia*. 2023; 46(3). DOI:10.1016/j.gastrohep.2022.09.003. PMID:36179946. IF:1,900 (Q4/10D). Document type: Article.
  - Chaparro M, Acosta D, Rodríguez C, Mesonero F, Vicuña M, Barreiro M, Fernández A, Hernández Á, Arroyo M, Vera I, Ruiz A, Sicilia B, Cabello MJ, Muñoz C, Castro J, Martínez J, Sierra M, Vázquez JM, Vicente R, Bermejo F, Royo V, Calafat M, González C, Leo E, Manceñido N, Torrealba L, Alonso H, Benítez JM, Ber Y, Diz MT, García MJ, Muñoz JF, Armesto EM, Calvet X, Hernández A, Madrigal RE, Menchén L, Pérez JL, Piqueras M, Dueñas C, Botella B, Martínez TDJ, Ramos L, Rodríguez MC, San Miguel E, Fernández JL, Fra-dejas PM, García M, Gutiérrez A, Llaó J, Sesé E, Boscá M, Iyo E, Keco A, Martínez C, Peña E, Pérez P, Varela P, Gisbert JP. Real-World Evidence of Tofacitinib in Ulcerative Colitis: Short-Term and Long-Term Effectiveness and Safety. *AMERICAN JOURNAL OF GASTROENTEROLOGY*. 2023; 118(7). DOI:10.14309/ajg.0000000000002145. PMID:36716287. IF:9,800 (Q1/2D). Document type: Article.
  - D'Amico G, Zipprich A, Villanueva C, Sordà JA, Morillas RM, Garcovich M, Retortillo MG, Martínez J, Cales P, D'Amico M, Dollinger M, García M, Ballerga EG, Tsochatzis E, Cirera I, Albillos A, Roquin G, Pasta L, Colomo A, Daruich J, Canete N, Boursier J, Dallio M, Gasbarrini A, Iacobellis A, Gobbo G, Merli M, Federico A, Baroni GS, Pozzoni P, Addario L, Chessa L, Ridola L, García G. Further decompensation in cirrhosis. Results of a large multicenter cohort study supporting Baveno VII statements. *HEPATOLOGY*. 2023; DOI:10.1097/HEP.0000000000000652. PMID:37916970. IF:13,500 (Q1/1D). Document type: Article.
  - Diaz LA, Fuentes E, Ayares G, Idalsoaga F, Arnold J, Valverde MA, Perez D, Gomez J, Escarate R, Villalon A, Ramirez CA, Hernandez M, Zhang W, Qian S, Simonetto DA, Ahn JC, Buryska S, Dunn W, Mehta H, Agrawal R, Cabezas J, García I, Cuyas B, Poca M, Soriano G, Sarin SK, Maiwall R, Jalal PK, Abdulsada S, Higuera F, Kulkarni AV, Rao PN, Salazar PG, Skladany L, Bystrianska N, Clemente A, Villaseca C, Haider T, Chacko KR, Romero GA, Pollarsky FD, Restrepo JC, Castro S, Toro LG, Yaquich P, Mendizabal M, Garrido ML, Marciano S, Dirchwolf M, Vargas V, Jimenez C, Louvet A, García G, Roblero JP, Abrales JG, Shah VH, Kamath PS, Arrese M, Singal AK, Bataller R, Pablo J. MELD 3.0 adequately predicts mortality and renal replacement therapy requirements in patients with alcohol-associated hepatitis. *J Hep Reports*. 2023; 5(8):100727. DOI:10.1016/j.jhepr.2023.100727. PMID:37456675. IF:8,300 (Q1/2D). Document type: Article.
  - Escorsell A, García JC, Alvarado E, Aracil C, Masnou H, Villanueva C, Bosch J. Pre-emptive TIPS for the treatment of bleeding from gastric fundal varices: Results of a randomised controlled trial.



## 5.1.5 Translational Medicine Area

- Jhep Reports. 2023; 5(6):100717. DOI:10.1016/j.jhepr.2023.100717. PMID:37284139. IF:8,300 (Q1/2D). Document type: Article.
- Gely C, Gordillo J, Bertoletti F, González C, López A, García E. Perception of the need for dietary advice and dietary modifications in inflammatory bowel disease patients. *Gastroenterologia y Hepatología*. 2023; 46(5). DOI:10.1016/j.gastrohep.2022.10.005. PMID:36243252. IF:1,900 (Q4/10D). Document type: Article.
  - Juanola A, Ma AT, de Wit K, Gananandan K, Roux O, Zaccherini G, Jiménez C, Tonon M, Solé C, Villaseca C, Uschner FE, Graupera I, Pose E, Moreta MJ, Campion D, Beuers U, Mookerjee RP, Francoz C, Durand F, Vargas V, Piano S, Alonso S, Trebicka J, Laleman W, Asrani SK, Soriano G, Alessandria C, Serra M, Morales M, Torres F, Allegretti AS, Krag A, Caraceni P, Watson H, Abraldes JG, Sola E, Kamath PS, Hernaez R, Ginès P, LiverHope I. Novel prognostic biomarkers in decompensated cirrhosis: a systematic review and meta-analysis. *GUT*. 2023; DOI:10.1136/gutjnl-2023-329923. PMID:37884354. IF:24,500 (Q1/1D). Document type: Review.
  - Laghi L, Román E, Lan Q, Nieto JC, Canalda A, Poca M, Sánchez MB, Clària J, Alvarado E, Cuyàs B, Sánchez E, Vidal S, Guarner C, Escorsell À, Manichanh C, Soriano G. A multistrain probiotic increases the serum glutamine/glutamate ratio in patients with cirrhosis: a metabolomic analysis. *Hepatology Communications*. 2023; 7(4):e0072. DOI:10.1097/HC9.0000000000000072. PMID:37026745. IF:5,100 (Q2/3D). Document type: Letter.
  - Magaz M, Giudicelli H, Nicoara O, Rajoriya N, Goel A, Raymenants K, Hillaire S, Crespo G, Tillel L, Elkrief L, Fondevila C, Orts L, Nery F, Shukla A, Larrue H, Fundora Y, Degroote H, Aguilera V, Llop E, Turco L, Indulti F, Gioia S, Tosetti G, Bitto N, Becchetti C, Alvarado E, Roig C, Diaz R, Praktijnjo M, Konicek AL, Soy G, Olivas P, Fortea JI, Masnou H, Puente A, Ardevol A, Alvarez C, Romero M, Scheiner B, Semmler G, Mandorfer M, Damiao F, Baiges A, Turon F, Simon M, Gonzalez C, Diaz A, García A, de Gottardi A, Reverter E, Blasi A, Genesca J, Roux O, Francoz C, Ferreira CN, Reiberger T, Rodrguez M, Morillas RM, Crespo J, Trebicka J, Banares R, Villanueva C, Berzigotti A, Primignani M, La Mura V, Riggio O, Schepis F, Procopet B, Verhelst X, Calleja JL, Bureau C, Albillos A, Nevens F, Hernandez V, Tripathi D, Rautou PE, Durand F, García JC. Liver Transplantation for Porto-sinusoidal Vascular Liver Disorder: Long-term Outcome. *TRANSPLANTATION*. 2023; 107(6). DOI:10.1097/TP.0000000000004444. PMID:36479977. IF:6,200 (Q1/1D). Document type: Article.
  - Marti D, Gougol A, Gomez C, Jamali A, Abo A, Morales D, Jimenez A, Burns K, Bawa A, Hernandez A, Pujol C, Alvarado E, Szafranska J, Chiu WK, Villagrasa A, Ventura M, Gandicheruvu H, Lluch P, Chen HW, Rachakonda V, Duarte A, Batailler R. Prevalence and clinical impact of alcohol withdrawal syndrome in alcohol-associated hepatitis and the potential role of prophylaxis: a multinational, retrospective cohort study. *Eclinicalmedicine*. 2023; 61:102046. DOI:10.1016/j.eclinm.2023.102046. PMID:37415844. IF:15,100 (Q1/1D). Document type: Article.
  - Martinez S, Angel E, Sánchez E, Pastor A, Pico J, Gomez I. The 3Rs in Experimental Liver Disease. *Animals*. 2023; 13(14):2357. DOI:10.3390/ani13142357. PMID:37508134. IF:3,000 (Q1/1D). Document type: Review.
  - Mehta G, Riva A, Ballester MP, Uson E, Pujadas M, Carvalho A, Sahuco I, Bono A, D'Amico F, Viganò R, Diago E, Lanseros BT, Inglese E, Vazquez DM, Sharma R, Tsou HLP, Harris N, Broekhoven A, Kikkert M, Morales SPT, Myeni SK, Riveiro M, Palom A, Zeni N, Brocca A, Cussigh A, Cmet S, Escudero D, Stocco M, Natola LA, Ieluzzi D, Paon V, Sangiovanni A, Farina E, di C, Sánchez Y, Lucena A, Román E, Sánchez E, Sánchez R, López J, Canas I, Eastgate C, Jeyanesan D, Morocho AE, Di S, Lapenna L, Zaccherini G, Bongiovanni D, Zanaga P, Sayaf K, Hossain S, Crespo J, Robles M, Madejón A, Degroote H, Fernández J, Korenjak M, Verhelst X, García J, Andrade RJ, Iruzubieta P, Wright G, Caraceni P, Merli M, Patel VC, Gander A, Albillos A, Soriano G, Donato MF, Sacerdoti D, Toniutto P, Buti M, Duvoux C, Grossi PA, Berg T, Polak WG, Puoti M, Bosch A, Belli L, Burra P, Russo FP, Coenraad M, Calleja JL, Perricone G, Berenguer M, Claria J, Moreau R, Arroyo V, Angeli P, Sánchez C, Ampuero J, Piano S, Chokshi S, Jalan R, COBALT C. Serological response and break-





## 5.1.5 Translational Medicine Area

- through infection after COVID-19 vaccination in patients with cirrhosis and post-liver transplant. *Hepatology Communications*. 2023; 7(11):e0273. DOI:10.1097/HC9.0000000000000273. PMID:37870985. IF:5,100 (Q2/3D). Document type: Article.
- Momblan D, Gimeno AZ, Busquets D, Juzgado D, García J, Ferrero E, Tejedor J, Junquera F, Díaz J, Moris M, Rodríguez de Santiago E, Gornals J, Garrido C, Gonzalez S, Guarnier C, Repiso A, Esteban JM, Loras C, Seoane A, Fernández A, Guevara HC, Ibarzabal A, Morales X, Curell A, Cardenas A, Ríos J, de Lacy AM, Sendino O. Endoscopic Vacuum Therapy for Upper Gastrointestinal Leaks and Perforations: Analysis From a Multicenter Spanish Registry. *AMERICAN JOURNAL OF GASTROENTEROLOGY*. 2023; 118(10). DOI:10.14309/ajg.0000000000002475. PMID:37606066. IF:9,800 (Q1/2D). Document type: Article.
  - Nicoara O, Lozano JJ, Alonso C, Sidorova J, Villanueva C, Albillos A, Genesca J, Llop E, Calleja JL, Aracil C, Banares R, Morillas R, Poca M, Penas B, Augustin S, Tantau M, Thompson M, Perez V, Baiges A, Turon F, Hernandez V, Abraldes JG, Tapias EA, Torres F, Bosch J, García JC, PreDesCI I. Metabolomics as a tool to predict the risk of decompensation or liver-related death in patients with compensated cirrhosis. *HEPATOLOGY*. 2023; 77(6). DOI:10.1097/HEP.0000000000000316. PMID:36811400. IF:13,500 (Q1/1D). Document type: Article.
  - Paff SM, Olives MG, Zaragoza BC, Porcel MA, Fernández AR, Serret MS, Abal ER. The Good Life From Birth to Death. *Holistic Nursing Practice*. 2023; 37(3). DOI:10.1097/HNP.0000000000000582. PMID:37070837. IF:1,300 (Q4/8D). Document type: Article.
  - Puig M, Masnou H, Mesonero F, Menchén L, Bujanda L, Castro J, González I, Vicente R, González C, Iborra M, Sierra M, Huguet JM, García MJ, De Francisco R, García FJ, Mañosa M, Domènech E, ENEIDA R. Splanchnic Vein Thrombosis in Inflammatory Bowel Disease: An Observational Study from the ENEIDA Registry and Systematic Review. *Journal of Clinical Medicine*. 2023; 12(23):7366. DOI:10.3390/jcm12237366. PMID:38068418. IF:3,900 (Q2/4D). Document type: Review.
  - Reiniš J, Petrenko O, Simbrunner B, Hofer BS, Schepis F, Scoppettuolo M, Saltini D, Indulti F, Guasconi T, Albillos A, Téllez L, Villanueva C, Brujats A, García JC, Perez V, Hernández V, Rautou P-E, Moga L, Vanwolleghe T, Kwanten WJ, Francque S, Trebicka J, Gu W, Ferstl PG, Gluud LL, Bendtsen F, Møller S, Kubicek S, Mandorfer M, Reiberger T. Assessment of portal hypertension severity using machine learning models in patients with compensated cirrhosis. *JOURNAL OF HEPATOLOGY*. 2023; 78(2). DOI:10.1016/j.jhep.2022.09.012. PMID:36152767. IF:25,700 (Q1/1D). Document type: Article.
  - Roman E, Ricart MT, Campillo B, Serret M, Torres A, Guillaumet M. Health aid in pandemic time. Impact on nursing students. *Revista ROL de Enfermería*. 2023; 46(7-8):36-41. DOI:10.55298/ROL2023.4546. IF:0,100. Document type: Article.
  - Rowe IA, Villanueva C, Shearer JE, Torres F, Albillos A, Genesca J, García JC, Tripathi D, Hayes PC, Bosch J, Abraldes JG. Quantifying the benefit of nonselective beta-blockers in the prevention of hepatic decompensation: A Bayesian reanalysis of the PREDESCI trial. *HEPATOLOGY*. 2023; 78(2). DOI:10.1097/HEP.0000000000000342. PMID:36897269. IF:13,500 (Q1/1D). Document type: Article.
  - Rudler M, Hernandez V, Procopet BD, Giraldez A, Amitrano L, Villanueva C, Ibanez L, Silva G, Genesca J, Bureau C, Trebicka J, Banares R, Krag A, Llop E, Laleman W, Palazon JM, Castellote J, Rodrigues S, Gluud LL, Ferreira CN, Canete N, Rodríguez M, Ferlitsch A, Mundi JL, Gronbaek H, Hernandez M, Sassatelli R, Dell'era A, Senzolo M, Abraldes JG, Romero M, Zipprich A, Casas M, Masnou H, Larrue H, Primignani M, Nevens F, Calleja JL, Schwarzer R, Jansen C, Robic MA, Conejo I, Gonzalez JM, Catalina MV, Albillos A, Alvarado E, Guardascione MA, Mallet M, Tripon S, Casanovas G, Bosch J, García JC, Thabut D, Int Variceal Bleeding O. Hepatic encephalopathy is not a contraindication to pre-emptive TIPS in high-risk patients with cirrhosis with variceal bleeding. *GUT*. 2023; 72(4):326975. DOI:10.1136/gutjnl-2022-326975. PMID:36328772. IF:24,500 (Q1/1D). Document type: Article.
  - Sánchez R, Foruny JR, Vila J, Gallego F, Jiménez J, Domínguez E, González F, Pons V,



## 5.1.5 Translational Medicine Area

- Gornals J, Sánchez E, Gómez C, Dolz C, Aparicio JR. SEED Consensus Document on Spy-Glass-DS. *Gastroenterología y Hepatología*. 2023; 46(1). DOI:10.1016/j.gastrohep.2022.08.012. PMID:36179947. IF:1,900 (Q4/10D). Document type: Article.
- Villanueva A, Hernandez V, Bataller R, Giraldez A, Procopet B, Amitrano L, Villanueva C, Thabut D, Ibanez L, Albillos A, Bureau C, Trebicka J, Llop E, Laleman W, Palazon JM, Castellote J, Rodrigues S, Gluud LL, Ferreira CN, Canete N, Rodríguez M, Ferlitsch A, Mundi JL, Gronbaek H, Hernandez M, Sassatelli R, Dell'Era A, Senzolo M, Abraldes JG, Zipprich A, Casas M, Masnou H, Primignani M, Krag A, Silva G, Romero M, Tantau M, Guardascione MA, Alvarado E, Rudler M, Banares R, Martinez J, Robic MA, Jansen C, Calleja JL, Nevens F, Bosch J, Ventura M, García JC, Genesca J, Int B, Baveno C. Alcohol-related liver disease phenotype impacts survival after an acute variceal bleeding episode. *LIVER INTERNATIONAL*. 2023; 43(7). DOI:10.1111/liv.15606. PMID:37183551. IF:6,700 (Q1/3D). Document type: Article.
  - Villanueva C, Sapena V, GH, Seo YS, Shah HA, Singh V, Tripathi D, Schepke M, Gheorghe C, Bonilha DQ, Jutabha R, Wang HM, Rodrigues SG, Brujats A, Lee HA, Azam Z, Kumar P, Hayes PC, Sauerbruch T, Chen WC, Iacob S, Libera ED, Jensen DM, Alvarado E, Torres F, Bosch J. Improving primary prophylaxis of variceal bleeding by adapting therapy to the clinical stage of cirrhosis. A competing-risk meta-analysis of individual participant data. *ALIMENTARY PHARMACOLOGY & THERAPEUTICS*. 2023; DOI:10.1111/apt.17824. PMID:38108646. IF:7,600 (Q1/1D). Document type: Review.
  - Villanueva C, Torres F, Tripathi D, Bosch J, C. Reply to: "Carvedilol in patients with compensated cirrhosis: The ongoing benefits of definitive randomised trials over meta-analysis in patients with small varices". *JOURNAL OF HEPATOLOGY*. 2023; 79(1):e23-e24. DOI:10.1016/j.jhep.2023.02.025. PMID:36848975. IF:25,700 (Q1/1D). Document type: Letter.
  - Villanueva C, Tripathi D. Carvedilol, probably the  $\beta$ -blocker of choice for everyone with cirrhosis and portal hypertension: But not so fast!. *LIVER INTERNATIONAL*. 2023; 43(6). DOI:10.1111/liv.15582. PMID:37166136. IF:6,700 (Q1/3D). Document type: Editorial Material.
  - Villanueva C. The hidden face of preemptive TIPS. *HEPATOLOGY*. 2023; DOI:10.1097/HEP.0000000000000714. PMID:38085849. IF:13,500 (Q1/1D). Document type: Article.

## Microbiology and Infectious Diseases

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### DESCRIPTION

The Microbiology and Infectious Diseases group comprises a diverse team including physicians, microbiologists, nurses, technicians, and students. Research focuses on Clinical Microbiology, Kidney Transplant, and Infectious Diseases. In Clinical Microbiology, studies include drug resistance mechanisms, tuberculosis, Leishmaniasis, Chagas, viral infections, and microbiome analysis. Kidney Transplant research examines biomarkers, immune responses to infections like CMV and COVID-19, and the impacts of immunosuppression reduction. Infectious Diseases research covers antibiotic policies, multiresistant microorganisms, infections related to foreign bodies, diabetic foot diseases, and tuberculosis. Cutting-edge techniques like Next Generation Sequencing and bioinformatics are employed.

### MAIN LINES OF RESEARCH

#### Clinical Microbiology

- Detection and characterization of different antimicrobial mechanisms of resistance. (Ferran Navarro).
- Epidemiology of tuberculosis and anti-tuberculosis resistance mechanisms (Montserrat Garrigó).
- Molecular diagnosis in infectious diseases, taxonomy (Ferran Navarro and Elisenda Miró).
- Microbiome description in clinical samples (Ferran Navarro, Elisenda Miró, and Alba Rivera).
- Leishmaniasis: epidemiology, characterization and diagnosis and Chagas: diagnosis and congenital infection (Carmen Muñoz and Teresa Llovet).



### 5.1.5 Translational Medicine Area

- Medical care projects (Ferran Sánchez). Early bloodstream infection detection by NGS of cfDNA (Alba Rivera).

#### Infectious Diseases

- Restricted-use policies for antimicrobial agents and suitable use of antimicrobial agents.
- Study of antimicrobial multiresistant microorganism infections requiring patient isolation.
- Study of foreign body infections such as joint prostheses, catheters, cardiac prosthesis, and pacemakers.
- Tuberculosis infectious diseases.

### SCIENTIFIC CHALLENGES

- **Technique Standardization:** Each research area, including Clinical Microbiology, Kidney Transplant, Infectious Diseases, and cfDNA analysis, requires standardized techniques. Ensuring consistency in methodologies across diverse disciplines poses a significant challenge.
- **Data Management and Analysis:** With the adoption of advanced techniques like Next Generation Sequencing and bioinformatics in various fields, managing and analyzing large datasets becomes crucial. Developing robust analytical tools and strategies applicable to different research domains is a challenge.
- **Sample Quality and Handling:** Maintaining sample integrity and minimizing contamination during collection, processing, and storage is vital across all research areas. Developing standardized protocols and ensuring reproducibility are key challenges.
- **Interdisciplinary Collaboration:** As research becomes increasingly multidisciplinary, fostering effective collaboration among experts from diverse fields poses a challenge. Overcoming communication barriers and integrating knowledge from different disciplines are essential for holistic research outcomes.
- **Addressing Antimicrobial Resistance:** Understanding and combating antimicrobial resistance remains a critical challenge in Clinical Microbiology and Infectious Diseases research. Developing novel strategies to tackle resistant pathogens while preserving antibiotic efficacy is imperative.
- **Integration into Healthcare Systems:** Successfully integrating research findings and innovative technologies into existing healthcare systems presents logistical and structural challenges.

### ACTIVE GRANTS

- Rivera Martinez, Maria Alba. Diagnóstico etiológico de la infección del torrente sanguíneo en pacientes adultos con sepsis mediante secuenciación masiva. PI22/00280. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 87.120,00 €.

### DOCTORAL THESES DEFENDED

- Lucena Nemirosky, Judith. Resistencia a azitromicina en *Mycoplasma genitalium* y *Neisseria gonorrhoeae* en Barcelona. 27/03/2023. Universitat Autònoma de Barcelona. Supervisors: Sánchez Reus, Fernando; Prim Bosch, Núria. <http://hdl.handle.net/10803/689778>.

### SCIENTIFIC PRODUCTION

- Albiol N, Lynton E, Aso O, Moga E, Vidal S, Gomez L, Santiago JA, Triquell M, Roch N, Lazaro E, Gonzalez I, López J, Esquirol A, Sierra J, Martino R, García I. mRNA-1273 SARS-CoV-2 vaccine in recently transplanted allogeneic hematopoietic cell transplant recipients: Dynamics of cellular and humoral immune responses and booster effect. *LEUKEMIA RESEARCH*. 2023; 132:107347. DOI:10.1016/j.leukres.2023.107347. PMID:37356281. IF:2,700 (Q3/7D). Document type: Article.
- Arnau A, Abras A, Ballart C, Fernández A, Torrico MC, Tebar S, Llovet T, Gállego M, Muñoz C. Evaluation of the Diagnostic Sensitivity of the VIASURE *Leishmania* Real-Time PCR Detection Kit Prototype for the Diagnosis of Cutaneous and Visceral Leishmaniasis. *Transboundary and Emerging Diseases*. 2023; 2023:1172087. DOI:10.1155/2023/1172087. IF:4,300 (Q1/1D). Document type: Article.
- Atamna A, Margalit I, Ayada G, Babich T, Nauler P, Valik JK, Giske CG, Benito N, Cardona R, Rivera A, Pulcini C, Fattah MA, Haquin J, Macgowan A, Chazan B, Yanovskay A, Ben R, Landes M, Neshor L, Zaidman A, McCarthy K, Paterson DL, Tacconelli E, Buhl M, Mauer S, Rodríguez J, de Cueto M, Oliver A, de Gopegui ER, Cano A, Machuca I, Gozalo M, Martinez L, Gonzalez EM, Alfaro IG, Salavert M, Beovic B, Saje A, Mueller M, Pagani L, Vitrat V, Kofteridis D, Zachariouda-



## 5.1.5 Translational Medicine Area

- ki M, Maraki S, Weissman Y, Paul M, Dickstei Y, Yahav D, ESCMID Study Infect Elderly ES GRP. Outcomes of octogenarians and nonactogenarians with *Pseudomonas aeruginosa* bacteremia: a multicenter retrospective study. *INFECTION*. 2023; 51(4). DOI:10.1007/s15010-022-01973-x. PMID:36571672. IF:7,500 (Q1/2D). Document type: Article.
- Badia L, Carmezim J, Perez MT, Bereciartua E, López LE, Montenegro MR, Pomar V, Andrés M, Petkova E, Sopena N, Lora J, Monsalvez V, Ramirez MF, Gomez S, Boix L, Meije Y, Jimenez E, Gasch O. Randomized Clinical Trial of the Need for Antibiotic Treatment for Low-Risk Catheter-Related Bloodstream Infection Caused by Coagulase-Negative Staphylococci. *Antibiotics-Basel*. 2023; 12(5):839. DOI:10.3390/antibiotics12050839. PMID:37237744. IF:4,800 (Q1/3D). Document type: Article.
  - Batista S, Fernández M, Nicolás LS, Martínez D, Rubio M, Garrigo M, Vila J, Tudó G, González J. In Vitro Effect of Three-Antibiotic Combinations plus Potential Antibiofilm Agents against Biofilm-Producing *Mycobacterium avium* and *Mycobacterium intracellulare* Clinical Isolates. *Antibiotics-Basel*. 2023; 12(9):1409. DOI:10.3390/antibiotics12091409. PMID:37760706. IF:4,800 (Q1/3D). Document type: Article.
  - Batlle M, Badia JM, Hernández S, Grau S, Padullés A, Boix L, Giménez M, Ferrer R, Calbo E, Limón E, Pujol M, Horcajada JP, Smithson A, Ros NB, Gomila A, Pomar V, Toboso SH, Murgadella A, Perez AO, Temple MD, Molpeceres SV, Pardo DR, Río AD, Luque MFS, Blanco NV, Acedo SO, Guitart SS, Nicolas EM, Noblia LB, Pérez ODR, Rodríguez MPG, Barcons IA, Serra NJ, Calva LC, Lérida A, Torras SG, Martínez LH, Miñambres C, Matellane JM, Jofre CS, Estada SB, Carrascosa MC, Mota ST, Barrena DS, Members of the 7VINCut Study G, on behalf of VINCat P. Reducing the duration of antibiotic therapy in surgical patients through a specific nationwide antimicrobial stewardship program. A prospective, interventional cohort study. *INTERNATIONAL JOURNAL OF ANTIMICROBIAL AGENTS*. 2023; 62(5):106943. DOI:10.1016/j.ijantimicag.2023.106943. PMID:37541529. IF:10,800 (Q1/1D). Document type: Article.
  - Becerra F, Gómez S, Hernández M, Gijón D, Siverio A, Berbel D, Sánchez C, Cercenado E, Rivera A, de Malet A, Xercavins M, Ruiz de Gopegui E, Canoura L, Martínez JA, Seral C, Del Pozo JL, Cotarelo M, Díaz J, Cantón R, Oliver A, Horcajada JP, Ruiz P. Significant increase of CTX-M-15-ST131 and emergence of CTX-M-27-ST131 *Escherichia coli* high-risk clones causing healthcare-associated bacteraemia of urinary origin in Spain (ITUBRAS-2 project). *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*. 2023; 78(9). DOI:10.1093/jac/dkad234. PMID:37533351. IF:5,200 (Q1/3D). Document type: Article.
  - Berengua C, Miro E, Gutierrez C, Sánchez M, Mulero A, Ramos P, del Cuerpo M, Torrego A, García I, Pajares V, Navarro F, Martino R, Rabella N. Detection of cytomegalovirus in bronchoalveolar lavage fluid from immunocompromised patients with pneumonitis by viral culture and DNA quantification. *JOURNAL OF VIROLOGICAL METHODS*. 2023; 317:114743. DOI:10.1016/j.jviromet.2023.114743. PMID:37116585. IF:3,100 (Q2/5D). Document type: Article.
  - Calbo E, Hernandez S, Sopena N, Castella L, López J, Cuquet J, López M, Perez R, Gudiol C, Coloma A, Marimon M, Espinach J, Andrés M, Martos P, Rodrigues GC, Limon E. Late poor outcomes of *Clostridioides difficile* infections in oncological patients: A multicentre cohort study. *Journal Of Infection Prevention*. 2023; 24(4). DOI:10.1177/17571774231165410. PMID:37333870. Document type: Article.
  - de Mendoza C, Carrizo P, Sauleda S, Richart A, Rando A, Miró E, Benito R, Ayerdi O, Encinas B, Aguilera A, Reina G, Rojo S, González R, Fernández M, Liendo P, Montiel N, Roc L, Treviño A, Pozuelo MJ, Soriano V, The Spanish Network HTLV. The slowdown of new infections by human retroviruses has reached a plateau in Spain. *JOURNAL OF MEDICAL VIROLOGY*. 2023; 95(5):e28779. DOI:10.1002/jmv.28779. PMID:37212269. IF:12,700 (Q1/1D). Document type: Review.
  - de Mendoza C, Rando A, Miró E, Pena MJ, Rodríguez I, Ortega D, González A, Reina G, Pintos I, Pozuelo MJ, Soriano V, Spanish HTLV. Adult T-cell leukemia/lymphoma in HTLV-1 non-endemic regions. *JOURNAL OF CLINICAL VIROLOGY*. 2023; 167:105578. DOI:10.1016/j.jcv.2023.105578.



## 5.1.5 Translational Medicine Area

- PMID:37660433. IF:8,800 (Q1/2D). Document type: Article.
- Escrihuela F, Berbel D, Fernández N, Escola L, Muñoz P, Olmedo M, Goenaga MA, Goikoetxea J, Fariñas MC, De Alarcón A, Miró JM, Ojeda G, Plata A, Cuervo G, Carratalà J, GAMES I. Impact of Intermediate Susceptibility to Penicillin on Antimicrobial Treatment and Outcomes of Endocarditis Caused by Viridans and Gallolyticus Group Streptococci. *CLINICAL INFECTIOUS DISEASES*. 2023; DOI:10.1093/cid/ciad375. PMID:37345869. IF:11,800 (Q1/1D). Document type: Article.
  - Escrihuela F, Kaasch AJ, Von M, Rieg S, Kern WV, Seifert H, Song K-H, Liao C-H, Tilley R, Gott H, Scarborough M, Gordon C, Llewelyn MJ, Kuehl R, Morata L, Soriano A, Edgeworth J, De Gopegui ER, Nsutebu E, Cisneros JM, Fowler VG, Thwaites G, López J, Barlow G, Ternavasio HG, Rodríguez J, López LE, Endocarditis S, International Staphylococcus Aureus Collaboration Study G, The European Society of Clinical Microbiology and Infectious Diseases Study G. Impact of adherence to individual quality-of-care indicators on the prognosis of bloodstream infection due to *Staphylococcus aureus*: a prospective observational multicentre cohort. *CLINICAL MICROBIOLOGY AND INFECTION*. 2023; 29(4). DOI:10.1016/j.cmi.2022.10.019. PMID:36283610. IF:14,200 (Q1/1D). Document type: Article.
  - Espíndola R, Vella V, Benito N, Mur I, Tedeschi S, Zamparini E, Hendriks J, Sorlí L, Murillo O, Soldevila L, Scarborough M, Scarborough C, Kluytmans J, Ferrari MC, Pletz MW, McNamara I, Escudero R, Arvieux C, Batailler C, Dauchy FA, Liu WY, Lora J, Praena J, Ustianowski A, Cinconze E, Pellegrini M, Bagnoli F, Rodríguez J, Dolores Del Toro M, ARTHR G. Incidence, associated burden of disease, and healthcare utilisation of prosthetic joint infections due to *Staphylococcus aureus* in European hospitals. The COMBACTE-NET ARTHR-IS multicentre study. *JOURNAL OF HOSPITAL INFECTION*. 2023; 142. DOI:10.1016/j.jhin.2023.09.012. PMID:37797656. IF:6,900 (Q1/2D). Document type: Article.
  - Fernández A, González E, Ballart C, Martín I, Tebar S, Muñoz C, Jiménez M, Molina R, Gállego M. Typing of *Leishmania* isolates from vectors and leporids of the Madrid (Spain) outbreak. *PARASITOLOGY*. 2023; DOI:10.1017/S0031182023001336. PMID:38105582. IF:2,400 (Q2/5D). Document type: Article.
  - Fructuoso A, Raba AB, Deras EB, Sánchez L, San Cecilio RV, Esteve AF, Vega LC, Martínez E, García M, Coronado PS, Morales NDV, Larrondo SZ, Cano NR, Blanca AM, Marrero DH, Castello IB, Ramos JP, Ochoa AS, Molas CF, Roncero FG, Ramirez AT, Guldris SC, Flores IP. Sodium-glucose cotransporter-2 inhibitor therapy in kidney transplant patients with type 2 or post-transplant diabetes: an observational multicentre study. *Clinical Kidney Journal*. 2023; 16(6). DOI:10.1093/ckj/sfad007. PMID:37260993. IF:4,600 (Q1/2D). Document type: Article.
  - Grillo S, Pujol M, Miró JM, López J, Euba G, Gasch O, Boix L, García MJ, Pérez MT, Gomez S, Oriol I, López LE, Pedro ML, San R, Aguado JM, Gioia F, Iftimie S, Morata L, Jover A, García G, Loeches B, Izquierdo Á, Goikoetxea AJ, Gomila A, Dietl B, Berbel D, Videla S, Hereu P, Padullés A, Pallarès N, Tebé C, Cuervo G, Carratalà J, SAFO G. Cloxacillin plus fosfomycin versus cloxacillin alone for methicillin-susceptible *Staphylococcus aureus* bacteremia: a randomized trial. *NATURE MEDICINE*. 2023; 29(10). DOI:10.1038/s41591-023-02569-0. PMID:37783969. IF:82,900 (Q1/1D). Document type: Article.
  - Hernández MDG, Cardozo AR, Rombauts A. Endocarditis with disseminated thromboembolisms and hypercoagulable state. *European Journal of Internal Medicine*. 2023; 108. DOI:10.1016/j.ejim.2022.10.004. PMID:36261310. IF:8,000 (Q1/2D). Document type: Editorial Material.
  - Herrero M, Broner S, Cruells A, Esteve S, Ferre L, Mendioroz J, Jane M, Pitart C, Working GRPMR-SC. Epidemiology and antimicrobial resistance profile of *Neisseria gonorrhoeae* in Catalonia, Spain, 2016-2019. *EUROPEAN JOURNAL OF CLINICAL MICROBIOLOGY & INFECTIOUS DISEASES*. 2023; 42(7). DOI:10.1007/s10096-023-04601-0. PMID:37162616. IF:4,500 (Q2/4D). Document type: Article.
  - Jacques C, Alarcón M, Barbera MJ, Fuertes I, Martín G, López J, Vives Á, Rodríguez R, Ros M, Rius C, De Olalla PG. Epidemiological Characteristics and Factors Associated with Repeat



## 5.1.5 Translational Medicine Area

- Sexually Transmitted Infections in Barcelona, Spain Over a Decade. ARCHIVES OF SEXUAL BEHAVIOR. 2023; DOI:10.1007/s10508-023-02711-6. PMID:37875628. IF:3,800 (Q1/2D). Document type: Article.
- López MO, Pérez I, Molina M, José M, Trujillo H, Redondo D, López V, Facundo C, Villanego F, Rodríguez M, Carmen M, Antón P, Rivas A, Cabello S, Portolés J, de la Vara L, Taberner G, Valero R, Galeano C, Moral E, Ventura A, Coca A, Ángel M, Hernández R, Shabaka A, Ledesma G, Bouarich H, Ángeles M, Pérez L, Cruzado L, Emilio J, Jiménez C. Management of immunosuppressive therapy in kidney transplant recipients with COVID-19. A multicentre national study derived from the Spanish Society of Nephrology COVID registry. Nefrologia. 2023; 43(4). DOI:10.1016/j.nefro.2023.08.004. PMID:37661514. Document type: Article.
  - Marais LC, Nieuwoudt L, Nansook A, Menon A, Benito N. Tuberculous arthritis of native joints - a systematic review and European Bone and Joint Infection Society workgroup report. Journal Of Bone And Joint Infection. 2023; 8(4). DOI:10.5194/jbji-8-189-2023. PMID:37780528. Document type: Article.
  - Mulet M, Osuna R, Zamora C, Artesero I, Arús M, Vera P, Cordon A, Vilalta N, San P, Abril A, Moliné A, Morán I, López J, Vidal S. Dysregulated neutrophil extracellular traps formation in sepsis. IMMUNOLOGY. 2023; 170(3). DOI:10.1111/imm.13676. PMID:37381594. IF:6,400 (Q2/3D). Document type: Article.
  - Pérez S, Grijota MD, Anibarro L, Rabuñal R, Sabria J, Gijón P, Pomar V, García M, Domínguez Á, Trigo M, Santos MJ, Cebollero A, Rodríguez S, Moga E, Penas A, Martos C, Ruiz MJ, García EI, Alcáide F, Santin M. Reversions of QuantiFERON-TB Gold Plus in tuberculosis contact investigation: A prospective multicentre cohort study. PLoS One. 2023; 18(8):e0285917. DOI:10.1371/journal.pone.0285917. PMID:37647315. IF:3,700 (Q2/4D). Document type: Article.
  - Pomar V, Benito N, Duch P, Colome M, Rivera A, Domingo P. Acute Bacterial Meningitis in Healthy Adult Patients: A Prospective Cohort Study. Journal of Clinical Medicine. 2023; 12(11):3624. DOI:10.3390/jcm12113624. PMID:37297818. IF:3,900 (Q2/4D). Document type: Article.
  - Ravn C, Neyt J, Benito N, Abreu MA, Achermann Y, Bozhkova S, Coorevits L, Ferrari MC, Gammel-srud KW, Gerlach U-J, Giannitsioti E, Gottliebsen M, Jørgensen NP, Madjarevic T, Marais L, Menon A, Moojen DJ, Pääkkönen M, Pokorn M, Pérez D, Renz N, Saavedra J, Sabater M, Sendi P, Tevell S, Vogely C, Soriano A. Guideline for management of septic arthritis in native joints (SANJO). Journal Of Bone And Joint Infection. 2023; 8(1). DOI:10.5194/jbji-8-29-2023. PMID:36756304. Document type: Article.
  - Rivera A, Viñado B, Benito N, Docobo F, Fernández F, Fernández J, Guinea J, López A, Moreno MÁ, Larrosa MN, Oliver A, Navarro F. Recommendations of the Spanish Antibiogram Committee (COESANT) for in vitro susceptibility testing of antimicrobial agents by disk diffusion. Enfermedades Infecciosas Y Microbiología Clínica (english Ed.). 2023; 41(9). DOI:10.1016/j.eimce.2022.12.009. PMID:36610835. Document type: Article.
  - Ruiz J, Escolà L, Monje AE, Herrera S, Rivera A. The Interventions and Challenges of Antimicrobial Stewardship in the Emergency Department. Antibiotics-Basel. 2023; 12(10):1522. DOI:10.3390/antibiotics12101522. PMID:37887223. IF:4,800 (Q1/3D). Document type: Review.
  - Ruiz J, Herrera S, Rivera MA, Monje AE, Hernández H, Pereira CS, Martínez YM, Puig M. Programa de optimización de antibioterapia en infección urinaria por cepas multirresistentes en el servicio de urgencias. Revista Española de Quimioterapia. 2023; 36(5). DOI:10.37201/req/009.2023. PMID:37458335. IF:1,900 (Q4/9D). Document type: Article.
  - Ruiz J, Monje AE, Medina D, Herrera S, Hernandez H, Rivera MA, Pereira CS, Puig M. PREDICTION OF MULTIDRUG-RESISTANT BACTERIA IN URINARY TRACT INFECTIONS IN THE EMERGENCY DEPARTMENT. JOURNAL OF EMERGENCY MEDICINE. 2023; 65(1). DOI:10.1016/j.jemermed.2023.04.004. PMID:37385920. IF:1,500 (Q3/7D). Document type: Article.
  - Sojo J, López I, Hernández A, Retamar P, Merino De Lucas E, Escolà L, Bereciartua E, García E, Pin-



## 5.1.5 Translational Medicine Area

tado V, Boix L, Natera C, Sorlí L, Borrell N, Amador C, Shaw E, Jover A, Molina J, Martínez RM, Dueñas CJ, Calvo J, Lecuona M, Pomar V, Borreguero I, Palomo V, Docobo F, Pascual Á, Rodríguez J. Effectiveness of fosfomicin trometamol as oral step-down therapy for bacteraemic urinary tract infections due to MDr. *Escherichia coli*: a post hoc analysis of the FOREST randomized trial. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*. 2023; 78(7). DOI:10.1093/jac/dkad147. PMID:37260299. IF:5,200 (Q1/3D). Document type: Article.

- Soriano V, Aguilera A, Benito R, Gonzalez R, Miro E, Liendo P, Rodríguez JC, Cabezas T, Richart A, Ramos JM, Barea L, Alvarez C, Trevino A, Gomez F, Corral O, de Mendoza C. Susceptibility to hepatitis B virus infection in adults living in Spain. *LIVER INTERNATIONAL*. 2023; 43(5). DOI:10.1111/liv.15548. PMID:36809581. IF:6,700 (Q1/3D). Document type: Article.
- Torrico MC, Fernández A, Ballart C, Solano M, Rojas E, Abras A, Gonzales F, Arnau A, Tebar S, Llovet T, Lozano D, Ariza E, Gascón J, Picado A, Torrico F, Munoz C, Gállego M. Usefulness of Matrix-Assisted Laser Desorption/Ionization-Time of Flight Mass Spectrometry in the Characterization of *Leishmania* Strains Causing Tegumentary Leishmaniasis in Bolivia versus hsp70 Gene Sequencing. *Microbiology Spectrum*. 2023; 11(1):e0347722. DOI:10.1128/spectrum.03477-22. PMID:36633426. IF:3,700 (Q2/5D). Document type: Article.



## Multi-organ Damage and Rheumatology

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## MAIN LINES OF RESEARCH

### Bone Metabolism and Osteoporosis

- Analysis of genetic influence on osteoporosis using aggregation studies in families of three or more generations with a minimum of 15 members.
- Bone structure study with quantitative CT of hip and spine, analyzing the contribution of trabecular and cortical components using HRCT.
- Description of fat values and percentages in a normal population (in collaboration with the HIV Unit and CETIR Medical Group).
- Description of bone structure in patients with a history of acromegaly assessed by DXA and HRQCT.

### Hypertension and Vascular Risk

- Hypertension and quality of life.
- Refractory hypertension.
- Use of alirocumab in hypercholesterolaemia.

### Clinical Management, Internal Medicine and Geriatrics

- Health-care quality indexes (mortality, readmissions, etc).
- Perioperative medicine, including orthogeriatrics.
- Geriatric evaluation before cardiac and vascular invasive procedures.
- Central Sensitization Syndromes.

### Rheumatology and Rheumatoid Arthritis

- Immunological basis and pathogenic studies



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of rheumatoid arthritis and other inflammatory conditions.

- Pharmacogenetic studies of disease-modifying and immunomodulatory drugs in autoimmune and inflammatory diseases.
- JAK-STAT pathway in autoimmune processes, mainly focused in rheumatoid arthritis.

#### Systemic Sclerosis

- Capillaroscopy patterns and correlation with auto-antibodies and pulmonary function tests.
- Study of capillaroscopy patterns in diffuse connective tissue diseases: QuantiCAP study.

#### Gout

- Epidemiology of hyperuricemia and gout.
- Association of Parkinson and clinical gout and arthritis

#### Sjögren Syndrome, SLE and others

- Study of the pattern of interstitial lung disease in primary Sjögren's syndrome.

### SCIENTIFIC CHALLENGES

- To establish stable work relations between the HSCSP Bone Metabolism and Genomics of Complex Diseases Groups and the Bone Metabolism Unit of Hospital del Mar Medical Research Institute and the Faculty of Biology of the University of Barcelona.
- To strengthen ties between the HSCSP Rheumatology and Immunology departments regarding the study of immunological diseases.

### DOCTORAL THESES DEFENDED

- Martín Marcuello, Jordi. Anàlisi de la qualitat de vida relacionada amb la salut en pacients amb patologia crònica. 30/03/2023. Universitat Autònoma de Barcelona. Supervisors: Ruiz Hidalgo, Domingo; Torres Bonafonte, Olga. <http://hdl.handle.net/10803/689695>.

### SCIENTIFIC PRODUCTION

- Balsa A, Díaz Del Campo Fontecha P, Silva L, Valencia J, Nistal V, León F, Hernández MV, Corominas H, Cáliz R, Aguado JM, Candelas G, Ibarгойen N, Martí A, Plana MN, Puñal J, Park HS, Triñanes Y, Villaverde V. Recommendations by the Spanish

Society of Rheumatology on risk management of biological treatment and JAK inhibitors in patients with rheumatoid arthritis. *Reumatologia Clinica*. 2023; 19(10)DOI:10.1016/j.reumae.2023.07.004. PMID:38008602. Document type: Article.

- Barceló M, Casademont J, Mascaró J, Gich I, Torres OH. Indoor falls and number of previous falls are independent risk factors for long-term mortality after a hip fracture. *AGING CLINICAL AND EXPERIMENTAL RESEARCH*. 2023; 35(11)DOI:10.1007/s40520-023-02551-3. PMID:37688755. IF:4,000 (Q2/5D). Document type: Article.
- Boleto G, Reiserter S, Hoffmann AM, Mirouse A, Cacoub P, Matucci M, Silvério M, Fonseca JE, Duarte AC, Pestana J, Ricciari V, Lescoat A, Le E, Castellví I, Tandaipan JL, Airó P, Kuwana M, Kavosi H, Avouac J, Allanore Y. The phenotype of mixed connective tissue disease patients having associated interstitial lung disease. *SEMINARS IN ARTHRITIS AND RHEUMATISM*. 2023; 63:152258. DOI:10.1016/j.semarthrit.2023.152258. PMID:37696231. IF:5,000 (Q2/3D). Document type: Article.
- Casademont J. Physical examination today. *MEDICINA CLINICA*. 2023; 160(12)DOI:10.1016/j.medcli.2023.02.001. PMID:36907715. IF:3,900 (Q2/4D). Document type: Editorial Material.
- Colalillo A, Hoffmann A-M, Pellicano C, Romaniello A, Gabrielli A, Hachulla E, Smith V, Simeón C-P, Castellví I, Airò P, Truchetet M-E, Siegert E, Distler O, Rosato E, the C. The role of TAPSE/sPAP ratio in predicting pulmonary hypertension and mortality in the systemic sclerosis EUSTAR cohort. *AUTOIMMUNITY REVIEWS*. 2023; 22(4):103290. DOI:10.1016/j.autrev.2023.103290. PMID:36746368. IF:13,600 (Q1/1D). Document type: Review.
- Corominas H, Young D, Cummings JRF, Bouhnik Y, Armuzzi A, Thaci D, Kim J. Healthcare Professional (HCP) and Patient Usability Evaluation and Preferences of Two Auto-injector Devices for Self-Injection of Biosimilars, SB4 and SB5: A Literature Review. *CLINICAL DRUG INVESTIGATION*. 2023; 43(8)DOI:10.1007/s40261-023-01284-5. PMID:37615857. IF:3,200 (Q3/6D). Document type: Review.
- Díaz C, Pou MA, Rodríguez B, Pujol E. Living with gout. Experiences, impact and challenges of the



## 5.1.5 Translational Medicine Area

- disease. Qualitative study through focus groups. *Reumatologia Clinica*. 2023; 19(3)DOI:10.1016/j.reuma.2022.03.009. PMID:36058814. Document type: Article.
- Hernández N, Cardona R, Casademont J. A 37-Year-Old Man with Familial Hereditary Hemorrhagic Telangiectasia and Pulmonary Arteriovenous Malformations Presenting with Seizures and a Diagnosis of Brain Abscesses. *AMERICAN JOURNAL OF CASE REPORTS*. 2023; 24:e938548. DOI:10.12659/AJCR.938548. PMID:36841939. Document type: Article.
  - Jeria S, Gomez A, Park HS, Calvo E, Corominas H, Pou MA, Diaz C. Effectiveness and safety of anakinra in gouty arthritis: A case series and review of the literature. *Frontiers in Medicine*. 2023; 9:1089993. DOI:10.3389/fmed.2022.1089993. PMID:36714095. IF:3,900 (Q2/4D). Document type: Article.
  - Morillon MB, Norup A, Singh JA, Dalbeth N, Taylor WJ, Kennedy MA, Pedersen BM, Grainger R, Tugwell P, Perez F, Diaz C, Edwards NL, Shea B, Ellingsen TJ, Christensen R, Stamp LK, OMERACT Gout Working GRP. Outcome reporting in randomized trials in gout: A systematic scoping review from the OMERACT gout working group assessing the uptake of the core outcome set. *SEMINARS IN ARTHRITIS AND RHEUMATISM*. 2023; 60:152191. DOI:10.1016/j.semarthrit.2023.152191. PMID:36963128. IF:5,000 (Q2/3D). Document type: Article.
  - Narváez J, Aburto M, Seoane D, Bonilla G, Acosta O, Candelas G, Cano E, Castellví I, González JM, Corominas H, López B, Martín M, Robles A, Mena N, Rodríguez JA, Ortiz AM, Sabater C, Castrejón I, dos R, Garrote S, Maese J, Silva L, Castañeda S, Valenzuela C. Screening criteria for interstitial lung disease associated to rheumatoid arthritis: Expert proposal based on Delphi methodology. *Reumatologia Clinica*. 2023; 19(2)DOI:10.1016/j.reuma.2021.12.006. PMID:35753951. Document type: Article.
  - Osuna R, Castellvi I, Mulet M, Ortiz MA, Brough DE, Sabzevari H, Semnani RT, Vidal S. Impaired Regulation by IL-35 in Systemic Sclerosis. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(13):10567. DOI:10.3390/ijms241310567. PMID:37445745. IF:5,600 (Q1/3D). Document type: Article.
  - Oteo JA, Corominas H, Escudero R, Fariñas F, García JC, Goenaga MA, Guillén S, Mascaró JM, Portillo A. Executive summary of the consensus statement of the Spanish Society of Infectious Diseases and Clinical Microbiology (SEIMC), Spanish Society of Neurology (SEN), Spanish Society of Immunology (SEI), Spanish Society of Pediatric Infectology (SEIP), Spanish Society of Rheumatology (SER), and Spanish Academy of Dermatology and Venereology (AEDV), on the diagnosis, treatment and prevention of Lyme borreliosis. *ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA*. 2023; 41(1) DOI:10.1016/j.eimc.2022.03.004. PMID:36621247. IF:2,500 (Q4/8D). Document type: Article.
  - Pombo M, Seoane D, Diaz F, Cea L, Sánchez F, Sánchez M, Jovani V, García B, Martínez O, Campos C, Manero J, Diaz C, Bohorquez C, Ros I, Perez Y, Castrejon I. Long-term retention of golimumab treatment in clinical practice in a large cohort of patients with rheumatoid arthritis, axial spondyloarthritis and psoriatic arthritis. *Musculoskeletal Care*. 2023; 21(1)DOI:10.1002/msc.1684. PMID:35996810. Document type: Article.
  - Popova E, Paniagua P, Álvarez J, Vives M, González A, García Á, Rivas M, Hermenegildo G, Diaz R, Azparren G, Barceló M, Moustafa A-H, Aguilar R, Ordonez J, Alonso P. The Relevance of Implementing the Systematic Screening of Perioperative Myocardial Injury in Noncardiac Surgery Patients. *Journal of Clinical Medicine*. 2023; 12(16):5371. DOI:10.3390/jcm12165371. PMID:37629413. IF:3,900 (Q2/4D). Document type: Article.
  - Pou MA, Martínez D, Estebanez JL, Aivar M, Garraye R, Conesa A, Hoyo J, Carbonell C, Reyes C, Diaz C. Validation of gout diagnosis in electronic primary care medical records: A population-based study. *JOINT BONE SPINE*. 2023; 90(6):105628. DOI:10.1016/j.jbspin.2023.105628. PMID:37634875. IF:4,200 (Q2/5D). Document type: Article.
  - Queiro R, Seoane D, Laiz A, Agirregoikoa EG, Montilla C, Park HS, Pinto JA, Bethencourt JJ, Ibáñez BJ, Toniolo E, Ramírez J, Marcos AG. Confounders contributing to explain the associa-



## 5.1.5 Translational Medicine Area

- tion between sex and disease impact in patients with recent-onset psoriatic arthritis. *CLINICAL AND EXPERIMENTAL RHEUMATOLOGY*. 2023; 41(1)DOI:10.55563/clinexprheumatol/077ul6. PMID:35699067. IF:3,700 (Q3/6D). Document type: Article.
- Queiro R, Seoane D, Laiz A, Galindez E, Montilla C, Park HS, Tasende JAP, Baute JJB, Joven B, Toniolo E, Ramírez J, Montero N, Pruenza García C, Serrano A, on behalf of the Proyecto REAPSER Study G. Moderate-High Disease Activity in Patients with Recent-Onset Psoriatic Arthritis—Multivariable Prediction Model Based on Machine Learning. *Journal of Clinical Medicine*. 2023; 12(3):931. DOI:10.3390/jcm12030931. PMID:36769579. IF:3,900 (Q2/4D). Document type: Article.
  - Sainz L, Riera P, Moya P, Bernal S, Casademont J, Díaz C, Millán AM, Park HS, Lasa A, Corominas H. Clinical Value of IL6R Gene Variants as Predictive Biomarkers for Toxicity to Tocilizumab in Patients with Rheumatoid Arthritis. *Journal of Personalized Medicine*. 2023; 13(1):61. DOI:10.3390/jpm13010061. PMID:36675722. IF:3,508 (Q2/4D). Document type: Article.
  - Sainz L, Riera P, Moya P, Bernal S, Casademont J, Diaz C, Millan AM, Park HS, Lasa A, Corominas H. Impact of IL6R genetic variants on treatment efficacy and toxicity response to sarilumab in rheumatoid arthritis. *ARTHRITIS RESEARCH & THERAPY*. 2023; 25(1):226. DOI:10.1186/s13075-023-03209-1. PMID:38001504. IF:4,900 (Q2/4D). Document type: Article.
  - Sanmarti R, Corominas H. Upadacitinib for Patients with Rheumatoid Arthritis: A Comprehensive Review. *Journal of Clinical Medicine*. 2023; 12(5):1734. DOI:10.3390/jcm12051734. PMID:36902522. IF:3,900 (Q2/4D). Document type: Review.
  - Tandaipan J, Guillén A, Simeón CP, Carreira PE, De la Puente C, Narváez J, Lluch J, Rubio M, Alegre JJ, Bonilla G, Moriano C, Casafont I, García R, Ortiz V, Riera E, Atienza B, Blanco R, Galisteo C, Gonzalez JJ, Pego JM, Pros A, Heredia S, Castellví I. Immunoglobulins in systemic sclerosis management. A large multicenter experience. *AUTOIMMUNITY REVIEWS*. 2023; 22(11):103441. DOI:10.1016/j.autrev.2023.103441. PMID:37708984. IF:13,600 (Q1/1D). Document type: Article.
  - Valero C, Urgelles JF, Sallés M, Joven BE, de Juanes A, Ramírez J, Juanola X, Almodóvar R, Laiz A, Moreno M, Pujol M, Beltrán E, Pinto JA, Crespi L, Sala L, Castañeda S, García R. Dual targeted therapy in patients with psoriatic arthritis and spondyloarthritis: a real-world multicenter experience from Spain. *Frontiers in Immunology*. 2023; 14:1283251. DOI:10.3389/fimmu.2023.1283251. PMID:37936691. IF:7,300 (Q1/3D). Document type: Article.
  - Vallez L, Gasó I, Marcos Á, Garrido G, Riera A, Plaza A, Martinez C, Mangués MA, Corominas H. Are all JAK inhibitors for the treatment of rheumatoid arthritis equivalent? An adjusted indirect comparison of the efficacy of tofacitinib, baricitinib, upadacitinib, and filgotinib. *CLINICAL RHEUMATOLOGY*. 2023; DOI:10.1007/s10067-023-06787-2. PMID:37831336. IF:3,400 (Q3/7D). Document type: Article.

## Chronic Respiratory Diseases

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### DESCRIPTION

The Research Group on Chronic Respiratory Diseases (GREC) of the Department of Pulmonology at the Hospital Universitario de la Santa Creu i Sant Pau (HSCSP) has been a pioneer and is currently one of the leaders in pulmonary research. It combines clinical and translational research on chronic obstructive pulmonary disease (COPD)-Respiratory Insufficiency, Asthma, and obstructive sleep apnea-hypopnea syndrome (OSAHS). It hosts a basic science laboratory specialized in respiratory disease animal models and cell & molecular biology.

### MAIN LINES OF RESEARCH

- **Asthma:** Asthma exacerbations; Severe asthma; Good clinical practice guidelines for asthma; Bronchial inflammation; Experimental asthma and pathogenic mechanisms; Multicentre biobank specializing in bronchial biopsies for asthma research; Bronchial thermoplasty; Clinical trials.
- **COPD and Respiratory Failure:** Non-invasive mechanical ventilation; Respiratory rehabilitation; Pathophysiology; Exacerbation.
- **Obstructive Sleep Apnoea (OSA):** Physiology and clinical, diagnostic and treatment consequences of sleep disorders; Obesity-hypoventilation syndrome; Analysis of airway inflammation in patients with OSA.

### SCIENTIFIC CHALLENGES

- Consolidate a leading clinical trial unit in respiratory diseases. Capture pre-clinical development contracts from the pharmaceutical and biotech industry, using the capabilities of our basic



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research lab and experimental animal models. Recruit research trainees seeking a doctoral degree. Support the development of multidisciplinary research networks such as the Barcelona Respiratory Network and the Programme for Integrated Research for Asthma of the Spanish Society of Pneumology and Thoracic Surgery (SEPAR), and collaborate with or become involved in existing networks such as CIBER-Respiratory Disorders. Achieve and transfer pharmaceutical discovery in the core research line of the basic science lab.

#### DOCTORAL THESES DEFENDED

- Barril Farré, Sílvia. Vías patogénicas de las enfermedades pulmonares intersticiales relacionadas con el tabaco. 01/06/2023. Universitat Autònoma de Barcelona. Supervisors: Castillo Villegas, Diego; Plaza Moral, Vicente. <http://hdl.handle.net/10803/690740>.
- Curto Sánchez, Elena. Nuevas determinaciones en esputo inducido: tipos de eosinófilos E IgE local. 31/03/2023. Universitat Autònoma de Barcelona. Supervisors: Plaza Moral, Vicente; Crespo Lessmann, Ástrid. <http://hdl.handle.net/10803/690094>.

#### SCIENTIFIC PRODUCTION

- Almonacid C, Blanco M, Domínguez J, Giner J, Molina J, Sánchez N, Plaza V. Validation of the algorithm for the monitoring and control of asthma through telemedicine. The Consensus COMETA Project. JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2023; 33(3)DOI:10.18176/jiaci.0841. PMID:35797114. IF:7,200 (Q1/2D).Document type: Article.
- Almonacid C, García B, Trisán A, Callejas FJ, Cisneros C, Martínez E, Plaza V, Vera E, Soto JG, Martínez C, Alcazar B, Urrutia I, García JL, Padilla A, Álvarez F, Ramos J, Carretero JÁ, Lluch I, Puente L, Andujar R, Pérez L. Therapeutic Goals and Treatable Traits: Long-Term Trends in a Severe Asthma Population. ARCHIVOS DE BRONCONEUMOLOGIA. 2023; 59(12)DOI:10.1016/j.arbres.2023.08.017. IF:8,000 (Q1/2D).Document type: Letter.
- Alvarez FJ, Blanco M, Casas F, Plaza V, González FJ, Carretero JÁ, Castilla M, Cisneros C,

Diaz D, Domingo C, Martínez E, Muñoz X, Padilla A, Perpiña M, Soto G. What's New in the 2022 Consensus for Severe Asthma in Adults. ARCHIVOS DE BRONCONEUMOLOGIA. 2023; 59(3)DOI:10.1016/j.arbres.2022.09.012. PMID:36243640. IF:8,000 (Q1/2D).Document type: Letter.

- Barril S, Acebo P, Millan P, Luque A, Sibila O, Tarin C, Tazi A, Castillo D, Hortelano S. Bronchoalveolar cytokine profile differentiates Pulmonary Langerhans cell histiocytosis patients from other smoking-related interstitial lung diseases. RESPIRATORY RESEARCH. 2023; 24(1):320. DOI:10.1186/s12931-023-02622-z. PMID:38111019. IF:5,800 (Q1/3D).Document type: Article.
- Barroso B, Valverde M, Alobid , Olaguibel J, Rial M, Quirce S, Arismendi E, Barranco P, Betancor D, Bobolea , Cardaba B, Carmona MC, Curto E, Dominguez J, Gonzalez F, Martinez C, Mahillo , Munoz X, Picado C, Plaza , Munoz JR, Retes LS, Valero A, Delpozo , Mullol J, Sastre J. Reply to "Olfactory Function and Biologic Treatments: A Comment on Available Real-life Studies". JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2023; 33(6)DOI:10.18176/jiaci.0953. PMID:38095497. IF:7,200 (Q1/2D).Document type: Letter.
- Barroso B, Valverde M, Alobid I, Olaguibel JM, Rial MJ, Quirce S, Arismendi E, Barranco P, Betancor D, Bobolea I, Cárdbaba B, Cruz MJ, Curto E, Domínguez J, González FJ, Martínez C, Mahillo I, Muñoz X, Picado C, Plaza V, Rodrigo JM, Soto L, Valero A, Del Pozo V, Mullol J, Sastre J. Improvement in Olfaction in Patients With CRSwNP and Severe Asthma Taking Anti-IgE and Anti-IL-5 Biologics: A Real-Life Study. JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY. 2023; 33(1)DOI:10.18176/jiaci.0812. PMID:35416154. IF:7,200 (Q1/2D). Document type: Article.
- Berengua C, Miro E, Gutierrez C, Sánchez M, Mulero A, Ramos P, del Cuerpo M, Torrego A, García I, Pajares V, Navarro F, Martino R, Rabella N. Detection of cytomegalovirus in bronchoalveolar lavage fluid from immunocompromised patients with pneumonitis by viral culture and DNA quantification. JOURNAL OF VIROLOGICAL METHODS. 2023; 317:114743. DOI:10.1016/j.



## 5.1.5 Translational Medicine Area

- jviromet.2023.114743. PMID:37116585. IF:3,100 (Q2/5D).Document type: Article.
- Betancor C, Olaguibel JM, Rodrigo JM, Alvarez MJ, Arismendi E, Barranco P, Barroso B, Bobolea I, Cádaba B, Cruz MJ, Curto E, Del Pozo V, Domínguez J, González FJ, Luna JA, Martínez C, Mullol J, Muñoz X, Picado C, Plaza V, Quirce S, Rial MJ, Soto L, Valero A, Valverde M, Sastre J. Lung Function Abnormalities and Their Correlation With Clinical Characteristics and Inflammatory Markers in Adult Asthma. *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY*. 2023; 33(4)DOI:10.18176/jiaci.0866. PMID:36331127. IF:7,200 (Q1/2D).Document type: Article.
  - Betancor D, Villalobos C, Olaguibel JM, Rodrigo JM, Puebla MJA, Arismendi E, Barranco P, Barroso B, Bobolea I, Cádaba B, Cruz MJ, Curto E, Pozo VD, Domínguez J, González F-J, Luna JA, Martínez C, Mullol J, Muñoz X, Picado C, Plaza V, Quirce S, Rial MJ, Soto L, Valero A, Valverde M, Sastre J. The New ERS/ATS 2022 Bronchodilator Response Recommendation: Comparison With the Previous Version in an Asthma Cohort. *ARCHIVOS DE BRONCONEUMOLOGIA*. 2023; 59(9) DOI:10.1016/j.arbres.2023.05.015. PMID:37331901. IF:8,000 (Q1/2D).Document type: Article.
  - Blanco M, García FJ, González FJ, Jiménez CA, Muñoz X, Plaza V, Soto JG, Urrutia I, Almonacid C, Peces G, Álvarez FJ. A Study of the Prevalence of Asthma in the General Population in Spain. *Open Respiratory Archives*. 2023; 5(2):100245. DOI:10.1016/j.opresp.2023.100245. PMID:37496876.Document type: Article.
  - Callejón B, Sánchez S, Gotera C, Santana R, Díaz I, Marín JM, Macario CC, Cosio BG, Fuster A, García IS, de JP, Feu N, Cabrera C, Amado C, Romero A, Fraysse L, Márquez E, Marín M, Balcells E, Lluñell A, Martínez C, Galdíz JB, Lacárcel C, Gómez JL, Pereira A, Seijo L, López JL, Peces G, García T. Metallomic Signatures of Lung Cancer and Chronic Obstructive Pulmonary Disease. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(18):14250. DOI:10.3390/ijms241814250. PMID:37762552. IF:5,600 (Q1/3D).Document type: Article.
  - Castillo JA, Plaza V, Rodrigo G, Juliá B, Picado C, Fernández C, Mullol J. Chronic rhinosinusitis with nasal polyps and allergic rhinitis as different multimorbid treatable traits in asthma. *Journal Of Allergy And Clinical Immunology: Global*. 2023; 2(4):100134. DOI:10.1016/j.jacig.2023.100134. PMID:37781668.Document type: Article.
  - Cobo L, Ruiz C, Cobos I, Bepin J, Gadea C, Cerdá P, Palma J, Vicens V, Bermudo G, Portillo K, Boldova A, Robles A, Arribas J, Figuerola JA, Blavia R, Moreno A, Castillo D, Villar A, Belmonte Y, Badenes D, Zayas D, Suarez G, García L, Sellarés J, Barril S, Sans J, Serra M, Perich D, Esteban LL, Esteban L, Balcells E, Gil F, Ruiz E, Fina C, Molina M. Benefits of a Homecare Integral Patient Support Program in Idiopathic Pulmonary Fibrosis. *ARCHIVOS DE BRONCONEUMOLOGIA*. 2023; 59(8)DOI:10.1016/j.arbres.2023.03.008. PMID:37003881. IF:8,000 (Q1/2D).Document type: Article.
  - Company G, Nescolarde L, Pajares V, Torrego A, Riu PJ, Rosell J, Bragós R. Differentiation using minimally-invasive bioimpedance measurements of healthy and pathological lung tissue through bronchoscopy. *Frontiers in Medicine*. 2023; 10:1108237. DOI:10.3389/fmed.2023.1108237. PMID:37113605. IF:3,900 (Q2/4D).Document type: Article.
  - Crespo A, Curto E, Medina E, Palones E, Soler AB, Maza SS, Soto L, Plaza V. Characteristics of Induced-Sputum Inflammatory Phenotypes in Adults with Asthma: Predictors of Bronchial Eosinophilia. *Journal of Asthma and Allergy*. 2023; 16DOI:10.2147/JAA.S389402. PMID:36699564. IF:3,200 (Q3/6D).Document type: Article.
  - Crespo A, Marqués JA, Dominguez J, Perez de Llano L, Blanco M, Santiñá M, Palop M, Álvarez FJ, Fraj J. Quality indicators in the rational management of severe asthma: A Spanish multidisciplinary consensus. *Journal Of Healthcare Quality Research*. 2023; 38(5)DOI:10.1016/j.jhqr.2023.03.003. PMID:37003928.Document type: Article.
  - d'Alessandro M, Gangi S, Soccio P, Canto E, Osuna R, Bergantini L, Cameli P, Fabbri G, Croce S, Scioscia G, Montuori G, Fanetti M, Moriondo G, Mezzasalma F, Castillo D, Lacedonia D, Vidal S, Bargagli E. The Effects of Interstitial Lung Diseases on Alveolar Extracellular Vesicles Profile: A



## 5.1.5 Translational Medicine Area

- Multicenter Study. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(4):4071. DOI:10.3390/ijms24044071. PMID:36835481. IF:5,600 (Q1/3D). Document type: Article.
- de la Rosa D, Máiz L, Martínez MÁ. What Have We Learned About Bronchiectasis From RI-BRON (Spanish Bronchiectasis Registry)? *ARCHIVOS DE BRONCONEUMOLOGIA*. 2023; 59(10)DOI:10.1016/j.arbres.2023.07.010. PMID:37516559. IF:8,000 (Q1/2D). Document type: Editorial Material.
  - de la Rosa D, Suarez G, Sibila O, Golpe R, Giron RM, Martinez MA. Efficacy and Safety of Dry Powder Antibiotics: A Narrative Review. *Journal of Clinical Medicine*. 2023; 12(10):3577. DOI:10.3390/jcm12103577. PMID:37240682. IF:3,900 (Q2/4D). Document type: Review.
  - Domínguez J, Luna JA, Olaguibel JM, Barranco P, Arismendi E, Barroso B, Betancor D, Bobolea I, Caballero ML, Cárdbaba B, Cruz MJ, Curto E, González FJ, Losantos I, Martínez C, Mendez P, Mullol J, Muñoz X, Picado C, Plaza V, Del Pozo V, Rial MJ, Sastre J, Soto L, Valero A, Valverde M, Quirce S. Exacerbations Among Patients With Asthma Are Largely Dependent on the Presence of Multimorbidity. *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY*. 2023; 33(4) DOI:10.18176/jiaci.0816. PMID:35503227. IF:7,200 (Q1/2D). Document type: Article.
  - Dominguez J, Plaza V, Nieto A, Romero JD, Ancochea J, Mejia N, Pastor M, Blanco M. The ATLAS ASMA Study: Assessing the Impact of Asthma on Patients' Life-The Spanish Patients' Perspective. *Journal of Asthma and Allergy*. 2023; 16DOI:10.2147/JAA.S404525. PMID:37163179. IF:3,200 (Q3/6D). Document type: Article.
  - Figueira JM, García MA, Ramallo Y, Méndez R, Campos AL, González P, Peces G, Molina M, España PP, García E, Domínguez SD, Clemente MG, Panadero C, de la Rosa D, Sibila O, Martínez MD, Toledo N, López C, Almonte W, Macías A, Redenes D, Pérez EN, Lázaro J, Fernández SQ, Cordovilla R, Cano I, Torres A, Menéndez R, R. Persistent Respiratory Failure and Re-Admission in Patients with Chronic Obstructive Pulmonary Disease Following Hospitalization for COVID-19. *International Journal of Chronic Obstructive Pulmonary Disease*. 2023; 18DOI:10.2147/COPD.S428316. PMID:37955022. IF:2,800 (Q3/7D). Document type: Article.
  - García MM, Díaz JM, Antón A. Late respiratory alkalosis during home mechanical ventilation in amyotrophic lateral sclerosis. *Respiratory Medicine Case Reports*. 2023; 42:101828. DOI:10.1016/j.rmcr.2023.101828. PMID:36936867. Document type: Article.
  - Garin N, Zarate B, Gras L, Mila R, Crespo A, Curto E, Hernandez M, Mestres C, Plaza V. Clinical Impact of Electronic Monitoring Devices of Inhalers in Adults with Asthma or COPD: A Systematic Review and Meta-Analysis. *Pharmaceuticals*. 2023; 16(3):414. DOI:10.3390/ph16030414. PMID:36986513. IF:4,600 (Q2/3D). Document type: Review.
  - Gil M, Lorente C, Rodrigo JM, Lendínez MÁ, Núñez G, de la Fuente L, Mínguez P, Mahillo I, Sastre J, Valverde M, Quirce S, Caballero ML, González FJ, Arismendi E, Bobolea I, Valero A, Muñoz X, Cruz MJ, Martínez C, Plaza V, Olaguibel JM, del Pozo V. Analysis of Differentially Expressed MicroRNAs in Serum and Lung Tissues from Individuals with Severe Asthma Treated with Oral Glucocorticoids. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(2):1611. DOI:10.3390/ijms24021611. PMID:36675122. IF:5,600 (Q1/3D). Document type: Article.
  - Gómez JD, Campos F, Nagore E, Martorell A, García F, Cubillos C, Hernandez L, Banuls J, Arias E, Ortiz P, Cabriada V, Gardeazabal J, Montserrat JM, Carreres C, Masa JF, Gomez de Terreros J, Abad J, Boada A, Mediano O, Castillo M, Chiner E, Landete P, Mayos M, Fortuno A, Barbe F, Sánchez M, Cano I, Perez A, Gomez T, Cullen D, Somoza M, Formigon M, Aizpuru F, Oscullo G, García A, Almendros I, Farre R, Gozal D, Martinez MA. Role of Sleep Apnea and Long-Term CPAP Treatment in the Prognosis of Patients With Melanoma: A Prospective Multicenter Study of 443 Patients. *CHEST*. 2023; 164(6)DOI:10.1016/j.chest.2023.06.012. PMID:37348828. IF:9,600 (Q1/2D). Document type: Article.
  - Gregori C, Zirak P, Cotta G, Bramon P, Blanco I, Serra I, Mola A, Fortuna A, Sola J, Giraldo BFG, Durduran T, Mayos M. How does obstructive





## 5.1.5 Translational Medicine Area

- sleep apnea alter cerebral hemodynamics?. SLEEP. 2023; 46(8):zsad122. DOI:10.1093/sleep/zsad122. PMID:37336476. IF:5,600 (Q1/2D).Document type: Article.
- Kroes JA, Alfonso R, Bansal AT, Berret E, Bieksiene K, Bourdin A, Brussino L, Canhoto D, Cardini C, Celik G, Csoma Z, Dahlen B, Damadoglu E, Eger K, Gauquelin L, Gemicioglu B, Goksel O, Graff S, Heffler E, Hofstee HB, Howarth P, Jakes RW, Jaun F, Kalinauskaite V, Kopac P, Kwon N, Loureiro CC, García VL, Masoli M, Rezelj MP, De Llano LP, Popovic S, Ramos D, Sousa AS, Samitas K, Schleich F, Sirena C, Skrgat S, Zervas E, Zichnalis G, Bel EH, Sont JK, Hashimoto S, Ten A. Evaluation of real-world mepolizumab use in severe asthma across Europe: the SHARP experience with privacy-preserving federated analysis. *Erj Open Research*. 2023; 9(2):00745-2022. DOI:10.1183/23120541.00745-2022. PMID:37020841. IF:4,600 (Q2/4D).Document type: Article.
  - León X, Gimenez A, de Juan J, Rodríguez C, Quer M, Pujol A. Is long-term screening for lung cancer justified in patients with head and neck carcinoma?. *Acta Otorrinolaringologica Española*. 2023; 74(5)DOI:10.1016/j.otorri.2022.05.005. PMID:36241026.Document type: Article.
  - Martinez C, Serra P, Andreo F, Crespo A, Solis AJ, Torrego A, García I, Ramos D, Zapata T, Plaza V, Abad J, Rosell A. Factors Associated With Large Airway Collapse in Severe Asthma. *ARCHIVOS DE BRONCONEUMOLOGIA*. 2023; 59(9)DOI:10.1016/j.arbres.2023.05.006. PMID:37296031. IF:8,000 (Q1/2D).Document type: Article.
  - Martinez MA, Guan W-J, de D, Athanazio R, Oscullo G, Shi M-X, Pujal P, Endlich BN, Tiberi S, Centis R, Migliori GB. Post-TB bronchiectasis: from pathogenesis to rehabilitation. *INTERNATIONAL JOURNAL OF TUBERCULOSIS AND LUNG DISEASE*. 2023; 27(3)DOI:10.5588/ijtld.22.0566. PMID:36855043. IF:4,000 (Q2/5D). Document type: Article.
  - Martínez MÁ, Méndez R, Oliveira C, Girón R, García M, Máiz L, Sibila O, Golpe R, Rodríguez JL, Barreiro E, Prados C, Rodríguez J, Oscullo G, Labarca G, De La Rosa D. The U-Shaped Relationship Between Eosinophil Count and Bronchiectasis Severity: The Effect of Inhaled Corticosteroids. *CHEST*. 2023; 164(3)DOI:10.1016/j.chest.2023.04.029. PMID:37088355. IF:9,600 (Q1/2D).Document type: Article.
  - Martínez MÁ, Oscullo G, Gómez JD, Oliveira C, Girón R, García M, Máiz L, Sibila O, Golpe R, Rodríguez JL, Barreiro E, Méndez R, Prados C, Rodríguez J, De La Rosa D. Bronchiectasis: Changes in the Characterization of Patients During 20 Years of Follow-up. Data from the Spanish Bronchiectasis Registries. *ARCHIVOS DE BRONCONEUMOLOGIA*. 2023; 59(10)DOI:10.1016/j.arbres.2023.07.023. PMID:37563019. IF:8,000 (Q1/2D).Document type: Article.
  - Matabuena M, Salgado FJ, Nieto JJ, Álvarez MJ, Arismendi E, Barranco P, Bobolea I, Caballero ML, Cañas JA, Cárdbaba B, Cruz MJ, Curto E, Domínguez J, Luna JA, Martínez C, Mullol J, Muñoz X, Rodríguez J, Olaguibel JM, Picado C, Plaza V, Quirce S, Rial MJ, Romero C, Sastre B, Soto L, Valero A, Valverde M, Del Pozo V, Sastre J, González FJ. Identification of Asthma Phenotypes in the Spanish MEGA Cohort Study Using Cluster Analysis. *ARCHIVOS DE BRONCONEUMOLOGIA*. 2023; 59(4)DOI:10.1016/j.arbres.2023.01.007. PMID:36732158. IF:8,000 (Q1/2D).Document type: Article.
  - Menéndez R, Mendez R, Latorre A, Gonzalez P, Peces G, Molina M, Espana PP, García E, Consuegra A, Pando A, Panadero C, Figueira JM, de la Rosa D, Sibila O, Martinez MD, Toledo N, Cejudo P, Almonte W, Macias A, Badenes D, Perez EN, Lazaro J, Quiros S, Cordovilla R, Cano I, Torres A, R. Residual pulmonary infiltrates, symptoms and diffusion impairment at 1-year after severe COVID-19 infection have different associated factors. *JOURNAL OF INTERNAL MEDICINE*. 2023; 294(1)DOI:10.1111/joim.13642. PMID:37038609. IF:11,100 (Q1/2D).Document type: Article.
  - Molina J, Plaza V, Nuevo J, Gutiérrez M, Sicras A, Valero A. Clinical Consequences of the Overuse of Short-Acting  $\beta_2$ -Adrenergic Agonists (SABA) in the Treatment of Asthma in Spain: The SABINA Study. *Open Respiratory Archives*. 2023; 5(2):100232. DOI:10.1016/j.opresp.2023.100232. PMID:37496866.Document type: Article.



## 5.1.5 Translational Medicine Area

- Moya V, Castillo D, de Miguel J. Combined Pulmonary Fibrosis and Emphysema Syndrome: What is the Role of Airflow Limitation?. *Open Respiratory Archives*. 2023; 5(1):100233. DOI:10.1016/j.opresp.2023.100233. PMID:37497242. Document type: Editorial Material.
- Oscullo G, de la Rosa D, Clemente MG, Giron R, Golpe R, Máiz L, Martínez MA. The role of precision medicine in bronchiectasis: emerging data and clinical implications. *Expert Review of Respiratory Medicine*. 2023; 17(4)DOI:10.1080/17476348.2023.2205125. PMID:37077039. IF:3,900 (Q2/5D). Document type: Review.
- Oscullo G, Gómez JD, Ingles M, Mompean S, Martínez R, Suarez G, Rosa DL, Martínez MA. Bronchiectasis-COPD Overlap Syndrome: Role of Peripheral Eosinophil Count and Inhaled Corticosteroid Treatment. *Journal of Clinical Medicine*. 2023; 12(19):6417. DOI:10.3390/jcm12196417. PMID:37835060. IF:3,900 (Q2/4D). Document type: Article.
- Osuna R, Barril S, Mulet M, Atenza CZ, Millan P, Pardessus A, Brough DE, Sabzevari H, Semnani RT, Castillo D, Vidal S. The immunoregulatory role of IL-35 in patients with interstitial lung disease. *IMMUNOLOGY*. 2023; 168(4)DOI:10.1111/imm.13596. PMID:36273280. IF:6,400 (Q2/3D). Document type: Article.
- Palones E, Curto E, Pelegrí A, Arilla M, Solanes I, Crespo A. Iatrogenic Adrenal Insufficiency Following Post COVID-19 Organizing Pneumonia. *ARCHIVOS DE BRONCONEUMOLOGIA*. 2023; 59(1)DOI:10.1016/j.arbres.2022.07.011. PMID:35970652. IF:8,000 (Q1/2D). Document type: Article.
- Palones E, Curto E, Plaza V, Gonzalez L, Segarra A, Querol L, Bertolotti F, Rodríguez MJ, Gallano P, Crespo A. Clinical and functional characteristics, possible causes, and impact of chronic cough in patients with cerebellar ataxia, neuropathy, and bilateral vestibular areflexia syndrome (CANVAS). *JOURNAL OF NEUROLOGY*. 2023; DOI:10.1007/s00415-023-12001-9. PMID:37917234. IF:6,000 (Q1/2D). Document type: Article.
- Pérez de Llano L, Cisneros C, Domínguez J, Martínez E, Olaguibel JM, Plaza V, Quirce S, Dávila I. Response to Monoclonal Antibodies in Asthma: Definitions, Potential Reasons for Failure, and Therapeutic Options for Suboptimal Response. *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY*. 2023; 33(1)DOI:10.18176/jiaci.0857. PMID:36040046. IF:7,200 (Q1/2D). Document type: Review.
- Pérez de Llano L, Martínez E, Entrenas LM, Martínez C, Cisneros C, Blanco M, Trisán A, Plaza V, Ramos J, Funenga E, Sánchez J, Domínguez J. Validation of the Asthma Impairment and Risk Questionnaire in Spain: A Useful Tool for Assessing Asthma Control in Adolescents and Adults. *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY*. 2023; 33(5) DOI:10.18176/jiaci.0881. PMID:36520522. IF:7,200 (Q1/2D). Document type: Note.
- Pinilla L, Esmaili N, Labarca G, Martínez MÁ, Torres G, Gracia E, Mínguez O, Martínez D, Abad J, José M, Mediano O, Muñoz C, Cabriada V, Duran J, Mayos M, Coloma R, Montserrat JM, de la Peña M, Hu WH, Messineo L, MohammadReza S, Wellman A, Redline S, Sands S, Barbé F, Sánchez M, Azarbarzin A. Hypoxic burden to guide CPAP treatment allocation in patients with obstructive sleep apnoea: a Post-hoc study of the ISAACC trial. *EUROPEAN RESPIRATORY JOURNAL*. 2023; 62(6)DOI:10.1183/13993003.00828-2023. PMID:37734857. IF:24,300 (Q1/1D). Document type: Article.
- Plaza V, Alobid I, Álvarez C, Blanco M, Ferreira J, García G, Gómez A, Garín N, Gómez F, Hidalgo A, Korta J, Molina J, Pellegrini FJ, Plaza J, Praena M, Quirce S, Sanz J, Soto JG. GEMA 5.3. Spanish Guideline on the Management of Asthma. *Open Respiratory Archives*. 2023; 5(4):100277. DOI:10.1016/j.opresp.2023.100277. PMID:37886027. Document type: Article.
- Plaza V, Cañete C, Domingo C, Martínez C, Muñoz X. Efficacy and Potential Positioning of Tezepelumab in the Treatment of Severe Asthma. *Open Respiratory Archives*. 2023; 5(2):100231. DOI:10.1016/j.opresp.2022.100231. PMID:37496871. Document type: Review.
- Plaza V, Domínguez J, Alsina DGS, Lo Re D, Sicras A. Comprehensive Observational Study in a Large Cohort of Asthma Patients after Adding LAMA to ICS/LABA. *Pharmaceuticals*. 2023; 16(11):1609.



## 5.1.5 Translational Medicine Area

- DOI:10.3390/ph16111609. PMID:38004474. IF:4,600 (Q2/3D).Document type: Article.
- Puente L, Dávila I, Quirce S, Crespo A, Martínez E, Sola J, Nieto ML, González FJ, Cea L, Sánchez M, Rivas C, Domingo C. Burden of refractory and unexplained chronic cough on patients' lives: a cohort study. *Erj Open Research*. 2023; 9(5):00425-2023. DOI:10.1183/23120541.00425-2023. PMID:37753282. IF:4,600 (Q2/4D).Document type: Article.
  - Quirce S, Trigueros JA, Ausín P, Cano RM, Hernandez MR, González FJ, Campos JGS, Galo AP, Serrano CC, Domínguez J, Bastida AP, Erquicia SP, Dávila I, Moragon EM, Zamora FJP, Barbero FS, Plaza V, GEMAFORUM F. Role of Different Health Care Professionals in the Management of Asthma Patients: The GEMA-FORUM IV Task Force. *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY*. 2023; 33(3)DOI:10.18176/jiaci.0833. PMID:37318772. IF:7,200 (Q1/2D).Document type: Editorial Material.
  - Rafecas A, Pujal P, Pajares V. Takotsubo Syndrome Due to Bronchoalveolar Lavage: A Rare Complication. *ARCHIVOS DE BRONCONEUMOLOGIA*. 2023; 59(8)DOI:10.1016/j.arbres.2023.04.006. PMID:37211513. IF:8,000 (Q1/2D).Document type: Article.
  - Romero C, Cruz M-J, Alobid I, Barroso B, Arismendi E, Barranco P, Betancor D, Bobolea I, Cádaba B, Curto E, Domenech G, Domínguez J, Espejo D, González F-J, Luna J-A, Martínez C, Méndez P, Mullol J, Olaguibel J-M, Picado C, Plaza V, del Pozo V, Quirce S, Rial M-J, Rodrigo J-M, Sastre J, Serrano S, Soto L, Valero A, Valverde M, Muñoz X. Disposition of Work-Related Asthma in a Spanish Asthma Cohort: Comparison of Asthma Severity Between Employed and Retired Workers. *Journal of Allergy and Clinical Immunology-In Practice*. 2023; 11(11)DOI:10.1016/j.jaip.2023.06.040. PMID:37391017. IF:9,400 (Q1/2D).Document type: Article.
  - Sánchez S, Soto L, Chiner E, Cisneros C, el Grupo O. Remote visits for severe asthma patients after the COVID-19 pandemic: How to address the challenge?. *REVISTA CLINICA ESPAÑOLA*. 2023; 223(3)DOI:10.1016/j.rce.2023.01.009. PMID:36736728. IF:2,900 (Q2/5D).Document type: Letter.
  - Sarasate M, González N, Córdoba A, Prats E, Gonzalez JMR, Martí S, Lujan M, Calle M, Antón A, Povedano M, Farrero E. Impact of Early Non-Invasive Ventilation in Amyotrophic Lateral Sclerosis: A multicenter Randomized Controlled Trial. *Journal Of Neuromuscular Diseases*. 2023; 10(4)DOI:10.3233/JND-221658. PMID:37212068. IF:3,300 (Q2/5D).Document type: Article.
  - Solarat B, Perea L, Faner R, de la Rosa D, Martinez MA, Sibila O. Pathophysiology of Chronic Bronchial Infection in Bronchiectasis. *ARCHIVOS DE BRONCONEUMOLOGIA*. 2023; 59(2)DOI:10.1016/j.arbres.2022.09.004. PMID:36180278. IF:8,000 (Q1/2D).Document type: Article.
  - Suarez JC, Cordon A, Torrego A. An unusual foreign body aspiration. *Medicina Intensiva*. 2023; 47(3)DOI:10.1016/j.medin.2021.01.005. PMID:33674124.Document type: Article.
  - Valero A, Molina J, Nuevo J, Simon S, Capel M, Sicras A, Sicras A, Plaza V. Economic Consequences of the Overuse of Short-Acting  $\beta$ -Adrenergic Agonists in the Treatment of Asthma in Spain. *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY*. 2023; 33(2) DOI:10.18176/jiaci.0767. PMID:34825651. IF:7,200 (Q1/2D).Document type: Article.
  - Villar F, de la Rosa D, Fariñas F. Immunizing adult respiratory patients, shall we dance along?. *Vacunas*. 2023; 24(3)DOI:10.1016/j.vacun.2023.04.005. PMID:37362838.Document type: Editorial Material.
  - Zapater A, Gracia E, Torres G, Minguez O, Pascual L, Cortijo A, Martinez D, Benitez ID, De Batlle J, Henriquez M, Abad J, Duran J, Urrutia A, Mediano O, Masdeu MJ, Ordax E, Masa JF, De la Pena M, Mayos M, Coloma R, Montserrat JM, Chiner E, Barbe F, Sánchez M, Spanish N. Proteomic profiling for prediction of recurrent cardiovascular event in patients with acute coronary syndrome and obstructive sleep apnea: A post-hoc analysis from the ISAACC study. *BIOMEDICINE & PHARMACOTHERAPY*. 2023; 158:114125. DOI:10.1016/j.biopha.2022.114125. PMID:36549084. IF:7,500 (Q1/1D).Document type: Article.

## Regenerative Medicine and Tissue Bioengineering

### Group leader

Castells Sala, Cristina (BST)

### Researchers

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Rodríguez Martínez, Jose Ignacio (BST)

Ruiz Ponsell, Laia (BST)

Savio López, Andrés (BST)

Tabera Fernández, Jaime (BST)



### DESCRIPTION

BTB research lines can be divided into five blocks: amniotic membrane bank, cardiovascular bank, skin bank, ocular bank, and musculoskeletal bank. At the same time, these lines can be divided in three different sections: (1) new preservation techniques, (2) new processing technologies, and (3) therapeutic innovations.

During the last few years, part of the effort has been invested in the development of techniques to improve the methods and preservation times of the processed tissues, made available for clinical practice. Moreover, new processing methodologies such as decellularization have been addressed.

### MAIN LINES OF RESEARCH

- Tissue obtaining, clinical application, ethics, and regulation.
- Preservation of living tissue.
- Tissue decellularization.
- Medical products of advanced therapies through the recellularization of decellularized tissues.
- SoHo bioinks for 3D printing.
- Processing and product improvement.
- Technical innovation for tissue processing.
- Extension of clinical indications of the grafts.
- Cellular therapy for eye diseases.

### SCIENTIFIC CHALLENGES

- Improvement and optimizations of the process related to the donor and tissue processing in clean rooms.



### 5.1.5 Translational Medicine Area

- Advances in the development of criteria, regulation and ethics for donors and tissues.
- Technical excellence related to the processing of cells, tissues and advanced therapy medicinal products (ATMP).
- Development of new approaches and medical products of advanced therapies for regenerative medicine.

### ACTIVE GRANTS

- Castells Sala, Cristina. New human decellularized and re-endothelialized tissue-engineered Vascular gRAFT for coronary artery bypass grafting. RETOS-colaboración público-privada. (CPP2021-008438). Agencia Estatal de Investigación. Duration: 2022-2025. 728.589,50 € (BST).
- Fariñas Barbera, Oscar. Desenvolupament de bio tintes SoHo per la bioimpressió 3D d'un prototip d'empelt osteocondral. Banc de Sang i Teixits (BT0000000034). Duration: 2022-2025. 33.000,00 € (BST).
- Ruiz Ponsell, Laia. Desarrollo de un protocolo de producción de nervio desceularizado de gran calibre para su uso clínico en regeneración de nerviós periféricos. Banc de Sang i Teixits (BT0000000035). Duration: 2022-2025. 51.000,00 € (BST).
- Vilarrodona Serrat, Anna. EGALITE PROJECT: European Group for Accreditation and Liasion of blood-Tissues and cells Establishments. UE- 4th European Health Programme (101056852). Duration:2022-2024. 1.028.727,90 € (BST).

### SCIENTIFIC PRODUCTION

- Castells C, Pérez ML, Agustí E, Aiti A, Tarragona E, Navarro A, Tabera J, Farinas O, Pomar JL, Vilarrodona A. Last twenty-years activity of cardiovascular tissue banking in Barcelona. CELL AND TISSUE BANKING. 2023; DOI:10.1007/s10561-022-10059-9. PMID:36849631. IF:1,500 (Q4/9D). Document type: Article.
- Castells C, Perez ML, López P, López L, Martinez J, Ruiz L, Aiti A, Madariaga SE, Sastre S, Farinas O, Vilarrodona A. Development of a full-thickness acellular dermal graft from human skin: Case report of first patient rotator cuff patch augmentation repair. TRANSPLANT IMMUNOLOGY.

2023; 78:101825. DOI:10.1016/j.trim.2023.101825. PMID:36934900. IF:1,500 (Q4/8D). Document type: Article.

- Contreras E, Traserra S, Bolívar S, Nieto N, Jaramillo J, Forés J, Jose E, Moll X, García F, Delgado I, Fariñas O, López P, Vilarrodona A, Udina E, Navarro X. Decellularized Graft for Repairing Severe Peripheral Nerve Injuries in Sheep. Neurosurgery. 2023; 93(6). DOI:10.1227/neu.0000000000002572. PMID:37319401. IF:4,800 (Q1/1D). Document type: Article.
- Corcoll F, Perez D, Karbysheva S, Trampuz A, Farinas O, Monllau JC. Are Hamstring Grafts a Predisposing Factor to Infection in R-ACL Surgery? A Comparative In Vitro Study. Pathogens. 2023; 12(6):761. DOI:10.3390/pathogens12060761. PMID:37375451. IF:3,700 (Q2/5D). Document type: Article.
- López P, Perez ML, Castells C, Piteria RA, Farinas O, Tabera J, Vilarrodona A. Quality by Design: Development of Safe and Efficacious Full-Thickness Acellular Dermal Matrix Based on EuroG-TPII Methodologies. Therapeutics and Clinical Risk Management. 2023; 19. DOI:10.2147/TCRM.S410574. PMID:37425344. IF:2,800 (Q3/6D). Document type: Article.
- Sabater N, Figueras M, Martinez EM, Vilarrodona A, Casaroli RP. Pterygium surgery with lyophilized versus cryopreserved amniotic membrane graft. JOURNAL FRANCAIS D. OPHTALMOLOGIE. 2023; 46(3). DOI:10.1016/j.jfo.2022.08.014. PMID:36792470. IF:1,200 (Q4/10D). Document type: Article.
- Schwab N, Jordana X, Soler J, Garrido X, Brillas P, Savio A, Lavín S, Ortega M, Galtés I. Can Synbone® cylinders and deer femurs reproduce ballistic fracture patterns observed in human long bones?. JOURNAL OF MATERIALS SCIENCE. 2023; 58(11). DOI:10.1007/s10853-023-08333-6. IF:4,500 (Q2/4D). Document type: Article.

## General and Digestive Surgery

### Group leader

Moral Duarte, Antonio (FGS)

### Researchers

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Santanach Soler, Clara (FGS)

Solans Solerdelcoll, Mireia (FGS)

Targarona Soler, Eduardo Maria (FGS)



### DESCRIPTION

- General Surgery Unit

A research group in the treatment of mesenchymal tumors, especially retroperitoneal sarcomas, with lines of research in surgical techniques and new technologies for the application of local chemotherapy in the retroperitoneum. Endocrine, breast, and abdominal wall surgery. Research and dissemination of incisional hernia prevention techniques.

- Hepatopancreatic Surgery Unit

Our group's objective is research on different topics: liver surgery (liver metastases, hepatocellular carcinoma, other liver lesions), pancreatic surgery (pancreatic cancer, neuroendocrine tumors, IPMN, other types of pancreatic lesions), bile duct surgery, and minimally invasive surgery in general of the HBP field.

- Gastrointestinal Surgery Unit

The research carried out in the Esophagogastric and Bariatric Surgery Unit is mainly clinical and translational. It includes different lines of research focused mainly on the analysis of the diagnostic process and the treatment of gastric cancer and on revisional surgery of the esophagogastric junction pathology. In the field of bariatric surgery, studies have focused particularly on the results obtained in the elderly population.

The colorectal surgery unit develops research based on clinical parameters. its main lines of research include malignant and benign colorectal pathology, with special interest in quality of life and functional alterations after rectal cancer treatment. it also highlights the creation in the last two years of the functional unit of advanced proctology-HPV.



### 5.1.5 Translational Medicine Area

- Emergency and Critical Care Surgery Unit

The research carried out in the Emergency and Critical Care Surgery Unit is mainly clinical and translational. It includes different lines of research focused mainly on the analysis of the diagnostic process and the treatment of severely injured patient after trauma and on emergency surgery, specially in bowel ischemia and damage control surgery on non-traumatic patients..

#### MAIN LINES OF RESEARCH

##### General Surgery Unit

- Surgery of the thyroid gland. Research on thyroid cancer.
- Advanced surgery on parathyroid glands (primary and secondary hyperparathyroidism).
- Adrenal surgery.
- Surgery for sarcomas: participation in the development and results of surgery for retroperitoneal tumours.
- Surgery for sarcomas: participation in GIST research through the Spanish Sarcoma Research Group (GEIS) and other entities.
- Surgery of advanced gynecological tumors.
- Advanced surgery of abdominal wall. New techniques for ventral hernia repair.
- Dr. José A González and Dra. Mireia Solans: lines of research in surgical techniques and new technologies for the application of local chemotherapy in the retroperitoneum.
- Dr. José A González Dra. Mireia Solans: Research and dissemination of incisional hernia prevention techniques.

##### Hepatobiliopancreatic Surgery Unit

- Pancreatic cancer: Dr. Sánchez Cabús, Dr. García Romera
- Liver cancer: Dr. Víctor Molina, Dr. Sánchez Cabús
- Biliary pathology: Dr. Belén Martín, Dr. Sánchez Cabús

##### Gastrointestinal Surgery Unit

- Surgical reinterventions after failed hiatal hernia repair or antireflux surgery (IP: Sónia Fernández Ananín)

- Obesity in elderly population (IP: Sónia Fernández Ananín)
- Consequences of sarcopenia after bariatric surgery (IP: Noelia Pérez)
- Analysis of cruroplasty closure in paraesophageal hernias (IP: Sónia Fernández Ananín)
- Laparoscopic approach to gastric non-epithelial tumors: do size and location matter? (IP: Sónia Fernández Ananín)
- Analysis of the diagnostic process and the treatment of early gastric cancer precocious gastric (IP: Noelia Pérez)
- Implementation of an App for the control of anterior resection syndrome (IP: Carmen Martínez).
- Quality of life and functional alterations in rectal cancer (IP: Carmen Martínez).
- Diagnosis and treatment of anal dysplasia in the immunodeprimal patient (IP: Carmen Martínez).

##### Emergency and Critical Care Surgery Unit

- Safe practices for polytraumatized patients.
- Safe practices for polytraumatized patients in a Multicentric collaborative database through the Catalan Trauma Database - TraumaCAT.
- Clinical safety for fragile and elder patients in emergency surgery and care through an accredited Geriatric Emergency department by the American College of Physicians at our Hospital.
- Emergency surgical Treatment for aorta-enteric fistulae in collaboration with the Vascular Surgery Department.
- Ambulatory treatment on non-complicated Divericulitis.
- Open Abdomen and Damage Control Surgery in non-traumatic Patients.
- Good practices in emergency surgery for prevention of burst abdomen and acquired abdominal hernia after surgery.
- Good practices in emergency surgery for small bowel occlusion syndrome.

#### SCIENTIFIC CHALLENGES

##### Breast Surgery

- Technological innovations in surgery.



### 5.1.5 Translational Medicine Area

- Possible role of genetic studies in diagnosis and follow-up.
- Endocrine and Cervical Surgery.
- Technical innovations in surgery.

#### Hepato Bilio Pancreatic Surgery Unit

- To contribute to the improvement of survival and quality of life of patients affected by pathologies related to the liver, pancreas, and bile duct. Promote research and development in diseases in the area as well as focus on their surgical treatment, especially through the minimally invasive approach.

#### Gastrointestinal Surgery Unit

- Experimental surgery program and collaboration with an IR working group.

### ACTIVE GRANTS

- Fernández Ananin, Sónia. Impacto de la técnica de cierre del hiato esofágico en las hernias paraesofágicas sobre la recidiva herniaria. Estudio comparativo entre sutura continua barbadada versus puntos interrumpidos en X. IIBSP-HPE-2022-53. Duration: 2022-2023.
- Moral Duarte, Antonio. Adiposidad, inflamación y la desregulación del colesterol en el carcinoma de tiroides. Evaluación de estrategias terapéuticas basadas en la reducción del colesterol y la activación de LXR. PI19/00136. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 111.320,00 €.

### SCIENTIFIC PRODUCTION

- Alvarez RA, Manzano A, Pujol CA, Raventos VA, Correa R, Jurado JC, Fernández JA, del Muro XG, Gonzalez JA, Hindi N, Lominchar PL, Martinez J, Mendez R, Munoz M, Casares CM, Castellanos FO, Fernández RO, Gonzalez MP, Redondo A, Morales CV, Asencio JM. Updated Review and Clinical Recommendations for the Diagnosis and Treatment of Patients with Retroperitoneal Sarcoma by the Spanish Sarcoma Research Group (GEIS). *Cancers*. 2023; 15(12):3194. DOI:10.3390/cancers15123194. PMID:37370803. IF:5,200 (Q2/3D). Document type: Review.
- Balla A, Saraceno F, Rullo M, Morales S, Soler E, Di S, Guerrieri M, Lepiane P, Di N, Adamina M, Alarcon I, Arezzo A, Rodríguez JB, Boni L, Biondo S,

Carrano FM, Chand M, Jenkins JT, Davies J, Rivilla SD, Delrio P, Elmore U, Espin E, Fichera A, Lorenz BF, Francis N, Ruiz MG, Hahnloser D, Licardie E, Martinez C, Ortenzi M, Panis Y, Idoate CP, Paganini AM, Pera M, Perinotti R, Popowich DA, Rockall T, Rosati R, Sartori A, Scoglio D, Shalaby M, Fernández VS, Smart NJ, Spinelli A, Sylla P, Tanis PJ, Valdes J, Wexner SD, Sileri P. Protective ileostomy creation after anterior resection of the rectum: Shared decision-making or still subjective?. *Colorectal Disease*. 2023; 25(4). DOI:10.1111/codi.16454. PMID:36527323. IF:3,400 (Q1/2D). Document type: Article.

- Cerdán C, Cano Ó, Santos R, Terés LB, Vigorita V, Pérez TP, Rosciano JG, Paredes JP, Carre MK, Flor B, Antona FB, Martín EY, Tebar JC, Cao IA, Coltell ZB, Alonso MG, Prada BL, Riesco AB, Cánovas NI, Sánchez CM, Serrat DR, Conde GA, Toscano MJ, Aira AC, Pérez MR, Petit NM, Espín E, Carré MK, Pellino G, Retuerta JM, Saldaña AG, Laso CÁ, Allende IA, Álvarez DH, Cazador AC, Sánchez WM, Torres MT, Bonito AC, Velázquez MC, Díaz OM, Fuentes NS, Olías MDCDLV, Lorente BF, Valderrama ÓC, Santacruz CC, Collaborating group for the study of long C, Spanish Rectal Cancer Project (. "Long-term oncologic outcomes and risk factors for distant recurrence after pathologic complete response following neoadjuvant treatment for locally advanced rectal cancer. A nationwide, multicentre study". *EJSO*. 2023; 49(10):106962. DOI:10.1016/j.ejso.2023.06.014. PMID:37414628. IF:3,800 (Q1/2D). Document type: Article.
- Clàudia C, López AS, Rocío L, Irene M, Pilar H, Carmen M, Jesús B, Eduardo MT. Laparoscopic anterior resection of a deep infiltrating rectal endometriosis: A Video Vignette. *Colorectal Disease*. 2023; DOI:10.1111/codi.16819. PMID:38124238. IF:3,400 (Q1/2D). Document type: Letter.
- Escuin D, López L, Bell O, Mora J, García B, Moral A, Clos M, Boronat L, Arqueros C, Barnadas A. Circulating miRNA Expression Is Inversely Correlated with Tumor Tissue or Sentinel Lymph Nodes in Estrogen Receptor-Positive Early Breast Cancer Patients. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(17):13293. DOI:10.3390/ijms241713293. PMID:37686099. IF:5,600 (Q1/3D). Document type: Article.





## 5.1.5 Translational Medicine Area

- Fernández M, Torrano L, González J, Masia J, Sisternas L, D'Guilio G, Zamora P. To bulge or not to bulge: Rectus abdominis functional reconstruction after soft tissue sarcoma resection. *Journal of Plastic Reconstructive and Aesthetic Surgery*. 2023; 78. DOI:10.1016/j.bjps.2022.11.051. PMID:36736105. IF:2,700 (Q2/4D). Document type: Letter.
- Fernández S, Balagué C, Sala L, Molera A, Ballesster E, Gonzalo B, Pérez N, Targarona EM. Gastroesophageal reflux after sleeve gastrectomy: The dimension of the problem. *CIRUGIA ESPAÑOLA*. 2023; 101. DOI:10.1016/j.ciresp.2023.05.009. PMID:37952718. IF:1,900 (Q3/6D). Document type: Article.
- Fontanet S, Farré A, Angerri O, Kanashiro A, Suquilandá E, Bollo J, Gallego M, Sánchez FM, Millán F, Palou J, Bonnin D, Emiliani E. Bowel Perforation after Extracorporeal Wave Lithotripsy: A Review of the Literature. *Journal of Clinical Medicine*. 2023; 12(3):1052. DOI:10.3390/jcm12031052. PMID:36769699. IF:3,900 (Q2/4D). Document type: Note.
- Galán C, Hernández MP, Martínez MC, Sánchez A, Bollo J, Targarona EM. Surgical treatment of retrorectal tumors: a plea for a laparoscopic approach. *SURGICAL ENDOSCOPY AND OTHER INTERVENTIONAL TECHNIQUES*. 2023; DOI:10.1007/s00464-023-10448-5. PMID:37798533. IF:3,100 (Q1/3D). Document type: Article.
- Galán C, Hernández MP, Sala L, Sánchez A, Martínez MC, Bollo J, Pareja E, Targarona EM. Our experience in the short-term diagnostic-therapeutic management of the patient with anal dysplasia. *CIRUGIA ESPAÑOLA*. 2023; 101(3). DOI:10.1016/j.ciresp.2022.03.010. PMID:36152962. IF:1,900 (Q3/6D). Document type: Article.
- González C, Salvador MP, Glückmann E, Ríos A, Martín J, Pérez JI, García F, Flores B, Gómez J, Ortega J, Ros S, Villar J, Morales D, Gutiérrez MT, Domènech J, Nuño JM, Franch G. Diagnosis and treatment of primary thyroid lymphoma from a surgical perspective: a multi-institutional study. *LANGENBECKS ARCHIVES OF SURGERY*. 2023; 408(1):206. DOI:10.1007/s00423-023-02945-x. PMID:37221304. IF:2,300 (Q2/5D). Document type: Article.
- González S, Molina V, Homs R, Martín B, Rodríguez M, González JA, López A, Moral A, Sánchez S. Surgical and oncological results after surgical treatment of patients diagnosed with sarcoma liver metastases. *CIRUGIA ESPAÑOLA*. 2023; 101(2). DOI:10.1016/j.ciresp.2021.11.005. PMID:35901963. IF:1,900 (Q3/6D). Document type: Article.
- Noh S, Nessim C, Keung EZ, Roland CL, Strauss D, Sivarajah G, Fiore M, BIASONI D, Cioffi SPB, Mehtsun W, Cananzi FCM, Sicoli F, Quagliuolo V, Chen J, Luo CH, Gladly RA, Swallow C, Johnston W, Ford SJ, Evenden C, Tirota F, Almond M, Nguyen L, Rutkowski P, Krotewicz M, Penacchioli E, Cardona K, Gamboa A, Hompes D, Renard M, Kollar A, Ryser CO, Vassos N, Raut CP, Fairweather M, Krakorova DA, Quildrian S, Perhavec A, Nizri E, Farma JM, Greco SH, Vincenzi B, López J, Solerdecoll MS, Iwata S, Fukushima S, Kim T, Tolomeo F, Snow H, Howlett Y, Tzanis D, Nikulin M, Gronchi A, Sicklick JK, Transatlantic R. Retrospective Analysis of Retroperitoneal-Abdominal-Pelvic Ganglioneuromas An International Study by the Transatlantic Australasian Retroperitoneal Sarcoma Working Group (TARPSWG). *ANNALS OF SURGERY*. 2023; 278(2). DOI:10.1097/SLA.0000000000005625. PMID:35866666. IF:9,000 (Q1/1D). Document type: Article.
- Paez A, Hessheimer A, Bermudez P, Zarco FX, Serrano E, Moreno J, Molina V, Ausania F, Carrero E, Burrel M, Fondevila C, Gomez FM. Percutaneous transhepatic biliary drainage for biliary obstruction in perihilar cholangiocarcinoma: a 10-year analysis of safety and outcomes using the CCI index. *LANGENBECKS ARCHIVES OF SURGERY*. 2023; 408(1):109. DOI:10.1007/s00423-023-02852-1. PMID:36847837. IF:2,300 (Q2/5D). Document type: Article.
- Pareja E, Bollo J, Hernández MP, Galán C, Targarona EM. Mammary-like gland perianal adenocarcinoma. *CIRUGIA ESPAÑOLA*. 2023; 101(1). DOI:10.1016/j.cireng.2022.06.046. PMID:35787474. IF:1,900 (Q3/6D). Document type: Letter.
- Pareja E, Bollo J, Hernández MP, Galán C, Targarona EM. Mammary-like glandule perianal adenocarcinoma. *CIRUGIA ESPAÑOLA*. 2023;



## 5.1.5 Translational Medicine Area

- 101(1). DOI:10.1016/j.ciresp.2021.10.013. IF:1,900 (Q3/6D). Document type: Letter.
- Revilla G, Al Qtaish N, Caruana P, Sainz M, López T, Rodríguez F, Paez V, Li CD, Vallverdú NF, Edwards M, Moral A, Pérez JI, Escolà JC, Pedraz JL, Gallego I, Corcoy R, Céspedes MV, Puras G, Mato E. Lenvatinib-Loaded Poly(lactic-co-glycolic acid) Nanoparticles with Epidermal Growth Factor Receptor Antibody Conjugation as a Preclinical Approach to Therapeutically Improve Thyroid Cancer with Aggressive Behavior. *Biomolecules*. 2023; 13(11):1647. DOI:10.3390/biom13111647. PMID:38002329. IF:5,500 (Q1/3D). Document type: Article.
  - Revilla G, Ruiz L, Vallverdu NF, Santamaria P, Moral A, Perez JI, Li CD, Fuste V, Lerma E, Corcoy R, Pitoia F, Escola JC, Mato E. Low-Density Lipoprotein Receptor Is a Key Driver of Aggressiveness in Thyroid Tumor Cells. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(13):11153. DOI:10.3390/ijms241311153. PMID:37446330. IF:5,600 (Q1/3D). Document type: Article.
  - Rueda RJ, López JS, Rodríguez AS, Andrade M, Hernández JD, Targarona EM. Face, Content, and Construct Validity Evaluation of Simulation Models in General Surgery Laparoscopic Training and Education: A Systematic Review. *Surgical Innovation*. 2023; 30(2). DOI:10.1177/15533506221123704. PMID:36062557. IF:1,500 (Q3/8D). Document type: Article.
  - Ruiz MG, Espin E, Spinelli A, Fernández CC, Rodríguez JB, Navascues J, Rautio T, Tiskus M, Mircast GRP. Early outcomes from the Minimally Invasive Right Colectomy Anastomosis study (MIRCAST). *BRITISH JOURNAL OF SURGERY*. 2023; 110(9). DOI:10.1093/bjs/znad077. PMID:37289913. IF:9,600 (Q1/1D). Document type: Article.
  - Sala L, Fernández S, Pérez N, Targarona ME. Hiato-plasty with running barbed suture: An alternative to conventional hiatal closure. *CIRUGIA ESPAÑOLA*. 2023; 101(6). DOI:10.1016/j.ciresp.2022.12.009. PMID:36948416. IF:1,900 (Q3/6D). Document type: Article.
  - Serra X, Pericay C, Badia J, Golda T, Biondo S, Hernández P, Targarona E, Borda N, Reina A, Delgado S, Vallribera F, Caro A, Gallego J, Pascual M, Álvarez C, Guadalajara HG, Mora L. Short-term outcomes of chemoradiotherapy and local excision versus total mesorectal excision in T2-T3ab,N0,M0 rectal cancer: a multicentre randomised, controlled, phase III trial (the TAU-TEM study). *ANNALS OF ONCOLOGY*. 2023; 34(1). DOI:10.1016/j.annonc.2022.09.160. PMID:36220461. IF:50,500 (Q1/1D). Document type: Article.
  - Targarona EM. Peer review: Is it important?. *CIRUGIA ESPAÑOLA*. 2023; 101(3). DOI:10.1016/j.ciresp.2021.11.020. PMID:35914718. IF:1,900 (Q3/6D). Document type: Article.
  - van der Heijde N, Vissers FL, Manzoni A, Zimmiti G, Balsells J, Berrevoet F, Bjornsson B, van den Boezem P, Boggi U, Bratlie SO, Burdio F, Coratti A, D'Hondt M, Del Pozo CD, Dokmak S, Fara R, Can MF, Festen S, Forgione A, Frstrup C, Gaujoux S, Koerkamp BG, Hackert T, Khatkov IE, Keck T, Seppanen H, Lips D, Luyer M, Pittau G, Maglione M, Molenaar IQ, Pessaux P, Roeyen G, St O, Cabus SS, van H, van der Schelling G, Serradilla M, Souche FR, Munoz M, Marino MV, Besselink MG, Abu M, European M. Use and outcome of minimally invasive pancreatic surgery in the European E-MIPS registry. *HPB*. 2023; 25(4). DOI:10.1016/j.hpb.2022.07.015. PMID:37028826. IF:2,900 (Q2/3D). Document type: Article.
  - Vazquez EB, Rodríguez JB, Santos VM, D'Ambrosio GM, Vitiello G, Soler EMT, Cabús SS, Duarte AM. Laparoscopic right colectomy with D3 lymphadenectomy and hepatic metastasectomy in the caudate lobe: A video vignette. *Colorectal Disease*. 2023; DOI:10.1111/codi.16686. PMID:37691158. IF:3,400 (Q1/2D). Document type: Letter.
  - Vitiello G, Fernández S, Pérez N, Targarona EM. Laparoscopic repair of a giant right diaphragmatic hernia. *CIRUGIA ESPAÑOLA*. 2023; 101(12). DOI:10.1016/j.ciresp.2023.03.014. IF:1,900 (Q3/6D). Document type: Editorial Material.

## Nephrology

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### DESCRIPTION

The Nephrology Research Group of Fundació Puigvert carries out translational research in the field of renal diseases. Most of our research is clinical (clinical trials, large cohorts of patients, collaborative studies, participation in clinical guidelines, observational studies in specific groups of renal patients, etc). The group's basic research focuses on the study of fibrosis and inflammation in kidney transplantation and glomerular diseases, and genomic as well as clinical studies in inherited kidney diseases.

The group actively participates in Spanish research networks in renal diseases, as well as some European ones.

### MAIN LINES OF RESEARCH

- Inherited kidney diseases: research in this area is carried out from both the clinical and genomic perspective. The first one led by R. Torra and the second one by E. Ars. Both have led many research projects on these diseases, and have supervised several doctoral theses.
- Dr. R. Torra's new line of research consists of the use of artificial intelligence for the diagnosis of inherited kidney diseases: 1) Use of a machine learning approach to develop a diagnostic tool and 2) use of natural language processing to identify undiagnosed inherited kidney diseases within electronic health records. Both are funded projects.
- The hereditary renal diseases team is currently analyzing phenotype variability of autosomal dominant diseases, both in its genomic and its clinical dimension and developing a prediction tool.



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for autosomal dominant Alport syndrome. Also, several studies have been performed to test prediction tools for autosomal dominant polycystic kidney disease.

- Dr. E. Ars has led the setup of the genetic testing pipeline by developing a gene panel (massive parallel sequencing) containing more than 400 genes causing inherited kidney diseases. This panel has been used for several cohort studies. Her funded research right now deepens into negative genetic tests by using RNA analysis.
- Kidney Transplantation: led by Dr. L. Guirado and Dr. C. Facundo. The group is participating in or leading more than 20 studies, including clinical trials of drugs for the treatment of kidney rejection or associated viral infections. Their active participation and leadership in the investigation of biochemical, serological and genomic biomarkers of both rejection and viral infections associated with kidney transplantation is outstanding. They are also part of an EU initiative on the use of AI for kidney transplant prognosis.
- A new study based on HLA epitope and interferon elispot incompatibilities detected between donor and recipient prior to transplantation in the Living Donor Kidney Transplant Program is underway; it aims to individualize immunosuppression with the objective of maintaining a low rejection rate by minimizing the dose of immunosuppression administered.
- The group is starting a collaboration with the Microbiology and Infectious Diseases group to study the impact of microbiota on recurrent urinary tract infections in kidney transplant recipients.
- Glomerular diseases: This is an important area of nephrology led by Dr. M. Diaz with many RCTs, observational and interventional studies in different glomerulopathies. Basic research has also been done in this area by studying the process of fibrosis and inflammation. New projects on IgA nephropathy (led by Dr. H Marco) and onconephrology (led by Dr. X Barros) are on its way.
- Renal osteodystrophy: led by Dr. MJ. Lloret. She is conducting a pilot study to bone quality with bone microindentation (in addition to bone

quantity with DXA) in renal patients. Dialysis: Clinical studies are led by Dr. JM. Diaz and studies on genomic damage research and the effect of BPA and plastics on it are led by Dr. E. Coll.

- Cardiovascular risk in CKD. Led by Dr. P. Fernández-Llama studies the 24-hour central arterial pressure, its circadian rhythms and their relationship with organic damage. This group is part of RICORS coordinated by Dr. Elisa Llurba on the topic of pregnancy and CKD.
- Ms. Luz San Miguel, Dr. Cristina Canal, Ms. Judith Ballart, Ms. Irene Silva and Ms. Beatriz Bardají are the coordinators of Clinical studies and trials. Their work is essential and of the utmost importance for carrying out the high number of clinical trials performed by the group.

### SCIENTIFIC CHALLENGES

- Strengthen our translational character and maintain our scientific production.
- To make the transfer of research results to society our main objective.
- To maintain and strengthen our relationship with patient associations in order to progressively integrate the RRI approach into our translational research, with the aim of better aligning the research process and its results with the values, needs and expectations of our patients.
- Enhance innovation by incorporating artificial intelligence tools and collaborating with Information and Communication Technologies (ICT) for educational purposes and patient empowerment.
- To continue the active collection of research samples from CKD and transplant patients.
- To work towards precision medicine, especially in the field of kidney transplantation.
- Strengthen collaborative research with other IR groups.
- To maintain and increase participation in national working groups and to increase international collaboration. To achieve access to European project funds in the field of rare inherited diseases.
- To consolidate our participation in the development of national and international clinical nephrology guidelines.



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- To increase our participation in relevant private pharmaceutical clinical trials, especially early stage clinical trials.
- Improve the statistical support for our scientific production.

### ACTIVE GRANTS

- Ars Criach, Elisabet. Heterogeneidad clínica, genética y alélica de las enfermedades renales hereditarias de debut temprano: nuevas causas moleculares de anomalías congénitas del riñón y el tracto urinario. PI19/01633. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 93.170,00 €.
- Diaz Encarnacion, Maria Montserrat. Papel de la vía del succinato en la inflamación de los riñones procedentes de donantes cadáver. FMM 2019. Fundación Mutua Madrileña. Duration: 2019-2023. 99.997,00 €.
- Fernández De La Llama, Patricia. Primary care interventions to prevent maternal and child chronic diseases of perinatal and developmental origin. RD21/0012/0019. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 124.080,00 €.
- Fernández De La Llama, Patricia. Evolución de la variabilidad de la presión arterial posicional y temporal y su relación con el daño orgánico en ancianos hipertensos. Fundación Senefro. Ayudas 2019 a la investigación en Nefrología. Duration: 2019-2022. 24.000 € (F.PUIGVERT).
- Lloret Cora, Maria Jesus . Estudio del comportamiento de biomarcadores de recambio óseo durante el primer año post-trasplante renal. BECA FEIOMM 2022 INVESTIGACIÓN CLÍNICA. Sociedad Española de Investigación Ósea y Metabolismo Mineral. Duration: 2022-2022. 7.000,00 € (F.PUIGVERT).
- Torra Balcells, Roser. Use of artificial intelligence and systems biology for diagnosis and personalized risk assessment for inherited kidney diseases, focusing on alport syndrome. MARATO 202036-30. Fundació La Marató de TV3. Duration: 2021-2024. 112.500,00 €.
- Torra Balcells, Roser. Modelos de predicción en las nefropatías hereditarias autosómicas dominantes. PI18/00362. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2022. 99.220,00 €.

- Torra Balcells, Roser. Búsqueda de enfermedades renales hereditarias no sospechadas: una aguja en un pajar. PI22/00361. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 123.420,00 €.
- Torra Balcells, Roser. Inflamación e inmunopatología de órganos y sistemas. RD21/0005/0006-1. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 105.765,00 €.

### GRANTS AWARDED

- Ars Criach, Elisabet. Estudio genómico y transcriptómico de pacientes con nefropatía no filiada con sospecha de causa monogénica. PI23/00426. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 102.500,00 €.

### DOCTORAL THESES DEFENDED

- Naranjo Muñoz, Javier. Modelos de predicción de rápida progresión en la poliquistosis renal autosómica dominante. 15/05/2023. Universidad de Cádiz. Supervisors: Torra Balcells, Roser; Remón Rodríguez, César.

### SCIENTIFIC PRODUCTION

- Angerri O, Gracia S, Rousaud F, Kanashiro A, Emiliani E. Entering into 2.0 cystinuria management with a medical digital tool to monitor urine pH: A prospective, randomized study. *Actas Urológicas Españolas*. 2023; 47(9). DOI:10.1016/j.acuro.2023.02.004. IF:1,100 (Q4/9D). Document type: Article.
- Bermejo S, González E, López K, Ibernón M, López D, Martín A, García R, Linares T, Díaz M, Martín N, Barros X, Marco H, Navarro MI, Esparza N, Elías S, Coloma A, Robles NR, Agraz I, Poch E, Rodas L, Lozano V, Fernández B, Hernández E, Martínez MI, Stanescu RI, Moirón JP, García N, Goicoechea M, Calero F, Bonet J, Liaño F, Pascual J, Bestard O, Praga M, Fulladosa X, Soler MJ. The coexistence of diabetic retinopathy and diabetic nephropathy is associated with worse kidney outcomes. *Clinical Kidney Journal*. 2023; 16(10). DOI:10.1093/ckj/sfad142. PMID:37779839. IF:4,600 (Q1/2D). Document type: Article.
- Bichet DG, Hopkin RJ, Aguiar P, Allam SR, Chien YH, Giugliani R, Kallish S, Kineen S, Lidove O, Niu DM, Olivotto I, Politei J, Rakoski P, Torra R, Tøndel



## 5.1.5 Translational Medicine Area

- C, Hughes DA. Consensus recommendations for the treatment and management of patients with Fabry disease on migalastat: a modified Delphi study. *Frontiers in Medicine*. 2023; 10:1220637. DOI:10.3389/fmed.2023.1220637. PMID:37727761. IF:3,900 (Q2/4D). Document type: Article.
- Caravaca F, Cavero T, Díaz M, Cabello V, Ariceta G, Quintana LF, Marco H, Barros X, Ramos N, Rodríguez N, Cruz S, Fernández G, Rodríguez A, Pérez De José A, Rabasco C, Rodado R, Fernández L, Pérez V, Ávila A, Bravo L, Espinosa N, Allende N, Sánchez De La Nieta MD, Rodríguez E, Rivas B, Melgosa M, Huerta A, Miquel R, Mon C, Fraga G, De Lorenzo A, Draibe J, González F, Shabaka A, López ME, Fenollosa MÁ, Martín L, Da I, Titos JA, Rodríguez De Córdoba S, Goicoechea De Jorge E, Praga M. Clinical Profiles and Patterns of Kidney Disease Progression in C3 Glomerulopathy. *Kidney360*. 2023; 4(5). DOI:10.34067/KID.000000000000115. PMID:36996481. Document type: Article.
  - de Sequera P, Perez R, Vega A, Martinez S, Acosta JG, Del Valle KP, Fernández M, García MA, García AL, Coll E, Merida E, Martinez P, Castano I, Gil B, Garro J, Maduel F, MOTHER N. Trial design of the MOTHER HDx study: a multicenter, open-label, prospective, randomized study to explore the morbidity and mortality in patients dialyzed with the Theranova HDx in comparison with online hemodiafiltration. *Clinical Kidney Journal*. 2023; 16(11). DOI:10.1093/ckj/sfad128. PMID:37915938. IF:4,600 (Q1/2D). Document type: Article.
  - Doyáguez PR, Boldoba NB, Gimena R, Sevillano BH, Ballcells RT. Renal involvement in rare genetic diseases. *Medicine (spain)*. 2023; 13(79). DOI:10.1016/j.med.2023.05.004. Document type: Article.
  - Fayos De Arizón L, Viera ER, Pilco M, Perera A, De Maeztu G, Nicolau A, Furlano M, Torra R. Artificial intelligence: a new field of knowledge for nephrologists? *Clin Kidney J*. 2023; 16(12):2314-2326. DOI: 10.1093/ckj/sfad182. PMID: 38046016. IF:4,600 (Q1/2D). Document type: Review.
  - García A, de la Flor JC, Coll E, Iglesias E, Reque J, Valga F. Expanded hemodialysis: what's up, Doc?. *Clinical Kidney Journal*. 2023; 16(7). DOI:10.1093/ckj/sfad033. PMID:37398691. IF:4,600 (Q1/2D). Document type: Review.
  - Huerta A, Arjona E, Portoles J, López P, Cavero T, Fernández J, Blasco M, Cabello V, Calvo N, Diaz M, Herrero M, Aguirre M, Elías S, Alcaide MP, Ramos N, Sellares J, Rodríguez de Córdoba S. On the relevance of thrombomodulin variants in atypical hemolytic uremic syndrome. *KIDNEY INTERNATIONAL*. 2023; 104(4). DOI:10.1016/j.kint.2023.07.020. PMID:37567446. IF:19,600 (Q1/1D). Document type: Article.
  - Hughes DA, Bichet DG, Giugliani R, Hopkin RJ, Krusinska E, Nicholls K, Olivotto I, Feldt U, Sakai N, Skuban N, Sunder G, Torra R, Wilcox WR. Long-term multisystemic efficacy of migalastat on Fabry-associated clinical events, including renal, cardiac and cerebrovascular outcomes. *JOURNAL OF MEDICAL GENETICS*. 2023; 60(7). DOI:10.1136/jmg-2022-108669. PMID:36543533. IF:4,000 (Q2/3D). Document type: Article.
  - Jankowska M, Soler MJ, Stevens KI, Torra R. Why do we keep ignoring sex in kidney disease? *Clin Kidney J*. 2023; 16(12):2327-2335. DOI: 10.1093/ckj/sfad183. PMID: 38046033. IF:4,600 (Q1/2D). Document type: Review.
  - Kiryluk K, Sánchez E, Zhou XJ, Zanoni F, Liu LL, Mladkova N, Khan A, Marasa M, Zhang JY, Balderes O, Sanna S, Bomback AS, Canetta PA, Appel GB, Radhakrishnan J, Trimarchi H, Sprangers B, Cattran DC, Reich H, Pei YR, Ravani P, Galesic K, Maixnerova D, Tesar V, Stengel B, Metzger M, Canaud G, Maillard N, Berthoux F, Berthelot L, Pillebout E, Monteiro R, Nelson R, Wyatt RJ, Smoyer W, Mahan J, Samhar A, Hidalgo G, Quiroga A, Weng PTC, Sreedharan R, Selewski D, Davis K, Kallash M, Vasylyeva TL, Rheault M, Chishti A, Ranch D, Wenderfer SE, Samsonov D, Claes DJ, Akchurin O, Goumenos D, Stangou M, Nagy J, Kovacs T, Fiaccadori E, Amoroso A, Barlasina C, Cusi D, Del Vecchio L, Battaglia GG, Bodria M, Boer E, Bono L, Boscutti G, Caridi G, Lugani F, Ghiggeri G, Coppo R, Peruzzi L, Esposito V, Esposito C, Feriozzi S, Polci R, Frasca G, Galliani M, Garozzo M, Mitrotti A, Gesualdo L, Granata S, Zaza G, Londrino F, Magistrone R, Pisani I, Magnano A, Marcantoni C, Messa P, Mignani R, Pani A, Ponticelli C, Roccatello D, Salvadori M, Salvi E, Santoro D, Gembillo G, Savoldi S, Spotti D, Zamboli P, Izzi C, Alberici F, Delbarba E, Florczak M, Krata N, Mucha K, Paczek L, Niemczyk S, Moszczuk B, Panczyk M, Mizerska M, Perkowska A, Baczkowska T, Durlík



## 5.1.5 Translational Medicine Area

- M, Pawlaczyk K, Sikora P, Zaniew M, Kaminska D, Krajewska M, Kuzmiuk I, Heleniak Z, Bullo B, Liberek T, Debska A, Hryszko T, Materna A, Miklaszewska M, Szczepanska M, Dyga K, Machura E, Siniewicz K, Pawlak M, Tkaczyk M, Runowski D, Kwella N, Drozd D, Habura I, Kronenberg F, Prikhodina L, van D, Fontaine B, Cotsapas C, Wijmenga C, Franke A, Annese V, Gregersen PK, Parameswaran S, Weirauch M, Kottyan L, Harley JB, Suzuki H, Narita I, Goto S, Lee HJ, Kim DK, Kim YS, Park JH, Cho BL, Choi M, Van A, Huerta A, Ars E, Ballarin J, Lundberg S, Vogt B, Mani LY, Caliskan Y, Barratt J, Abeygunaratne T, Kalra PA, Gale DP, Panzer U, Rauen T, Floege J, Schlosser P, Ekici AB, Eckardt KU, Chen N, Xie JY, Lifton RP, Loos RJF, Kenny EE, Ionita I, Kottgen A, Julian BA, Novak J, Scolari F, Zhang H, Gharavi AG. Genome-wide association analyses define pathogenic signaling pathways and prioritize drug targets for IgA nephropathy. *NATURE GENETICS*. 2023; 55(7). DOI:10.1038/s41588-023-01422-x. PMID:37337107. IF:30,800 (Q1/1D). Document type: Article.
- López SC, Downie ML, Kim JS, Boyer O, Walsh SB, Nijenhuis T, Papizh S, Yadav P, Reynolds B, Decramer S, Besouw M, Carrascosa MP, La Scola C, Trepiccione F, Ariceta G, Hummel A, Dossier C, Sayer JA, Konrad M, Keijzer MG, Awan A, Basu B, Chauveau D, Madariaga L, Koster L, Furlano M, Zacchia M, Marzuillo P, Tse Y, Dursun I, Pinarbasi AS, Tramma D, Hoorn EJ, Gokce I, Nicholls K, Eid LA, Sartz L, Riordan M, Hooman N, Printza N, Bonny O, Sancho PA, Schild R, Sinha R, Guarino S, Jimenez VM, Peña LR, Belge H, Devuyst O, Wlodkowski T, Emma F, Levtchenko E, Knoers N, Bichet DG, Schaefer F, Kleta R, European C, Bockenhauer D. Treatment and long-term outcome in primary nephrogenic diabetes insipidus. *NEPHROLOGY DIALYSIS TRANSPLANTATION*. 2023; 38(10). DOI:10.1093/ndt/gfaa243. PMID:33367818. IF:6,100 (Q1/2D). Document type: Article.
  - López V, Mazuecos A, Villanego F, Alonso A, Beneyto I, Crespo M, Diaz C, Franco A, Gonzalez F, Guirado L, Jimenez C, Juega J, Llorente S, Paul J, Rodríguez A, Ruiz JC, Sánchez A, Torregrosa V, Rodrigo E, Hernandez D, López V, López M, Zarraga S, GDGYS. Update of the recommendations on the management of the SARS-CoV-2 coronavirus pandemic (COVID-19) in kidney transplant patients. *NEFROLOGIA*. 2023; 43(5). DOI:10.1016/j.nefro.2022.11.001. PMID:37957107. IF:2,600 (Q3/6D). Document type: Review.
  - Macia M, Díaz M, Solans R, Mallol EP, Castells AG, Escribano C, de Arellano AR. A projected cost-utility analysis of avacopan for the treatment of antineutrophil cytoplasmic antibody-associated vasculitis in Spain. *Expert Review of Pharmacoeconomics & Outcomes Research*. 2023; DOI:10.1080/14737167.2023.2297790 . PMID:38126738. IF:2,300 (Q3/7D). Document type: Article.
  - Martinez V, Furlano M, Sans L, Pulido L, García R, Perez MV, Sánchez J, Blasco M, Castro C, Fernández G, Robles NR, Valenzuela MP, Naranjo J, Martin N, Pilco M, Agraz I, Gonzalez JD, Panizo N, Fraga G, Fernández L, López MT, Dall'Anese C, Ortiz A, Torra R, Marcas L, Rius A, Tomas P, García L, Luna E, Martin MA, Inigo P, Martins J, Ramos F, García R, García LD, Merino MD, Fernández MJ, Madariaga L, Canal C, Martinez AM, Echarrri R, Bouarich H, Cabezas A, R. Autosomal dominant polycystic kidney disease in young adults. *Clinical Kidney Journal*. 2023; 16(6). DOI:10.1093/ckj/sfac251. PMID:37260991. IF:4,600 (Q1/2D). Document type: Article.
  - Mayayo C, Prat E, Vecino M, González L, Gràcia S, San Miguel L, Lopera N, Arias A, Artuch R, de Heredia ML, Torrecilla C, Rousaud F, Angerri O, Errasti E, Nunes V. Exploring the Contribution of the Transporter AGT1/rBAT in Cystinuria Progression: Insights from Mouse Models and a Retrospective Cohort Study. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(24):17140. DOI:10.3390/ijms242417140. PMID:38138969. IF:5,600 (Q1/3D). Document type: Article.
  - Ortiz A, Ars E, Bernis C, Fraga G, Furlano M, Martinez V, Martins J, Perez MV, Rodríguez JC, Sans L, Torra R. Reply to Comments on the SENefro Consensus Document on Autosomal Dominant Polycystic Kidney Disease. *NEFROLOGIA*. 2023; 43(1). DOI:10.1016/j.nefro.2022.07.002. PMID:37217372. IF:2,600 (Q3/6D). Document type: Letter.
  - Porrini E, Perez NM, Diaz JM, Lauzurrica R, Rodríguez JO, Torres IS, Moreso F, Garrit JMC, Ruiz RB, Vilaro MI, Lima MXM, Ramchand SK, Ruiz JC, de los Rios FG, Alvarez CR, Guindo MDD, Macias M,



## 5.1.5 Translational Medicine Area

- Vela DB, Osuna A, Bayes B, Sánchez CA, Ruiz MD, Rodríguez A, Rollan RD, Rinne FG, Sosa AJ, Mallen PD, Rinne AG, Miranda DM, Torres A. Post-transplant diabetes mellitus and renal cell cancer after renal transplantation. *NEPHROLOGY DIALYSIS TRANSPLANTATION*. 2023; 38(6). DOI:10.1093/ndt/gfac291. PMID:36323457. IF:6,100 (Q1/2D). Document type: Article.
- Rodríguez D, Broseta JJ, Bastida C, Alvarez MI, Nicolau C, Alvarez C, Agraz I, Sánchez M, Furlano M, Ruiz C, Quintana LF, Pineiro GJ, Poch E, Torra R, Blasco M. Creatine Kinase Elevation in Autosomal Dominant Polycystic Kidney Disease Patients on Tolvaptan Treatment. *NEPHRON*. 2023; 147(3-4). DOI:10.1159/000526368. PMID:36088902. IF:2,500 (Q3/6D). Document type: Article.
  - Sánchez R, Ripoll T, López M, de Juan J, Gimeno JR, Hermida Á, Ruz MA, Torregrosa JV, Mora A, García JM, Fortuny E, Aguinaga A, Torra R. The Spanish Fabry women study: a retrospective observational study describing the phenotype of females with GLA variants. *Orphanet Journal of Rare Diseases*. 2023; 18(1):8. DOI:10.1186/s13023-022-02599-w. PMID:36624527. IF:3,700 (Q2/4D). Document type: Article.
  - Sanz I, Angerri O, Baboudjain M, Kanashiro A, Gracia S, Millan F, Sánchez F, Somani B, Galan JA, Barghouthy Y, Emiliani E. Role, Cost, and Availability of Urinary pH Monitoring for Kidney Stone Disease-A Systematic Review of the Literature. *Current Urology Reports*. 2023; 24(8). DOI:10.1007/s11934-023-01166-5. PMID:37314611. IF:2,600 (Q3/6D). Document type: Review.
  - Sevillano AM, Caravaca F, García LC, Fernández G, López K, Guzman DA, Martín G, Quintana LF, Rodas LM, de la Nieta MDS, Rabasco C, Espinosa M, Díaz M, San Miguel L, Barrios C, Rodríguez E, García P, Valera A, Pena JK, Shabaka A, Velo M, Sierra M, Gonzalez F, Fernández MJ, Heras M, Delgado P, Gutierrez E, Moreno JA, Praga M, Spanish Study Glomerular Dis GRP. Effect of Immunosuppressive Treatments on Kidney Outcomes After Gross Hematuria-Related Acute Kidney Injury in Older Patients With IgA Nephropathy. *Kidney International Reports*. 2023; 8(8). DOI:10.1016/j.ekir.2023.05.027. PMID:37547537. IF:6,000 (Q1/2D). Document type: Article.
  - Stevens KI, Mallamaci F, Ortiz A, Bover J, Delanaye P, Torra R, Cozzolino M. 'The forgotten sex': gender disparities in kidney disease. *Clinical Kidney Journal*. 2023; DOI:10.1093/ckj/sfad102. IF:4,600 (Q1/2D). Document type: Editorial Material.
  - Torra R, Kronbichler A, Bajema IM. Replacing a kidney biopsy by exome sequencing in undetermined kidney diseases-not yet ready for prime time!. *Clinical Kidney Journal*. 2023; 17(1). DOI:10.1093/ckj/sfad250. PMID:38186890. IF:4,600 (Q1/2D). Document type: Editorial Material.



## Women and Perinatal Health

### Group leader

Llurba Olive, Elisa (FGS)

### Researchers

Cruz Lemini, Monica Cristina (FGS)

Dominguez Gallardo, Carla (FGS)

Gaggiotti, Hugo (UWE)

Garrido Gimenez, Carmen (FGS)

Marre Cifola, Diana (UAB)

Medina Mallen, Maria Del Carmen (FGS)

Mora Hervas, Irene (FGS)

Parra Roca, Juan (FGS)

Polo Ramos, Ana Maria (F.Puigvert)

Ramos De Luis, Anna (FGS)

Remorini, Carolina (UAB)

Sánchez García, Olga (IR)

Trilla Sola, Cristina (FGS)

Ullmo, Johana (FGS)

### Research Technicians

Costa Sánchez, Noah (IR)

García Ruiz, Zoraida (IR)

Gracia Perez-Bonfils, Anna (IR)

Molas Closas, Anna (UAB)

Pero García, Marta (FGS)



### DESCRIPTION

The Women and Perinatal Health Research Group is focused on the study of diseases derived from placental insufficiency, such as preeclampsia and growth restriction, and alterations of the fetal heart and neurodevelopment. The group is the coordinator of the framework of RICORS network entitled Primary Care Interventions to Prevent Maternal and Child Chronic Diseases of Perinatal and Developmental Origin, RD21/0012/0001 (ISCIII) and it has been recognized as a consolidated group recognized by the Agència de Gestió d'Ajuts Universitaris i de Recerca, AGAUR Generalitat de Catalunya (2021 SGR 01002).

### MAIN LINES OF RESEARCH

- Prediction and prevention of complications arising from placental insufficiency, intrauterine growth restriction/preeclampsia (IUGR/PE).
- Placental insufficiency and maternal cardiovascular risk later in life.
- Development of predictive methods based on the Integration of pre and postnatal factors for the detection of abnormal neurodevelopment in congenital heart disease.
- Toxics and air pollution effects on pregnancy and fetal programming.
- Management of pelvic floor dysfunction: chronic pelvic pain, urinary incontinence, and pelvic organ prolapse.
- Maternal and fetal cardiovascular programming in assisted reproduction treatments (ART).
- Cardiovascular Health and ART outcomes.



### 5.1.5 Translational Medicine Area

- COVID-19 and gestation.
- Innovative methods in delivery care.

#### SCIENTIFIC CHALLENGES

- To study new placental biomarkers for the diagnosis and prognosis of preeclampsia (PE) and intrauterine growth restriction (IUGR), aiming to generate future hypotheses on prevention targets and therapeutic interventions for these diseases.
- To determine the utility of new placental biomarkers (sFlt-1/PIGF ratio) in the diagnosis and prognosis of preeclampsia (PE) to change existing healthcare policies and improve maternal and neonatal health.
- To study new maternal cardiovascular risk biomarkers after experiencing placental insufficiency and explore preventive strategies to identify which mothers are at risk of long-term cardiovascular diseases.
- To study the role of placental insufficiency and hypoxia in congenital heart diseases to increase our understanding of the relationship between hypoxia-dependent placental morphogenesis, placental function, and effects on fetal oxygen metabolism.
- To identify new biomarkers detectable during fetal and neonatal stages that help predict postnatal neurological risk in congenital heart diseases.
- To evaluate the impact of maternal exposure to environmental factors on gestation, placental complications, and fetal neurodevelopment to evidence to support regulation and implementation of necessary interventions by health authorities.
- To evaluate the impact of Sars-Cov2 infection on gestation and the neonate.
- To conduct clinical research focused on improving obstetric care by implementing innovative solutions in the labor and postpartum process.
- Cruz Lemini, Monica Cristina. Impacto del ejercicio y la dieta mediterranea vs aspirina en la tasa de nacimientos vivos y programacion cardiovascular en la fertilizacion in vitro. PI20/01504. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 183.920,00 €.
- Llurba Olive, Elisa. Remodelado y disfunción cardíaca en pacientes con preeclampsia regulado por el ambiente anti-angiogénico: estudio clínico y experimental. PI19/00702. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 146.410,00 €.
- Llurba Olive, Elisa. Primary care interventions to prevent maternal and child chronic diseases of perinatal and developmental origin. RD21/0012/0001. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 245.080,00 €.
- Llurba Olive, Elisa. GRUP DE RECERCA EN MEDICINA PERINATAL I DE LA DONA. 2022 INV-1 00048. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 66.217,84 €.
- Llurba Olive, Elisa. Evaluación del riesgo cardiovascular en mujeres jóvenes después de embarazo con o sin complicaciones placentarias (Estudio CARDIOMOM). PI22/00462. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 165.770,00 €.
- Llurba Olive, Elisa. Pérdidas reproductivas precoces: del malestar físico y emocional invisible al posible duelo personal, familiar y social. CC21-0185. Convocatoria Conecta: de la investigación a la práctica social 2022. Fundació La Caixa. Duration: 2023-2025. 7.150,00 €.
- Mora Hervas, Irene. Estudio multicéntrico sobre fijación a músculo elevador del ano en la colposacropexia laparoscópica (Estudio Multicéntrico FIMEA). PI21/00852. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 30.250,00 €.

#### GRANTS AWARDED

- Murcia Oliveras, Maria Teresa. Contratos Rio Hortega 2023. CM23/00270. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 65.000,00 €.

#### DOCTORAL THESES DEFENDED

- Garrido Giménez, Carmen. Implicación de los factores angiogénicos en el riesgo cardiovascular

#### ACTIVE GRANTS

- Cruz Lemini, Monica Cristina. Contractes Juan Rodés 2019. JR19/00047. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 180.000,00 €.



### 5.1.5 Translational Medicine Area

de las mujeres con preeclampsia. 26/05/2023. Universitat Autònoma de Barcelona. Supervisors: Llurba Olivé, Elisa; Carreras Moratonas, Maria Elena; Alijotas Reig, Jaume. <http://hdl.handle.net/10803/690686>.

- Però García, Marta. Matrix: estudio de las propiedades biológicas de una matriz dérmica humana para su aplicación en cirugías reconstructivas del suelo pélvico. 29/06/2023. Universitat Autònoma de Barcelona. Supervisors: Porta Roda, Oriol; Llurba Olivé, Elisa. <http://hdl.handle.net/10803/690799>.

### SCIENTIFIC PRODUCTION

- Dominguez C, Ginjaume N, Ullmo J, Fernández A, Parra J, Vazquez A, Cruz M, Llurba E. Longitudinal Behavior of Left-Ventricular Strain in Fetal Growth Restriction. *Diagnostics*. 2023; 13(7):1252. DOI:10.3390/diagnostics13071252. PMID:37046470. IF:3,600 (Q2/4D). Document type: Article.
- Español P, RAMON N, Caruana P, Luna R, Soler C, Teixeira N, Rodríguez F, Gallardo A, Edwards M, Porta O, Gamez M, Sánchez O, Llurba E, Corchero JL, Cespedes MV. Dopamine receptors D1 and D2 show prognostic significance and potential therapeutic applications for endometrial cancer patients. *GYNECOLOGIC ONCOLOGY*. 2023; 176. DOI:10.1016/j.ygyno.2023.06.019. PMID:37437489. IF:4,700 (Q1/2D). Document type: Article.
- Esteve E, Alijotas J, Belizna C, Marques J, Anunciacion A, Feijóo C, Sáez L, Mekinian A, Ferrer R, Lefkou E, Morales S, Hoxha A, Tincani A, Nalli C, Pardos J, Marozio L, Maina A, Espinosa G, Cervera R, De Carolis S, Latino O, Udry S, Llurba E, Garrido C, Trespidi L, Gerosa M, Chighizola CB, Rovere P, Canti V, Mayer K, Tabacco S, Arnau A, Miró F. Low complement levels are related to poor obstetric outcomes in women with obstetric antiphospholipid syndrome. The EUROAPS Registry Study Group. *PLACENTA*. 2023; 136. DOI:10.1016/j.placenta.2023.04.001. PMID:37028222. IF:3,800 (Q2/3D). Document type: Article.
- Fakhouri F, Schwotzer N, Cabiddu G, Barratt J, Legardeur H, Garovic V, Orozco A, Wetzels J, Daugas E, Moroni G, Noris M, Audard V, Praga M, Llurba E, Wuerzner G, Attini R, Desseauve D, Zakharova E, Luders C, Wiles K, Leone F, Jesudason S, Costedoat N, Kattah A, Soto V, Karras A, Prakash J, Lightstone L, Ronco P, Ponticelli C, Appel G, Remuzzi G, Tsatsaris V, Piccoli GB. Glomerular diseases in pregnancy: pragmatic recommendations for clinical management. *KIDNEY INTERNATIONAL*. 2023; 103(2). DOI:10.1016/j.kint.2022.10.029. PMID:36481180. IF:19,600 (Q1/1D). Document type: Review.
- Fons LB, Roda OP, Però M, Roca PF, González MS. Results of a Systematic Intensive Follow-Up of 259 Cases of Obstetric Anal Sphincter Injury. *International Journal Of Childbirth*. 2023; 13(3). DOI:10.1891/IJC-2022-0062. Document type: Article.
- Garrido C, Cruz M, Álvarez FV, Nan MN, Carretero F, Fernández A, Mora J, Sánchez O, García Á, Alijotas J, Llurba E, on behalf of the EuroPE Working G. Predictive Model for Preeclampsia Combining sFlt-1, PlGF, NT-proBNP, and Uric Acid as Biomarkers. *Journal of Clinical Medicine*. 2023; 12(2):431. DOI:10.3390/jcm12020431. PMID:36675361. IF:3,900 (Q2/4D). Document type: Article.
- Gonzalez R, Gonce A, Gil MD, Mazarico E, Ferriols E, Toro P, Llurba E, Saez E, Rodríguez MA, García L, López M, Santacruz B, Roman MA, Paya A, Alonso S, Cruz M, Pons C, Herrera LB, Chen HLY, Bardaji A, Quinto L, Menéndez C. Efficacy and safety of hydroxychloroquine for treatment of mild SARS-CoV-2 infection and prevention of COVID-19 severity in pregnant and postpartum women: A randomized, double-blind, placebo-controlled trial. *ACTA OBSTETRICIA ET GYNECOLOGICA SCANDINAVICA*. 2023; DOI:10.1111/aogs.14745. PMID:38098221. IF:4,300 (Q1/2D). Document type: Article.
- Jia Y-J, Ghi T, Pereira S, Gracia Perez A, Chandharan E. Pathophysiological interpretation of fetal heart rate tracings in clinical practice. *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY*. 2023; 228(6). DOI:10.1016/j.ajog.2022.05.023. PMID:37270259. IF:9,800 (Q1/1D). Document type: Review.
- Mazarico E, Meler E, Mendoza M, Herraiz I, Llurba E, De Diego R, Comas M, Boada D, González A, Bonacina E, Armengol M, Moline E, Hurtado I, Torre N, Gomez MD, Galindo A, Figueras F. Mortality and severe neurological morbidity in extremely preterm fetal growth-restricted fetuses. *ULTRASOUND*



## 5.1.5 Translational Medicine Area

IN OBSTETRICS & GYNECOLOGY. 2023; 62(6).  
DOI:10.1002/uog.26290. PMID:37325877. IF:7,100  
(Q1/1D). Document type: Article.

- Nan MN, García A, Mora J, Trilla C, Antonijuan A, Orantes V, Cruz M, Blanco F, Llurba E. Impact of Angiogenic and Cardiovascular Biomarkers for Prediction of Placental Dysfunction in the First Trimester of Pregnancy. *Biomedicines*. 2023; 11(5):1327. DOI:10.3390/biomedicines11051327. PMID:37238997. IF:4,700 (Q1/3D). Document type: Article.
- Perelló J, Estadella J, Gich I, Bailón M, Llurba E, Calaf J. Bleeding profile and safety of a levonorgestrel 13.5 mg intrauterine device versus Nova T copper 380 mm(2) intrauterine device: Results of a 3-year, single-center, randomized phase 4 study. *CONTRACEPTION*. 2023; 127:110127. DOI:10.1016/j.contraception.2023.110127. PMID:37487868. IF:2,900 (Q2/5D). Document type: Article.

## Advanced Medical Imaging, Artificial Intelligence, and Imaging-Guided Therapy

### Group leader

Munuera Del Cerro, Josep Lluís (FGS)

### Researchers

Alfonso Cerdan, Sheila (FGS)

Aubanell Creus, Anton (FGS)

Codo Tarraubella, Xenia (FGS)

Gimenez Nadal, Anna (FGS)

Gomez Chiari, Marta Cecilia (FGS)

Granell Moreno, Esther (FGS)

Hernandez Giraldo, Cristian David (FGS)

Hernandez Jover, Diana (FGS)

Lozano Martinez, Gloria Andrea (FGS)

Mendez Escalante, Jorge Eliecer (FGS)

Menso, Maria Magdalena (FGS)

Oliva Ibarz, Javier (FGS)

Otero Ruiz, Jorge Enrique (FGS)

Pernas Canadell, Juan Carlos (FGS)

Rios Vives, Miguel Angel (FGS)

Sánchez Fernández, Juan Jose (FGS)

Tecame, Mario (FGS)

Valverde Lavirgen, Sandra (FGS)

Villalba Auñon, Jorge (FGS)



### MAIN LINES OF RESEARCH

- Artificial Intelligence.
- Quantitative Medical Imaging Advances and Radiomics.
- Innovative Imaging Technologies.
- Image-Guided Therapy 3D Imaging and Surgical Planning.
- Design and Testing of Medical Devices.

### SCIENTIFIC CHALLENGES

- Increasing knowledge in the implementation of digital technologies in healthcare through the design and testing of tools supporting clinical and radiological decision-making, based on Artificial Intelligence and Robotics.
- Promoting the development and use of advanced biomarkers in medical imaging, including new acquisition methods, techniques, or procedures, especially quantitative and omics biomarkers.
- Encouraging the use of advanced imaging technologies and 3D printing for the enhancement of educational resources and clinical-surgical planning.
- Enhancing participation in national and international research networks focused on diagnostic imaging, as well as fostering collaboration in multidisciplinary research teams.

### DOCTORAL THESES DEFENDED

- Guisado-Alonso, Daniel. Estratègies per optimitzar el tractament endovascular en l'íctus agut: anàlisi dels criteris de selecció i de la relació



### 5.1.5 Translational Medicine Area

entre la circulació col·lateral i la pressió arterial.  
28/04/2023. Universitat Autònoma de Barcelo-  
na. Supervisors: Martí Fàbregas, Joan; Delgado  
Mederos, Raquel; Granell Moreno, Esther. [http://  
hdl.handle.net/10803/690489](http://hdl.handle.net/10803/690489).

## 5.1.6 Associated Groups

### Emerging Processes in Prevalent Diseases

Puig Campmany, Mireia

### Radiophysics and Radioprotection

Carrasco De Fez, Pablo

### Paediatrics

Moliner Calderon, Elisenda

### Ophthalmology

Del Campo Carrasco, Zoraida

### Nuclear Medicine

Carrió Gasset, Ignasi (until October 2023)

Flotats Giralt, Albert (from November 2023)

### Intensive Medicine

Moran Chorro, Indalecio

### Pharmacy

Mangues Bafalluy, Maria Antònia (until October 2023)

Feliu Ribera, Anna (from November 2023)

### Dermatology

Puig Sanz, Luis

### Anaesthesiology

Paniagua Iglesias, Pilar

### Plastic Surgery

Masia Ayala, Jaume

### Palliative Care

Pascual López, Antonio

### Andrology

Ruiz Castañe, Eduard

### Urology

Palou Redorta, Juan

### Reproductive Health

Calaf Alsina, Joaquim

### Radiation Oncology

Sancho Pardo, Gemma

### Locomotor System

Crusi Sererols, Xavier

### Pain and Neurosciences

Català Puigbò, Elena (until October 2023)

Revuelta Rizo, Miren Eli (from November 2023)

### Nursing Care

Mas Dalmau, Gemma

### Cardiac Surgery

Ginel Iglesias, Antonino

### HIV and AIDS

Domingo Pedrol, Pere

## Emerging Processes in Prevalent Diseases

### Group leader

Puig Campmany, Mireia (FGS)

### Researchers

Agra Montava, Ivan (FGS)  
 Albuxech Ginesta, Mireia (FGS)  
 Alquezar Arbe, Aitor (FGS)  
 Alvarez Albarran, Maria Teresa (FGS)  
 Arenos Sambro, Roser (FGS)  
 Barcons Pujol, Miquel (FGS)  
 Blazquez Andion, Marta (FGS)  
 Borja Cano, Maria (FGS)  
 Borrego Yanes, Isel (FGS)  
 Caballero Flores, Francisco (FGS)  
 Calvet Pujol, Adria (FGS)  
 Castella Rovira, Marta (FGS)  
 Castellero Diaz, Lluís Enric (FGS)  
 Cercas Lobo, Silvia (FGS)  
 Ceresuela Lobera, Andrés (FGS)  
 Davalos Benites, Lucio Jair (FGS)  
 Diez Diez, Veronica (FGS)  
 Docio Alfaya, Marta (FGS)  
 Doi Grande, Adriana Laura (FGS)  
 Donniacono, Domenico (FGS)  
 Escribano Lazaro, Alicia (FGS)  
 Fernández, Gaston (FGS)  
 Fernández Castaño, Irene (FGS)  
 Fernández Gonzalez, Diego (FGS)  
 Garrido Quintero, Maria Andrea (FGS)  
 Gil Olivas, Eva (FGS)  
 Gomez Robles, Joaquin Jose (FGS)  
 Gonzalez Diez, Ane (FGS)  
 Guardiola Tey, José Maria (FGS)  
 Hernandez Ontiveros, Hector (FGS)  
 Herrera Mateo, Sergio Antonio (FGS)  
 Higa Sansone, Jorge Leopoldo (FGS)  
 Jodar Manzanera, Victoria (FGS)  
 Jordan Lucas, Sara (FGS)  
 Lazzari, Roberto (FGS)  
 Leal Cebrecos, Jesus (FGS)  
 López Ortega, Laura (FGS)  
 Lozano Polo, Laura (FGS)  
 Mateo Roca, Miriam (FGS)  
 Mauri Plana, Albert (FGS)  
 Moline Pareja, Antoni (FGS)  
 Montiel Dacosta, Josep Antoni (FGS)  
 Moragues Escalona, Laura (FGS)  
 Motos Bescos, Meritxell (FGS)  
 Palacio Alvare, Pablo (FGS)  
 Perez Baena, Sergio (FGS)  
 Perez Mendez, Maria Carmenza (FGS)  
 Piera Salmeron, Aina (FGS)  
 Ponte Marquez, Paola Helena (FGS)  
 Ris Romeu, Josep (FGS)  
 Rizzi, Miguel Alberto (FGS)  
 Rodríguez Armas, Maria (FGS)  
 Romero Carrete, Carlos Jose (FGS)  
 Rossi, Amelia (FGS)  
 Santalo Bel, Miguel (FGS)  
 Sanz López, Natalia (FGS)  
 Seres Roig, Montserrat (FGS)  
 Serrano García-Calvo, Alicia (FGS)  
 Serrano Herran, Marta (FGS)  
 Sizova, Marina (FGS)  
 Torres Tornos, Andreu (FGS)  
 Trejo Gutierrez, Olga Maria (FGS)  
 Villarejo Jimenez, Ana (FGS)  
 Villate Robles, Luisa Fernanda (FGS)

### Research Technician

Soriano Gamero, Miriam (IR)



### DESCRIPTION

Our group mainly studies urgent and emerging processes, in prevalent diseases, with special interest in demographic aspects (gender perspective, older adults). It is an eminently clinical research, based on our own and multicenter projects. The interest is the knowledge of the diseases, their diagnosis and treatment taking into account the particularities, and the organisational aspects of the emergency departments. In short, to promote quality, safe and efficient care in the emergency department.

### MAIN LINES OF RESEARCH

- Clinical Organization and Management (Mireia Puig, Josep Ris, Miriam Mateo).
- Patient safety and emergency department quality. (Maite Álvarez).
- Teaching (Josep Anton Montiel, J. Leopoldo Higa)
- Ecography (R Lazzari).
- Organ Donation and Coordination (Francisco Caballero).
- Frailty and elderly (Marta Blázquez).

### Processes

- Infection (Albert Mauri, Maire Álvarez).
- Travel disease (Eva Gil).
- Sexually transmitted diseases (Montse Seres).
- Sepsis (Anotni Moliné, Aina Piera).
- Respiratory System Disorders and Acute Respiratory Failure (Antoni Moliné).
- Thromboembolic disease (Laura Lozano).



### 5.1.6 Associated Groups

- Cardiovascular System (Miquel Santaló).
- Acute coronary syndrome (Roberto Lazzari).
- Ultrasensitive markers in acute coronary syndrome (Aitor Alquézar).
- Cardiovascular Risk (Paola Ponte).
- Cardiac failure (Sergio Herrera, Aitor Alquézar).
- Arrhythmias (Olga Trejo, Héctor Hernández).
- Diabetes care (Iván Agra).
- Toxicology (J. Leopoldo Higa, Héctor Hernández).
- Psychiatry (Paola Ponte, Marta Castellà).
- Ultrasound in emergency patient (Roberto Lazzari, Sergio Pérez Baena).

### SCIENTIFIC CHALLENGES

- Emergency and Urgent Care Management, new organisational models.
- Ageing population, frailty, and emergency care.
- Medication-related health problems.
- Heart failure, new therapeutic scenarios, prevention and home-care Infection, diagnosis and control.
- Urgent processes from a gender perspective.
- Urgent processes with age perspective.

### ACTIVE GRANTS

- Alquezar Arbe, Aitor. Epidemiología de la Insuficiencia Cardíaca Aguda en servicios de urgencias hospitalarios. Factores asociados a la mortalidad a los 30 días y al año en pacientes con Insuficiencia Cardíaca Aguda atendidos en los Servicios de Urgencias Hospitalarios. Estudios EAHFE-5. ESTUDIO EAHFE. ICA-SEMES.
- Guardiola Tey, José María. Presentación atípica de la infección COVID-19 en los servicios de Urgencias. INFECCIÓN COVID-19. INFURG-SEMES.
- Guardiola Tey, José María. Evaluación de las visitas a Urgencias previas a un diagnóstico de VIH. QP-1. INFURG-SEMES.
- Puig Campmany, Mireia. TIQUE - 965356 - Innovative care services, enhanced with technology, to deliver QUICK responses for individuals with advanced heart failure and complex care needs through integrated care. Horizon 2020.

European Commission. Duration: 2020 - 2026. 4.548.678,70 € (FGS).

- Rizzi, Miguel Alberto. Estudio epidemiológico sobre el efecto de la pandemia por SARS-CoV-2 en la atención en Urgencias del paciente mayor: estudio EDEN (Emergency Department and Elders in Need). ESTUDIO EDEN. SEMES.

### GRANTS AWARDED

- Sizova, Marina. Análisis de frecuencia de consultas en el servicio de Urgencias y el Hospital del Día de Oncología de los pacientes con cáncer de pulmón no microcítico metastático en tratamiento de primera línea con quimioinmunoterapia, quimioterapia o inmunoterapia. IIBSP-PUL-2023-01.

### SCIENTIFIC PRODUCTION

- Afonso FJ, Comas M, Castells X, Cirera I, García D, Pujadas T, Ichart X, Puig M, Vena AB, Renom A. Emergency department admissions and economic costs burden related to ambulatory care sensitive conditions in older adults living in care homes. REVISTA CLINICA ESPAÑOLA. 2023; 223(10). DOI:10.1016/j.rce.2023.09.004. PMID:37838224. IF:2,900 (Q2/5D). Document type: Article.
- Agra Montava I, Romero Carrete CJ, Borrego Yanes I, Villate Robles LF. Hipotermia y onda de Osborn; Rev Esp Urg Emerg. 2023;2:118-119. Document type: Letter.
- Alonso CF, Ferrer M, García EJ, Mir SA, Jiménez S, Rodríguez JJ, Salmerón PP, Gil A, Llorens P, Burillo G, Pérez FJM, Alquezar A, Gallardo RR, Díez M, Más MT, López N, Soler AC, Nespereira EG, García AG, Ezponda P, Lorenzo AM, Liarte J, Martín JMS, Puente PH, Villalibre AM, del Castillo JG, Miró O. Impact of functional dependency of elderly patients seen in Spanish emergency departments during the first wave of the COVID-19 pandemic on mortality at 30, 180 and 365 days depending on the diagnosis (COVID versus non-COVID). Revista Española de Salud Pública. 2023; 97:e202310085. IF:1,100 (Q4/10D). Document type: Article.
- Alquézar A, Osorio GI, Jacob J, García EJ, Piñera P, Llorens P, Burillo G, Requena AC, Gil A, Fernández C, Aguiló S, Jiménez S, Escudero B, Rosendo D, Mojarro EM, Vaswani A, Rodríguez M, Alarcón P, Gioya GD, Alemany FX, González M, Bóveda M,



## 5.1.6 Associated Groups

- Espinosa B, Llopis F, Suero C, González Del Castillo J, Miró Ò, SIESTA N. Influence of type of household on prognosis at one year in patients =65 years attending hospital emergency departments in Spain. The EDEN-6 study. *MATURITAS*. 2023; 178:107852. DOI:10.1016/j.maturitas.2023.107852. PMID:37774596. IF:4,900 (Q1/2D). Document type: Article.
- Artajona L, García A, Aguiló S, Burillo G, Alquézar A, Fernández C, Fernández A, Cardona MF, Vera MTM, Vela MI, Español PT, Mota MS, García AG, Aguilera CL, Llopis F, Herrero P, Grande A, Lázaro LS, García AC, Bermejo JJN, Cubillas AI, Martínez MJH, González F, Ramón SS, Fernández BE, del Castillo JG, Miró O, SIESTA I. Influence of income on in-hospital mortality in older adults during the first wave of the COVID-19 pandemic: results from the EDEN-33 study. *Emergencias*. 2023; 35(6). PMID:38116966. IF:5,500 (Q1/2D). Document type: Article.
  - Benito M, López P, Rodríguez S, Llorens P, Domínguez A, Aguirre A, Alquézar A, Jacob J, Gil V, Martín FJ, Mir M, Andueza JA, Burillo G, Miró Ò, en representacion I. Analysis of the relationship between ambient air pollution and the severity of heart failure decompensations in two Spanish metropolises (Barcelona and Madrid). *MEDICINA CLINICA*. 2023; 161(1). DOI:10.1016/j.medcli.2023.02.016. PMID:37055253. IF:3,900 (Q2/4D). Document type: Article.
  - Blázquez M, Montiel JA, Rizzi M, Acosta B, Moliné A, Ris J, Puig M. Frailty and mortality: Utility of Frail-VIG index in ED short-stay units for older adults. *ARCHIVES OF GERONTOLOGY AND GERIATRICS*. 2023; 115:105208. DOI:10.1016/j.archger.2023.105208. PMID:37774490. IF:4,000 (Q2/5D). Document type: Article.
  - Burillo G, Parra P, Aguiló S, Jiménez S, Jacob J, Piñera P, Llorens P, García EJ, Montero FJ, Muñoz E, Gil A, Fernández C, Alquezar A, Salido M, Gil RJ, Pedraza J, Cobos A, Gargallo E, de Diego M, Iglesias M, Pérez RA, Pérez SDM, Valle B, Quero E, Morales B, Adroher M, González del Castillo J, Miró Ò, en representacion S. Study EDEN-12: analysis of access to intensive care units of patients older than 65 years requiring emergency hospitalization. *Medicina Intensiva*. 2023; 47(11). DOI:10.1016/j.medin.2023.04.006. IF:3,000 (Q3/7D). Document type: Article.
  - Congost GB, Momblan M, Bernal JV, López AM, Gabalda JR, García J, García J, Brugaletta S. Association of sex and age and delay predictors on the time of primary angioplasty activation for myocardial infarction patients in an emergency department. *HEART & LUNG*. 2023; 58. DOI:10.1016/j.hrtlng.2022.10.014. PMID:36335910. IF:2,800 (Q1/2D). Document type: Article.
  - Díez MPL, Jacob J, Llorens P, Espinosa B, Ramón SS, Aguirre A, Andueza JA, Escoda R, Gil V, Millán J, López ML, Ferrer ES, Lucas FJ, Rodríguez E, Llauger L, Garate RT, Gil C, Herrera S, Martín FJ, Miró Ò. Relação entre o tipo de hospital e seu volume de atendimento em emergências e o manejo da insuficiência cardíaca aguda em emergência] [Relación entre tipo de hospital y su volumen asistencial en urgencias y el manejo de la insuficiencia cardíaca aguda en urgencias. *Insuficiencia Cardíaca*. 2023; 18(2). Document type: Article.
  - Eiroa P, Matos S, Aguiló S, Alquezar A, Jacob J, Fernández C, Llorens P, Ruiz SM, Jimenez LC, Vaswani A, Rodríguez M, Pineda MCS, Fresno SA, Osorio IG, Alcaraz A, Collado JM, Benito MV, Chamorro F, Rocio LA, Gallardo VT, Chaib FB, García JP, Espinosa FDQ, Lucena MJ, León GY, Revuelta EG, Aroca SS, del Castillo JG, Burillo G, Miró O, Red S. Factors related to bladder catheterization in older patients and its possible association with prognosis: results of the EDEN-30 study. *Emergencias*. 2023; 35(6). PMID:38116965. IF:5,500 (Q1/2D). Document type: Article.
  - Espinosa B, Llorens P, Gil V, Jacob J, Alquezar A, Masip J, Llauger L, Tost J, Andueza JA, Garrido JM, Soy E, Aguera C, Herrero P, Gil A, Millan J, Mecina AB, Torres R, Cabrera N, Nunez J, Miro O, ICA GRP. Impact of congestion and perfusion status in the emergency department on severity of decompensation and short-term prognosis in patients with acute heart failure. *European Heart Journal-Acute Cardiovascular Care*. 2023; 12(3). DOI:10.1093/ehjacc/zuac115. PMID:36137176. IF:4,100 (Q2/4D). Document type: Article.
  - Juanes A, Ruiz J, Puig M, Blazquez M, Gilabert A, López L, Baena MI, Guiu JM, Mangues MA. The



## 5.1.6 Associated Groups

- Effect of the Drug-Related Problems Prevention Bundle on Early Readmissions in Patients From the Emergency Department: A Randomized Clinical Trial. *ANNALS OF PHARMACOTHERAPY*. 2023; 57(9). DOI:10.1177/10600280221143237. PMID:36539949. IF:2,900 (Q3/6D). Document type: Article.
- Lazzari, Roberto; Condom Siñol, M. (2023). Dealing with specialist pathology: an unusual case of ovarian hyperstimulation syndrome managed in the emergency department with point of care ultrasound. *Acute Care Medicine Surgery and Anesthesia*, 1(1). DOI:10.4081/amsa.2023.31. Document type: Article.
  - Llauger L, Espinosa B, Rafique Z, Boone S, Beuhler G, Millan J, Gil V, Jacob J, Alquezar A, Campos M, Escoda R, Tost J, Martin E, Aguirre A, López ML, Nunez J, Mullens W, López P, Mueller C, Llorens P, Peacock F, Miro O, ICA GRP. Impact of worsening renal function detected at emergency department arrival on acute heart failure short-term outcomes. *European Journal of Emergency Medicine*. 2023; 30(2). DOI:10.1097/MEJ.0000000000001016. PMID:36787242. IF:4,400 (Q1/2D). Document type: Article.
  - Llorens P, Miro O, Benito MV, Fernández C, Jacob J, Burillo G, Alquezar A, Aguilo S, Ballard MP, Baena SB, Cho J, Romero MSJ, Palma M, Madrigal AA, Romero MR, López M, Gonzalez RG, Fernández MC, Franco BM, Ferrer E, Guillen VG, Martin SG, Sindin GS, Zapico AP, Marquez PP, Espinosa B, del Castillo JG, Representacion S. Plasma sodium concentration in older patients as an indicator of severity in emergencies: Results from the Emergency Department and Elder Needs-16 study. *Emergencias*. 2023; 35(4). PMID:37439421. IF:5,500 (Q1/2D). Document type: Article.
  - López MP, Alquezar A, Jacob J, Llorens P, Llauger L, Herrero P, Gil V, Nunez J, Martin FJ, Miro O, ICA GRP. Hospital development of heart failure follow-up units and short-term prognosis after acute decompensation in Spain. *INTERNATIONAL JOURNAL OF CARDIOLOGY*. 2023; 378. DOI:10.1016/j.ijcard.2023.02.031. PMID:36804513. IF:3,500 (Q2/5D). Document type: Article.
  - Martin E, Gil V, Llorens P, Flores S, Troiano OJ, Alquézar A, Jacob J, Herrero P, Sánchez C, Miró O, Investigadores ICA SEMES GRP. Factors associated with unjustified chronic treatment with digoxin in patients with acute heart failure and relationship with short-term prognosis. *REVISTA CLINICA ESPAÑOLA*. 2023; 223(9). DOI:10.1016/j.rce.2023.08.001. PMID:37716426. IF:2,900 (Q2/5D). Document type: Article.
  - Miro O, Benito M, López P, Rodríguez S, Llorens P, Yufera A, Jacob J, Traveria L, Strelbel I, Gil V, Tost J, López MD, Alquezar A, Espinosa B, Mueller C, Burillo G, ICA GRP. Influence of Meteorological Temperature and Pressure on the Severity of Heart Failure Decompensations. *JOURNAL OF GENERAL INTERNAL MEDICINE*. 2023; 38(3). DOI:10.1007/s11606-022-07743-7. PMID:35941492. IF:5,700 (Q1/2D). Document type: Article.
  - Miro O, Conde A, Llorens P, Salamanca P, Gil V, Gonzalez A, Jacob J, Casado J, Tost J, Montero M, Alquezar A, Trullas JC, EAHFE RICA Res Investigators &. The influence of comorbidities on the prognosis after an acute heart failure decompensation and differences according to ejection fraction: Results from the EAHFE and RICA registries. *European Journal of Internal Medicine*. 2023; 111. DOI:10.1016/j.ejim.2023.02.026. PMID:36914535. IF:8,000 (Q1/2D). Document type: Article.
  - Miro O, Ivars N, López P, Gil V, Llauger L, Alquezar A, Jacob J, Rodríguez E, Tost J, Mir M, Gil C, Sánchez S, Aguirre A, Martin E, Alonso MI, Garrido JM, López ML, Lucas FJ, Sánchez C, Escoda R, Gil A, Espinosa B, Wussler D, Peacock WF, Mueller C, Llorens P, Theica GRP. Effect of Flu Vaccination on Severity and Outcome of Heart Failure Decompensations. *JOURNAL OF CARDIAC FAILURE*. 2023; 29(5). DOI:10.1016/j.cardfail.2022.12.017. PMID:36706976. IF:6,000 (Q1/3D). Document type: Article.
  - Miro O, Llorens P, Gil V, Diez MPL, Jacob J, Herrero P, Llauger L, Tost J, Aguirre A, Bibiano C, Fuentes M, Grima MLL, Romero R, Mojarro EM, Arbe AA, Alonso H, Martin FJ. Decisions to admit vs. discharge patients with acute heart failure from the emergency department: consistency with a measure of severity of decompensation and the impact on prognosis. *Emergencias*. 2023; 35(4). PMID:37439419. IF:5,500 (Q1/2D). Document type: Article.



## 5.1.6 Associated Groups

- Mirò O, Llorens P, Rosselló X, Gil V, Sánchez C, Jacob J, Herrero P, López MP, Llauger L, Romero R, Fuentes M, Tost J, Bibiano C, Alquézar A, Martín E, Bueno H, Peacock F, Martín FJ, Pocock S. Impact of the MEESSI-AHF tool to guide disposition decision-making in patients with acute heart failure in the emergency department: a before-and-after study. *EMERGENCY MEDICINE JOURNAL*. 2023. DOI:10.1136/emmermed-2023-213190. PMID:37949639. IF:3,100 (Q2/4D). Document type: Article.
- Miro O, Miro E, Carbo M, Saura M, Rebollo A, de Paz R, Guardiola JM, Smithson A, Iturriza D, Lluch CR, Leey C, Ferro JI, Villamor A, Gene E, Trabajo Urgencias VIHgila GRP. Emergency detection of HIV infection in patients consulting for conditions potentially related to occult infection: Initial results of the "Urgencias VIHgila" program. *Revista Española de Quimioterapia*. 2023; 36(2). DOI:10.37201/req/085.2022. PMID:36645021. IF:1,900 (Q4/9D). Document type: Article.
- Miró Ò, Osorio G, Alquézar A, Aguiló S, Fernández C, Burillo G, Jacob J, Llorens P, Llauger L, Peláez Á, Figuera ER, Juárez R, Blanco MJ, Fernández F, Pablos T, Berenguer MA, Truyol M, López N, García J, Fernández C, Diego FJ, Ezponda P, Martínez A, Ortega JV, García I, Borne S, Corugedo C, Gallardo BA, Del Castillo JG. Hyperactive delirium during emergency department stay: analysis of risk factors and association with short-term outcomes. *Internal and Emergency Medicine*. 2023. DOI:10.1007/s11739-023-03440-3. PMID:37865623. IF:4,600 (Q2/3D). Document type: Article.
- Mojarro EM, Gil V, Llorens P, Alvarez J, Quesada SF, Ungerer O, Alquezar A, Jacob J, Herrero P, Espinosa B, Sánchez C, Llauger L, Tost J, Serrano L, Dávila A, Garate RT, López ML, Lucas FJ, Alonso H, Pagán F, Garrido JM, Miró O, representacion Invest ICA GRP. Use of digoxin in the emergency department to treat patients with acute heart failure and its impact on short-term outcomes. *Emergencias*. 2023; 35(6). PMID:38116968. IF:5,500 (Q1/2D). Document type: Article.
- Montero FJ, Requena A, del Castillo JG, Jacob J, García EJ, Salmeron PP, Alquezar A, Aguiló S, Alonso CF, Burillo G, Caro MC, Salado A, Mojarro EM, Eiroa P, Parra P, Perez JLL, Grinspan MR, Quispe I, Tejera MG, Lazaro LS, Fernández BE, Fuentes L, Mendez CS, Toro MDV, Chaib FB, Ramirez PP, Miro O, Representacion R. Impact of the COVID-19 pandemic on demand for emergency department care for older patients: the EDEN-7 COVID cohort study. *Emergencias*. 2023; 35(4). PMID:37439420. IF:5,500 (Q1/2D). Document type: Article.
- Mulet M, Osuna R, Zamora C, Artesero I, Arús M, Vera P, Córdón A, Vilalta N, San P, Abril A, Moliné A, Morán I, López J, Vidal S. Dysregulated neutrophil extracellular traps formation in sepsis. *IMMUNOLOGY*. 2023; 170(3). DOI:10.1111/imm.13676. PMID:37381594. IF:6,400 (Q2/3D). Document type: Article.
- Navarro AJ, Ramos JR, Alquezar A, Gil SO, Baena SP, Andreu OM. Association between polypharmacy and mortality in patients aged over 64 years attended in hospital emergency departments: results of the EDEN project. *Emergencias*. 2023; 35(3). IF:5,500 (Q1/2D). Document type: Letter.
- Olivas EG, Bruguera A, Eugenio A, Nunda JJ, Tchiyanga A, Ekavo FG, Cambali A, Moreno M, García CB, Aznar ML, Salvador F, Sánchez A, Molina I. Civil Engineering and Malaria Risk: A Descriptive Study in a Rural Area of Cubal, Angola. *Tropical Medicine and Infectious Disease*. 2023; 8(2):96. DOI:10.3390/tropicalmed8020096. PMID:36828512. IF:2,900 (Q2/4D). Document type: Article.
- Rafique Z, Fortuny MJ, Kuo DC, Szarpak L, Llauger L, Espinosa B, Gil V, Jacob J, Alquezar A, Andueza JA, Garrido JM, Aguirre A, Alonso H, Fuentes M, Lucas FJ, Bibiano -C, Burillo G, Nunez J, Mullens W, Mueller C, López P, Llorens P, Peacock F, Miro O, ICA SEMES Res GRP. Hyperkalemia in acute heart failure: Short term outcomes from the EAHFE registry. *AMERICAN JOURNAL OF EMERGENCY MEDICINE*. 2023; 70. DOI:10.1016/j.ajem.2023.05.005. PMID:37186977. IF:3,600 (Q1/3D). Document type: Article.
- Ramos JR, Hernanz BC, Clemente YC, Sánchez MB, Alcon EV, Perrin M, Martín M, Pinto A, Campana JMR, Rodríguez JR, Blanco CC, Pelaez MG, Ramos HA, Ruiz JA, Serrano PS, Cerezuela MM, Parraga LP, Borrego A, Fernández BS, Camacho JMR, Campmany MP, Blanco IM, Vecina ST,



## 5.1.6 Associated Groups

- Galmes CN, Marco JP. Pharmacist care in hospital emergency departments: a consensus paper from the Spanish hospital pharmacy and emergency medicine associations. *Emergencias*. 2023; 35(3). PMID:37350603. IF:5,500 (Q1/2D). Document type: Article.
- Ramos JR, Puig MS, Vinardell LL, Pons M, Carbo EG, Campmany MP, Mangues MA, Borrego AJ. Usefulness of ICD-10 diagnosis triggers to identify adverse drug events in emergency care. *Farmacia Hospitalaria*. 2023; 47(2). DOI:10.1016/j.farma.2023.01.001. PMID:36702641. Document type: Article.
  - Rodríguez J, Schulz S, Voss A, Herrera S, Benito S, Giraldo BF. Baroreflex activity through the analysis of the cardio-respiratory variability influence over blood pressure in cardiomyopathy patients. *Frontiers in Physiology*. 2023; 14:1184293. DOI:10.3389/fphys.2023.1184293. PMID:37637149. IF:4,000 (Q2/3D). Document type: Article.
  - Ruiz J, Escolà L, Monje AE, Herrera S, Rivera A. The Interventions and Challenges of Antimicrobial Stewardship in the Emergency Department. *Antibiotics-Basel*. 2023; 12(10):1522. DOI:10.3390/antibiotics12101522. PMID:37887223. IF:4,800 (Q1/3D). Document type: Review.
  - Ruiz J, Herrera S, Rivera MA, Monje AE, Hernández H, Pereira CS, Martínez YM, Puig M. Programa de optimización de antibioterapia en infección urinaria por cepas multirresistentes en el servicio de urgencias. *Revista Española de Quimioterapia*. 2023; 36(5). DOI:10.37201/req/009.2023. PMID:37458335. IF:1,900 (Q4/9D). Document type: Article.
  - Ruiz J, Monje AE, Medina D, Herrera S, Hernández H, Rivera MA, Pereira CS, Puig M. PREDICTION OF MULTIDRUG-RESISTANT BACTERIA IN URINARY TRACT INFECTIONS IN THE EMERGENCY DEPARTMENT. *JOURNAL OF EMERGENCY MEDICINE*. 2023; 65(1). DOI:10.1016/j.jemermed.2023.04.004. PMID:37385920. IF:1,500 (Q3/7D). Document type: Article.
  - Salmerón OJ, Pérez E, Miró O, Salido M, Díez V, Gil M, Robert N, Arranz M, Navarro C, Guardiola JM, González J, Grupo Trabajo Enfermedades Infecciosas la Sociedad Española Medicina DE. Evaluation of emergency department visits prior to an HIV diagnosis: Missed opportunities. *ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA*. 2023; 41(7). DOI:10.1016/j.eimc.2021.12.005. PMID:35659772. IF:2,500 (Q4/8D). Document type: Article.

## Radiophysics and Radioprotection

### Group leader

Carrasco De Fez, Pablo (FGS)

### Researchers

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García Apellaniz, Nagore (FGS)

Jornet Sala, Nuria (FGS)

Perez-Alija Fernández, Jaime (FGS)

Ruiz Martinez, Agustin (FGS)

Tejedor Aguilar, Natalia (FGS)

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### Research Technician

Pallerol Pinzano, Rosa Maria (FGS)



### DESCRIPTION

The Radiation Physics and Radiation Protection research group carries out applied research on three fields of application of ionising radiation in medicine: radiation therapy, nuclear medicine, and radiology. This research is intended to solve gaps of knowledge in the safe application of radiation in medicine due to new technology, new techniques, new procedures, or application of new legislation.

### MAIN LINES OF RESEARCH

- Clinical Audits in Radiotherapy. Line shared with the Radiation Oncology department. At the Radiation Physics and Radiation Protection department this line is conducted by Núria Jornet.
- Standardization in Nuclear Medicine. Line conducted by Agustí Ruiz and Marta Barceló.
- Diagnostic Reference Levels (DRL) using a radiation dose management solution. Line conducted by Marta Barceló and Agustí Ruiz.
- Biological Dosimetry. Line conducted by Pablo Carrasco and Jaime Pérez-Alija.

### SCIENTIFIC CHALLENGES

- To derive clinically relevant tolerance actions for EPID-based in vivo dosimetry on each anatomical treatment site in radiation therapy.
- To make radiotherapy treatment planning less person-dependent, to decrease variability, and optimise treatment plans.
- To define a strategy to perform clinical audits in radiotherapy at a regional level that could be escalated to national and international levels.



### 5.1.6 Associated Groups

- To set up clinical audits in radiotherapy in Catalonia.
- To standardise quantitative image acquisition in PET and SPECT imaging.
- To get all imaging modalities integrated into the dose management system provided from the Catalan government, and to derive DRLs values for all the equipment at HSCSP.
- To manage DRLs and compare them against regional, national, and international values.
- To update the dose-biological effect calibration curve, relating chromosomal aberrations to radiation absorbed dose, based on modern automatic systems.
- To derive an easy test to classify irradiated individuals from a potential accident into those that would require special following and treatment and those that were exposed to non-critical doses.

### ACTIVE GRANTS

- Barcelo Pages, Marta. International study of patient doses and tissue reactions from fluoroscopy guided interventional procedures. IAEA. Duration: 2023-2023.
- Jornet Sala, Nuria. EU-REST (European Union Radiation, Education, Staffing & Training). HA-DEA/2022/OP/0003. UE. Duration: 2022-2024. (FGS).
- Jornet Sala, Nuria. SAMIRA study on the definition of Key Performance Indicators on Quality and Safety of medical applications of ionising radiation. ENER/D3/2023-101-1. UE. Duration: 2023-2023 (FGS).

### GRANTS AWARDED

- Jornet Sala, Nuria. Catalan Clinical Audit network for Quality Improvement in RT [CAT-ClinART]. EU4H Action Grants 2023. UE. 374.999,92 € (FGS).
- Tejedor Aguilar, Natalia. Desarrollo y evaluación de modelos de inteligencia artificial para predicción de dosis y generación automática de planes clínicos para tratamientos de mama con IMRT. SEFM 2023. Duration: 2023-2025. 2.000,00 €.

### SCIENTIFIC PRODUCTION

- Aznar MC, carrasco de fez P, Corradini S, Mast M, McNair H, Meattini I, Persson G, van P. ESTRO-ACROP guideline: Recommendations on implementation of breath-hold techniques in radiotherapy. *RADIOTHERAPY AND ONCOLOGY*. 2023; 185:109734. DOI:10.1016/j.radonc.2023.109734. PMID:37301263. IF:5,700 (Q1/2D). Document type: Article.
- Bravo A, Fontanet S, Skolarikos A, Gozen AS, Somani BK, Traxer O, Papatsoris A, Ruiz-Martinez, A, Keller EX, Pietropaolo A, Tonyali S, Taily T, Esperto F, Liatsikos E, Kanashiro AK, Angerri O, Emiliani E. Estimated Radiation Dose to the Lens During Endourologic Procedures: The Role of Leaded Glasses and the ALARA Protocol-An ESU/ESUT-YAU Endourology Group Collaboration. *JOURNAL OF ENDOUROLOGY*. 2023; 37(8). DOI:10.1089/end.2023.0061. PMID:37337653. IF:2,700 (Q2/5D). Document type: Article.
- Howlett DC, Brady AP, Hierath M, Clark J, Wadsak W, Giammarile F, Jornet N, Coffey M. QuADRANT: a study on uptake and implementation of clinical audit of medical radiological procedures in Europe—expert recommendations for improvement, endorsed by the ESR. *Insights into Imaging*. 2023; 14(1):81. DOI:10.1186/s13244-023-01416-7. PMID:37173522. IF:4,700 (Q1/3D). Document type: Article.
- Jornet N, Strojjan P, Howlett DC, Brady AP, Hierath M, Clark J, Wadsak W, Giammarile F, Coffey M. The QuADRANT study: Current status and recommendations for improving uptake and implementation of clinical audit of medical radiological procedures in Europe. The radiotherapy perspective. *RADIOTHERAPY AND ONCOLOGY*. 2023; 186:109772. DOI:10.1016/j.radonc.2023.109772. PMID:37385381. IF:5,700 (Q1/2D). Document type: Review.
- Latorre A, Jornet N, Sempau J. On the beam hardening correction of the Transit-Guided Radiation Therapy attenuation model. *PHYSICA MEDICA-EUROPEAN JOURNAL OF MEDICAL PHYSICS*. 2023; 112:102660. DOI:10.1016/j.ejmp.2023.102660. PMID:37562234. IF:3,400 (Q2/4D). Document type: Article

## 5.1.6 Associated Groups

## Paediatrics

### Group leader

Moliner Calderon, Elisenda (FGS)

### Researchers

Alvarez Perez, Roser (FGS)

Armendariz Lacasa, Laura (FGS)

Badell Serra, Isabel (UAB)

Balcells Moline, Maria Reyes (FGS)

Barcelo Carceller, Irene (FGS)

Bianchi, Federicha (FGS)

Brio Sanagustin, Sónia (FGS)

Carreras Gonzalez, Gemma (FGS)

Castillo Gomez, Fatima (FGS)

Coca Fernández, Elisabet (FGS)

Esmel Vilomara, Roger (FGS)

Fraga Rodríguez, Gloria M. (FGS)

García Del Cerro, Gemma (FGS)

Gonzalez Rioja, Xoan (FGS)

Josa Eritja, Maria (FGS)

López Torija, Ivan (FGS)

Salazar Quiroz, Juan (FGS)

Sensarrich Roset, Mireia (FGS)

Tirado Capistros, Mireia (FGS)

Torrent Español, Montserrat (FGS)

Valle T-Figueras, José Maria (FGS)



### DESCRIPTION

The Pediatrics research group is a young group of researchers that includes pediatricians who, in addition to the care activity they carry out in the hospital, are interested in and express the need for research to improve the management and treatment of the children we care for. Aware of the small population in our area of assistance, we know of the need to carry out research together with other centers to achieve greater robustness in pediatric research.

Our short-term approach is to create a group where all pediatric healthcare providers with pediatric concerns are represented and include primary care pediatricians for community research into major pediatric conditions.

### MAIN LINES OF RESEARCH

- Pediatric Bone marrow transplantation. Reference center of the National Health System (CSUR). PH. D. Ivan Torrija.
- Hereditary erythro pathology. Reference center of the National Health System (CSUR). M. D. Montserrat Torrent.
- Fanconi anaemia and other hereditary anemias. M. D. Montserrat Torrent.
- Sarcomas. Reference center of the National Health System (CSUR). M. D. Montserrat Torrent.
- Neonatal Infectious Diseases. PH. D. Elisenda Moliner.
- Neonatal Resuscitation and hypoxic ischemic encephalopathy. PH. D. Elisenda Moliner. M. D. María García Borau.





### 5.1.6 Associated Groups

- Sonography in critical neonatal care. M. D. Juan José Salazar. M. D. Judit Becerra.
- Neonatal Pharmacology. Ph. D. Edurne Fernández de Gamara. M. D. MJ García borau.
- Hereditary renal diseases: Primary hyperoxaluria, C3 glomerulopathy, Alport syndrome. PH. D. Gloria Fraga.
- Reference center for the treatment of bladder exstrophy in the neonatal age (CSUR F. Puigvert-H. Sant Pau). PH. D. Anna Bujons PH. D. Elisenda Moliner.
- Genetic diseases with cardiac expresión. M. D. Roger Esmel.
- Effect of exercise on cardiac remodeling in children undergoing chemotherapy. M. D. Roser Alvarez.
- Diagnosis of chronic lung disease in children undergoing hematopoietic cell transplantation. IP M. D. Gemma García del Cerro.
- Eosinophil populations in pediatric patients with eosinophilic asthma. IP M.D. Laura Armendariz.
- García Del Cerro, Gemma. La oscilometría como herramienta para la detección precoz de patología respiratoria en pacientes sometidos a trasplante de progenitores hematopoyéticos en comparación con espirometría/pletismografía. IIBSP-OSC-2023-111.
- López Torija, Ivan. Trasplante alogénico de células madre en niños y adolescentes con leucemia linfoblástica aguda - FORUN (Para omitir radioterapia por debajo de la mayoría de edad). ALL SCTPED 2012 FORUM
- Moliner Calderon, Elisenda. Evaluación de una intervención basada en la evidencia para reducir la bacteriemia asociada a catéter vascular central en recién nacidos de muy bajo peso. INBERBAC-neo PI17/00565. Duration: 2018-2023.

### SCIENTIFIC CHALLENGES

- Pediatric haematopoietic progenitor cell transplantation from alternative donors.
- Pediatric haematopoietic progenitor cell transplantation in congenital immunodeficiencies.
- Pediatric haematopoietic progenitor cell transplantation in congenital metabolic pathologies.
- Fanconi anaemia (group recognized by the UAB, Barcelona).
- Polytraumatized patient care programme. PPT implementation code at HSCSP and in the CatSalut central register.
- Preterm new-borns. CatSalut central register.
- Therapeutic hypothermia in the treatment of perinatal hypoxic ischemic encephalopathy. CatSalut central register.

### ACTIVE GRANTS

- Armendáriz Lacasa, Laura. Caracterización de las poblaciones de eosinófilos en pacientes pediátricos con asma eosinofílica: evaluación de la expresión de marcadores de activación mediante citometría de flujo. IIBSP-ASM-2022-46.

### GRANTS AWARDED

- Esmel Vilomara, Roger. Miocardi atordit neurogènic en el pacient pediàtric neurocrític. IIBSP-MAN-2022-147. Duration: 2023
- Salazar Quiroz, Juan. Ensayo clínico aleatorizado simple ciego en prematuros con Síndrome de Distrés Respiratorio (SDR) tributarios de tratamiento con surfactante exógeno identificados precozmente mediante ultrasonografía pulmonar. IIBSP-SUR-2022-61. Duration: 2023
- Sensarrich Roset, Mireia. - Manejo del paciente con fiebre sin foco de 3-36 meses de edad. Descripción del estado actual. IIBSP-FIE-2023-08. Duration: 2023

### DOCTORAL THESES DEFENDED

- Pena Schesquini Roriz, Katia Regina. Estudio de la enfermedad celíaca en los últimos 10 años de pacientes pediátricos: clínica y diagnóstico. 11/12/2023. Universitat Autònoma de Barcelona. Supervisors: Badell Serra, Isabel; Fraga Rodríguez, Gloria María; Rodrigo Gonzalo de Liria, Carlos.

### SCIENTIFIC PRODUCTION

- Ariceta G, Collard L, Abroug S, Mochhala SH, Gould E, Boussetta A, Ben M, S, Hunley TE, Jarraya F, Fraga G, Banos A, Lindner E, Dehmel B, Schalk G. ePHex: a phase 3, double-blind, placebo-controlled, randomized study to evaluate long-term efficacy and safety of Oxalobacter formigenes in patients with primary



## 5.1.6 Associated Groups

- hyperoxaluria. *PEDIATRIC NEPHROLOGY*. 2023; 38(2). DOI:10.1007/s00467-022-05591-5. PMID:35552824. IF:3,000 (Q2/4D). Document type: Article.
- Caravaca F, Cavero T, Díaz M, Cabello V, Ariceta G, Quintana LF, Marco H, Barros X, Ramos N, Rodríguez N, Cruz S, Fernández G, Rodríguez A, Pérez De José A, Rabasco C, Rodado R, Fernández L, Pérez V, Ávila A, Bravo L, Espinosa N, Allende N, Sánchez De La Nieta MD, Rodríguez E, Rivas B, Melgosa M, Huerta A, Miquel R, Mon C, Fraga G, De Lorenzo A, Draibe J, González F, Shabaka A, López ME, Fenollosa MÁ, Martín L, Da I, Titos JA, Rodríguez De Córdoba S, Goicoechea De Jorge E, Praga M. Clinical Profiles and Patterns of Kidney Disease Progression in C3 Glomerulopathy. *Kidney360*. 2023; 4(5). DOI:10.34067/KID.000000000000115. PMID:36996481. Document type: Article.
  - Casadesús-Cabral D, Rello-Saltor V, Vila-Soler J, Fernández-Ledesma B, Barceló-Carceller IC. Enterocolitis associada a malaltia de Hirschsprung. *Pediatr Catalana*. 2023; 83(1):13-6. Document type: Article.
  - Esmel R, Rianza L, Dolader P, Sabaté A, Rosés F, Gran F. New-onset heart failure in infants: when the aetiological diagnosis becomes a challenge. *EUROPEAN JOURNAL OF PEDIATRICS*. 2023; DOI:10.1007/s00431-023-05286-5. PMID:37843615. IF:3,600 (Q1/2D). Document type: Article.
  - Esmel R, Valenzuela I, Rianza L, Rodríguez B, Rosés F, Boronat S, Sabaté A. Arterial tortuosity syndrome: Phenotypic features and cardiovascular manifestations in 4 newly identified patients. *European Journal of Medical Genetics*. 2023; 66(9):104823. DOI:10.1016/j.ejmg.2023.104823. PMID:37619836. IF:1,900 (Q4/8D). Document type: Article.
  - Gomez F, Menéndez E, Conde S, Conget I, Novials A, Olmedo IS, Tinahones F, San Laureano FC, de la Torre ML, Carazo AM, Hospital J, Nivelá OB, Menéndez E, Cosmas LM, Payeras F, Gomez IL, Bayo J, Montalban C, Gomez F, de Luis D, Diaz G, López A, Santos E, Jimenez LML, Alvarez V, Samper BB, Ballesteros AC, Gomez BD, Conget I, Perez M, Soldevila B, Flores IC, García MH, Ricart W, Colet AM, Biescas EC, Ampudia FJ, Hernandez A, Sánchez C, Pico A, Escribano JRD, Montanana CF, Pedro T, Abellan P, Rossetti P, Morales FM, Enciso F, Gonzalez AS, Guerrero DB, Cano RL, López JMG, Melero V, Martin J, Mira SA, Serrano MB, Sanfiel MB, Pascual AC, Gomez FJD, Fernández M, Illan F, Martinez A, Llenas LF, Gaztambide S, Gomez CRF, Oleaga A, de Salinas M, López JP, Gomez AL, Sancho A, Lozano MF, Galan IR, Caimari M, Cardona R, Leon MC, Gonzalez GC, Diez F, Rodríguez PC, Roldan B, del Villar NGP, Perez PR, Rica I, López ID, SED SED1 Study I. Physical activity patterns in type 1 diabetes in Spain: The SED1 study. *BMC Sports Science Medicine and Rehabilitation*. 2023; 15(1):92. DOI:10.1186/s13102-023-00695-3. PMID:37491278. IF:1,900 (Q3/6D). Document type: Article.
  - Gros L, Roldan A, Cabero A, Dominguez N, de la Fuente A, Gonzalez E, Tasso M, Torrent M, Gallardo E, del Cerro I, Giro A, Badia X. Incidence and management of patients with methotrexate delayed elimination in the clinical practice: A Delphi study. *JOURNAL OF ONCOLOGY PHARMACY PRACTICE*. 2023; 29(4):10781552221079568. DOI:10.1177/10781552221079568. PMID:35147457. IF:1,300 (Q4/10D). Document type: Article.
  - Juzga C, Ayerza A, Figueras M, Escribà S, Plata B, Collell R, González M, Siurana J, Sorlí M, de la Torre L, Teodoro S, Rodríguez M, Domínguez O, Rellán S, Manso B, López B, Alvarez R, Portillo M, Rezola E, Centeno F, Solana R, Rojo H, Cantero M, Riaño B, Tejero M, Jiménez M, Pérez AM, Moriano A, Marrero M, Fernández M, Salido C, Bravo M, Gutiérrez F, Sabaté A. Characteristics and outcomes of the Spanish registry for pediatric patients with bicuspid aortic valve (REVAB). *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(12). DOI:10.1016/j.rec.2023.03.004. PMID:36924830. IF:5,900 (Q1/3D). Document type: Article.
  - Leganés-Villanueva C, Brun-Lozano N, Bianchi F, Goruppi I, Fraga-Rodríguez G, Boronat-Guerrero S. Coexistència de la malaltia de Wilkie i la síndrome del trencauous. *Pediatr Catalana*. 2023; 83(3):118-120. Document type: Article.
  - Martinez V, Furlano M, Sans L, Pulido L, García R, Perez MV, Sánchez J, Blasco M, Castro C, Fernández G, Robles NR, Valenzuela MP, Naranjo J,



## 5.1.6 Associated Groups

- Martin N, Pilco M, Agraz I, Gonzalez JD, Panizo N, Fraga G, Fernández L, López MT, Dall'Anese C, Ortiz A, Torra R, Marcas L, Rius A, Tomas P, García L, Luna E, Martin MA, Inigo P, Martins J, Ramos F, García R, García LD, Merino MD, Fernández MJ, Madariaga L, Canal C, Martinez AM, Echarri R, Bouarich H, Cabezas A, R. Autosomal dominant polycystic kidney disease in young adults. *Clinical Kidney Journal*. 2023; 16(6). DOI:10.1093/ckj/sfac251. PMID:37260991. IF:4,600 (Q1/2D). Document type: Article.
- Mazarico E, Meler E, Mendoza M, Herraiz I, Llubra E, De Diego R, Comas M, Boada D, González A, Bonacina E, Armengol M, Moline E, Hurtado I, Torre N, Gomez MD, Galindo A, Figueras F. Mortality and severe neurological morbidity in extremely preterm fetal growth-restricted fetuses. *ULTRASOUND IN OBSTETRICS & GYNECOLOGY*. 2023; 62(6). DOI:10.1002/uog.26290. PMID:37325877. IF:7,100 (Q1/1D). Document type: Article.
  - Moliner E, Verd S, Leiva A, Ginovart G, Moll P, Figueras J. The role of human milk feeds on inotrope use in newborn infants with sepsis. *Frontiers in Pediatrics*. 2023; 11:1172799. DOI:10.3389/fped.2023.1172799. PMID:37138570. IF:2,600 (Q2/4D). Document type: Article.
  - Ortiz A, Ars E, Bernis C, Fraga G, Furlano M, Martinez V, Martins J, Perez MV, Rodríguez JC, Sans L, Torra R. Reply to Comments on the SENefro Consensus Document on Autosomal Dominant Polycystic Kidney Disease. *NEFROLOGIA*. 2023; 43(1). DOI:10.1016/j.nefro.2022.07.002. PMID:37217372. IF:2,600 (Q3/6D). Document type: Letter.
  - Pino R, Antoñanzas JM, Paredes F, Perramon A, Rivière JG, Coma M, Martínez A, Ripoll F, López N, Conti R, Sala P, Ruiz M, Brio S, García M, Esteller M, Carreras C, Herrero C, Schneider SO, Gatell A, Aguilar I, Cantero J, Ruiz G, Fenollosa T, Lobato Z, Villalobos P, Mora E, Anton J, Visa N, Soler P, Calavia O, Esquirol C, Guarch B, García J-J, Coma E, Fina F, Prats C, Soriano A. Multisystem inflammatory syndrome in children and SARS-CoV-2 variants: a two-year ambispective multicentric cohort study in Catalonia, Spain. *EUROPEAN JOURNAL OF PEDIATRICS*. 2023; 182(4). DOI:10.1007/s00431-023-04862-z. PMID:36801975. IF:3,600 (Q1/2D). Document type: Article.
  - Rivas A, Gomez B, Fernández R, Gómez B, Arrudi M, Rivas A, Collazo I, Sánchez L, Borrull A, Hernández S, Valle JM, Bonil V, Martínez D, Bonvehí A, Soriano M, Lera E, Hurtado Á, Valero E. SARS-COV-2 Infection in Children in Emergency Departments in Spain: A Multicenter Study. *PEDIATRIC EMERGENCY CARE*. 2023; 39(2). DOI:10.1097/PEC.0000000000002897. PMID:36719392. IF:1,400 (Q3/8D). Document type: Article.
  - Rivas A, Miguez MC, Ferrero C, Maranon R, Vazquez P, Balcells R, Soc Española Urgencias P. Burnout syndrome in paediatricians working in paediatric emergency care settings. Prevalence and associated factors: A multilevel analysis. *ANALES DE PEDIATRIA*. 2023; 98(2). DOI:10.1016/j.anpedi.2022.09.010. PMID:36737361. IF:2,100 (Q3/6D). Document type: Article.
  - Suriñach B, Carbonell E, Becerra J, López E, Boronat S, Moliner E. Epidemiology and characteristics of SARS-CoV-2 infection in the newborn and pregnant woman. Transplacental transfer of immunoglobulins. *ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA*. 2023; 41(8). DOI:10.1016/j.eimc.2022.04.009. PMID:35669377. IF:2,500 (Q4/8D). Document type: Article.
  - Szabolcs P, Mazor RD, Yackoubov D, Levy S, Stiff P, Rezvani A, Hanna R, Wagner J, Keating A, Lindemans CA, Karras N, McGuirk J, Hamerschlag N, López I, Sanz G, Valcarcel D, Horwitz ME. Immune Reconstitution Profiling Suggests Antiviral Protection after Transplantation with Omidubicel: A Phase 3 Substudy. *Transplantation And Cellular Therapy*. 2023; 29(8):517.e1-517.e12. DOI:10.1016/j.jtct.2023.04.018. PMID:37120136. IF:3,200 (Q2/5D). Document type: Article.
  - Turón E, López I, Coca E, Badell I, Sierra A, Turón M, Ribosa R, Boronat S. Seizures in children undergoing stem cell transplantation. *PEDIATRIC TRANSPLANTATION*. 2023; :e14619. DOI:10.1111/ptr.14619. PMID:37803946. IF:1,300 (Q4/9D). Document type: Article.
  - Vargas R, Claverie F, Prot C, Carotti V, van der Wijst J, Perdomo A, Fraga GM, Hureauux M, Bos C, Latta F, Houillier P, Hoenderop JGJ, de Baaij JHF. Possible role for rare TRPM7 variants in patients with hypomagnesaemia with secondary hypocal-



### 5.1.6 Associated Groups

caemia. NEPHROLOGY DIALYSIS TRANSPLANTATION. 2023; 38(3). DOI:10.1093/ndt/gfac182. PMID:35561741. IF:6,100 (Q1/2D). Document type: Article.

- Vila J, Lera E, Peremiquel-Trillas P, Andrés C, Martínez L, Barceló I, Carsi A, Balcells J, Ángel Rodrigo-Pendás J, Soler-Palacín P, Rodrigo C, Antón A. Increased RSV-A Bronchiolitis Severity in RSV-Infected Children Admitted to a Reference Center in Catalonia (Spain) Between 2014 and 2018. J Pediatric Infect Dis Soc. 2023; 12(3):180-183. DOI: 10.1093/jpids/piad009. PMID: 36744919. IF:3,200 (Q2/3D). Document type: Article.

## 5.1.6 Associated Groups

## Ophthalmology

### Group leader

Del Campo Carrasco, Zoraida (FGS)

### Researchers

Castillo Campillo, Lorena (FGS)

Castro Seco, Roberto (FGS)

Crespi Vilimelis, Jaume (FGS)

Delgado Weingartshofer, Ruben (FGS)

Diaz Cascajosa, Jesus (FGS)

García Pares, Eva (FGS)

Gil Arnal, Julian Miguel Angel (FGS)

Gomez Gutierrez, Cecilia (FGS)

Gomez Prieto, Maria Jose (FGS)

Lazaro Rodríguez, Victor (FGS)

Liscombe Sepulveda, John Paul (FGS)

Luna Marine, Maria Sabina (FGS)

Molina Montero, Jose Alberto (FGS)

Oliva Sierra, Ruth (FGS)

Piquer Perez, Maria Pilar (FGS)

Rego Lorca, Daniela (FGS)

Rodríguez Vidal, Cristina (FGS)

Rosello Silvestre, Noemi (FGS)

Sabater Cruz, Noelia (FGS)

Salvador Miras, Ignacio (FGS)

Tellez Vazquez, Jesus Maria (FGS)

Vela Segarra, Jose Ignacio (FGS)

### Research Technician

Benitez Reina, Pilar (IR)



## MAIN LINES OF RESEARCH

- Optimization of the functional rehabilitation of patients after cataract surgery using multifocal intraocular lens, and evaluation of vision quality in terms of parameters such as visual acuity, sensitivity to contrast, and aberrometry.
- Ocular repercussions of allogeneic medullary transplants and evaluation of the different clinical manifestations and response to treatment in graft-versus-host disease.
- Comparison of the effectiveness and safety of intravitreal injection of ranibizumab vs laser photocoagulation in patients with visual alteration due to diabetic macular edema.

## SCIENTIFIC PRODUCTION

- Vela JI, Perich S, Bulnes V, Loscos I, Baradad M. Bilateral Progressive Optic Neuropathy in a Patient with Familial Amyloid Polyneuropathy: Amyloid Deposits in Optic Nerve Head?. NEURO-OPHTHALMOLOGY. 2023;47(3)DOI:10.1080/01658107.2023.2176890. PMID:37398503. IF:0,184 (Q4/10D). Document type: Article.

## Nuclear Medicine

### Group leader

Flotats Giralt, Albert (FGS)

Carrió Gasset, Ignasi (FGS) until 2023/11/09

### Researchers

Abouzian Senhaji, Safae (FGS)

Calls Calahorro, Marc (FGS)

Camacho Marti, M. Del Valle (FGS)

Carrio Gasset, Ignasi (UAB)

Castejon Echevarne, Simona (FGS)

Duch Renom, Joan (FGS)

Fernández Leon, Alejandro (FGS)

Soldevila Lozano, Cristina (FGS)

Stefaneli Mormandi, Patricia (FGS)

Torres Quintana, Maria Paula (FGS)

Valverde Jorge, Rafael (FGS)

Velasco Nuño, Monica (FGS)



### DESCRIPTION

Current research includes, on the one hand, molecular imaging in cancer, neurodegenerative diseases, and cardiovascular inflammation, taking advantage of the development in radiomics and artificial intelligence and, on the other hand, the use of radioligand therapy in cancer care. Fundamentally, our research is based on the use of SPECT/CT, PET/CT and radiolabeled tracers to characterize pathophysiological processes and improve disease diagnosis, staging, prognostication, and therapy.

### MAIN LINES OF RESEARCH

- Molecular imaging in cancer: Valle Camacho, Alejandro Fernández.
- Brain imaging in neurodegenerative disorders: Valle Camacho.
- Cardiovascular inflammation: Alejandro Fernández.
- A.I. in image reading: Ignasi Carrió i Albert Flotats.

### SCIENTIFIC CHALLENGES

- New technologies in diagnosis and therapy.
- Molecular imaging of disease.
- Integration of A.I. tools in research and the clinic.

### ACTIVE GRANTS

- Camacho Marti, M. Del Valle. Estudio pseudoexperimental sobre el efecto de la inflamación asociada a la obesidad sobre el sistema nervioso central y la enfermedad de Alzheimer. PI19/O1512. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 232.320,00 €.



## 5.1.6 Associated Groups

- Fernández Leon, Alejandro. Impacto de la Inflamación en la Progresión de la Aterosclerosis Carotídea y el Riesgo de Ictus (estudio INCREASE). PI22/01659. Duration: 2023-2025. 141.570,00 €.
- Flotats Giralt, Albert & Carrio Gasset, Ignasi. Erasmus+ cooperation for multidisciplinary training in radioligand therapies for healthcare professionals. Erasmus+. Unión Europea. Duration: 2022-2024. 36.170,00 €.
- Gorey S, McCabe JJ, Camps-Renom P, Giannotti N, McNulty JP, Barry M, Cassidy T, Cronin S, Dolan E, Fernández-León A, Foley S, Harbison J, O'Connell M, Williams DJ, Marnane M, Martí-Fabregas J, Kelly PJ. Symptomatic Carotid Atheroma Inflammation Lumen-stenosis score compared with Oxford and Essen risk scores to predict recurrent stroke in symptomatic carotid stenosis. *Eur Stroke J.* 2023; 8(4):1064-1070. DOI: 10.1177/23969873231186911. PMID: 37480278. Document type: Article.

## SCIENTIFIC PRODUCTION

- Bugani V, Battistelli L, Sansovini M, Monti M, Paganelli G, Gich I, Flotats A, Erba PA, Blay JY, la Fougere C, Van H, Charalambous A, Herrmann K, Giordano A, Gyorke T, Deroose C, Matteucci F, Carrio I. Radioligand therapies in cancer: mapping the educational landscape in Europe. *EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING.* 2023; 50(9). DOI:10.1007/s00259-023-06217-0. PMID:37058168. IF:9,100 (Q1/1D). Document type: Article.
- Carrió I. Standing on the shoulders of giants: 50 years of EJNM and EJNMMI. *EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING.* 2023; 50(12). DOI:10.1007/s00259-023-06359-1. PMID:37535109. IF:9,100 (Q1/1D). Document type: Editorial Material.
- García E, Camps P, Puig N, Fernández A, Aguilera A, Benitez A, Solé A, Vilades D, Sánchez JL, Martí J, Jiménez E, Benitez S, Llorente V. Soluble low-density lipoprotein receptor-related protein 1 as a surrogate marker of carotid plaque inflammation assessed by 18F-FDG PET in patients with a recent ischemic stroke. *Journal of Translational Medicine.* 2023; 21(1):131. DOI:10.1186/s12967-022-03867-w. PMID:36805772. IF:7,400 (Q1/3D). Document type: Article.
- Gorey S, McCabe JJ, Camps P, Giannotti N, McNulty JP, Barry M, Cassidy T, Cronin S, Dolan E, Fernández A, Foley S, Harbison J, O'Connell M, Williams DJ, Marnane M, Martí J, Kelly PJ. Symptomatic Carotid Atheroma Inflammation Lumen-stenosis score compared with Oxford and Essen risk scores to predict recurrent stroke in symptomatic carotid stenosis. *European Stroke Journal.* 2023; :23969873231186911. DOI:10.1177/23969873231186911. PMID:37480278. IF:6,100 (Q1/2D). Document type: Article.
- Hologado A, León X, Quer M, Camacho V, Fernández A. Association between maximum standardized uptake value (SUV) and local control in patients with oropharyngeal carcinoma treated with radiotherapy. *Acta Otorrinolaringologica Española.* 2023; 74(4). DOI:10.1016/j.otorri.2022.05.004. PMID:37149130. Document type: Article.
- Horta-Barba A, Martínez-Horta S, Sampedro F, Pérez-Pérez J, Camacho V, Pagonabarraga J, Kulisevsky J. Structural and metabolic brain correlates of arithmetic word-problem solving in Huntington's disease. *J Neurosci Res.* 2023; 101(6):990-999. DOI: 10.1002/jnr.25174. PMID: 36807154. IF:4,200 (Q2/D4). Document type: Article.
- Iulita MF, Bejanin A, Vilaplana E, Carmona M, Benjam B, Videla L, Barroeta I, Fernández S, Altuna M, Pegueroles J, Montal V, Valldeneu S, Gimenez S, González S, Torres S, El Bennadi SE, Padilla C, Aranha MR, Estelles T, Illán I, Belbin O, Valle N, Camacho V, Blessing E, Osorio RS, Videla S, Lehmann S, Holland AJ, Zetterberg H, Blennow K, Alcolea D, Clarimón J, Zaman SH, Blesa R, Lleó A, Fortea J. Association of biological sex with clinical outcomes and biomarkers of Alzheimer's disease in adults with Down syndrome. *Brain Communications.* 2023; 5(2):fcad074. DOI:10.1093/braincomms/fcad074. PMID:37056479. Document type: Article.
- Mansour N, Nekolla SG, Reyes E, Angelidis G, Georgoulas P, Anagnostopoulos C, Bravo P, Bruno I, Flotats A, Fuentes F, Sciagra R, Keng F, Kessler L, Papathanasiou M, Soman P, Rischpler C. Multi-center study of inter-rater reproducibility, image quality, and diagnostic accuracy of CZT versus conventional SPECT myocardial perfusion imaging. *JOURNAL OF NUCLEAR CARDIOLOGY.*



## 5.1.6 Associated Groups

2023; 30(2). DOI:10.1007/s12350-022-03054-w. PMID:35799039. IF:2,400 (Q3/6D). Document type: Article.

- Puig N, Camps P, Sole A, Aguilera A, Jimenez E, Fernández A, Camacho M, Guasch M, Marin R, Marti J, Martinez A, Prats L, Casoni F, Perez B, Jimenez F, Sánchez JL, Benitez S. Electronegative LDL Is Associated with Plaque Vulnerability in Patients with Ischemic Stroke and Carotid Atherosclerosis. *Antioxidants*. 2023; 12(2):438. DOI:10.3390/antiox12020438. PMID:36829998. IF:7,000 (Q1/1D). Document type: Article.
- Stockbauer A, Beyer L, Huber M, Kreuzer A, Palleis C, Katzdobler S, Rauchmann BS, Morbelli S, Chincarini A, Bruffaerts R, Vandenberghe R, Kramberger MG, Trost M, Garibotto V, Nicastro N, Lathuilière A, Lemstra AW, van BNM, Pilotto A, Padovani A, Ochoa MA, Davidsson A, Camacho V, Peira E, Bauckneht M, Pardini M, Sambuceti G, Aarsland D, Nobili F, Gross M, Vöglein J, Pernecky R, Pogarell O, Buerger K, Franzmeier N, Danek A, Levin J, Höglinger GU, Bartenstein P, Cumming P, Rominger A, Brendel M. Metabolic network alterations as a supportive biomarker in dementia with Lewy bodies with preserved dopamine transmission. *EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING*. 2023; DOI:10.1007/s00259-023-06493-w. PMID:37971501. IF:9,100 (Q1/1D). Document type: Article.
- Tian M, Zuo C, Civelek AC, Carrio I, Watanabe Y, Kang KW, Murakami K, Garibotto V, Prior JO, Barthel H, Guan Y, Lu J, Zhou R, Jin C, Wu S, Zhang X, Zhong Y, Zhang H, Molecular Imaging International Nuclear Medicine Consensus on the Clinical Use of Amyloid Positron Emission Tomography in Alzheimer's Disease. *PHENOMICS*. 2023; 3(4). DOI:10.1007/s43657-022-00068-9. PMID:37589025. Document type: Article.



## 5.1.6 Associated Groups

## Intensive Medicine

### Group leader

Moran Chorro, Indalecio (FGS)

### Researchers

Baldira Martinez De Irujo, Jaume (FGS)

Belles Casas, Ariadna (FGS)

Betbese Roig, Antoni J. (FGS)

Cordon Abalde, Alejandra (FGS)

Diaz Tormo, Carmen (FGS)

Flores Orella, Matias Nicolas (FGS)

Gomila Sintes, Carme (FGS)

Goyeneche Cepeda, Juan Miguel (FGS)

Izura Gomez, Marta (FGS)

Mas Serra, Arantxa (FGS)

Morales Quinteros, Luis Fernando (FGS)

Nievas, Maria Veronica (FGS)

Ovejero Gordillo, Miguel Alfredo (FGS)

Rodríguez Farre, Nuria (FGS)

Santos Rodríguez, Jose Alberto (FGS)

Suarez Montero, Juan Carlos (FGS)

Torrens Sonet, Maria (FGS)

Vera Artazcoz, Paula (FGS)

Zapata Fenor, Luis (FGS)

### Research Technicians

Serrano García, Maria Angeles (FGS)



## DESCRIPTION

The Intensive Care Medicine Research Group was performed with the integration of different subgroups that cover the areas of knowledge and expertise of the set of pathologies that affect critically ill patients. In addition, it makes occasional collaborations with other groups associated with the Research Institute. The Critically Ill Research Group's main lines of research are described below; all of them have the same main objective: to advance in the knowledge and apply tools and treatments to improve critical care practice that will have a direct impact on patients. Our group is coordinated by Dr. Indalecio Morán and has the participation of different associate doctors from our service with recognition and consolidated scientific trajectory for each specific area of critical ill knowledge. Our way of understanding research from understanding the physiopathology applied to our patients to our participation in international multicenter studies shows our commitment to generating knowledge. In addition, the fact of providing data on the population in our environment helps to locally corroborate the results of international research and allows us to approach and apply the global results to our population.

## MAIN LINES OF RESEARCH

### Acute respiratory failure and artificial ventilation (Indalecio Morán)

- Non-invasive ventilation.
- New ventilation modes: proportional-assist ventilation and NAVA.
- Prone decubitus in acute respiratory dysfunction syndrome (ARDS).



### 5.1.6 Associated Groups

- Artificial ventilation withdrawal.
- Expert ventilation systems.
- Sleep and artificial ventilation.
- Early and active mobilization of the critical patient.
- Extracorporeal CO<sub>2</sub> removal in ARDS patients.
- High-flow oxygen administration by nasal cannula in postextubation phase.

#### Study of the usefulness of new biomarkers in critically ill patients (Antoni J. Betbesé)

- BNP in weaning from mechanical ventilation.
- Use of the NGAL protein in the renal prognosis of critically ill patients.
- Strict control of blood glucose in critically ill patients.
- Prophylaxis of acute gastric mucosal injury in critically ill patients.
- Study of the haemodynamic effects of different antipyretic drugs in critically ill patients.
- Influence of position change to supine decubitus position in intra-abdominal pressure

#### Other study lines in critical care topics

- Neurocritical patient (Dr. I. Morán).
- Acute renal failure (Dr. A.J. Betbesé).
- Severe infectious pathology. Sepsis and septic shock (Dra. P. Vera).
- Drug interactions in critically ill patients and clinical toxicology (Dr. I. Morán).
- Nursing research lines: humanization in critical care and discharge process of the critically ill (Dra. A. Mateos).
- Hemodynamic control, heart failure markers and dynamic echocardiography (Dr. Ll. Zapata).

### SCIENTIFIC CHALLENGES

- Consolidate clinical and physiological research into ventilation and acute respiratory failure in critically ill patients through multicentre and multinational networking.
- Create a stable and well-trained group of researchers in this discipline.

- Promote research in the field of the neurocritical patient.
- New goals in the care of hemato-oncological patients admitted to the intensive care unit. CART therapy complications.
- Attention to the critically ill fragility patient. Post-ICU syndrome.

### DOCTORAL THESES DEFENDED

- Mateos Dávila, Maria Almudena. Anticoagulación con citrato diluido y concentrado en la terapia depurativa renal continua. 22/11/2023. Universitat de Barcelona. Supervisors: Betbesé Roig, Antoni Jordi; Guix Comellas, Eva Maria; Tortosa i Moreno, Avelina. <http://hdl.handle.net/10803/689562>.

### SCIENTIFIC PRODUCTION

- Baldirà J, Ruiz JC, Ruiz A, Chiscano L, Cortés A, Sistac DÁ, Ferrer R, Comas I, Villena Y, Larrosa MN, González JJ, Ferrer R. Use of Biomarkers to Improve 28-Day Mortality Stratification in Patients with Sepsis and SOFA = 6. *Biomedicines*. 2023; 11(8):2149. DOI:10.3390/biomedicines11082149. PMID:37626646. IF:4,700 (Q1/3D). Document type: Article.
- Bosma KJ, Martin CM, Burns K, Mancebo J, Suárez JC, Skrobik Y, Thorpe KE, Amaral A, Arabi Y, Basmaji J, Beduneau G, Beloncle F, Carteaux G, Charbonney E, Demoule A, Dres M, Fanelli V, Geagea A, Goligher E, Lellouche F, Maraffi T, Mercat A, Rodríguez PO, Shahin J, Sibley S, Spadaro S, Vaporidi K, Wilcox ME, Brochard L, Canadian Critical Care Trials G, REVA N. Study protocol for a randomized controlled trial of Proportional Assist Ventilation for Minimizing the Duration of Mechanical Ventilation: the PROMIZING study. *Trials*. 2023; 24(1). DOI:10.1186/s13063-023-07163-w. PMID:36973743. IF:2,500 (Q3/8D). Document type: Article.
- Ceccato A, Camprubi M, Bos LDJ, Pova P, Martin I, Forne C, Areny A, Campaña E, Morales L, Quero S, Ramirez P, Esperatti M, Torres A, Blanch L, Artigas A. Evaluation of the Kinetics of Pancreatic Stone Protein as a Predictor of Ventilator-Associated Pneumonia. *Biomedicines*. 2023; 11(10):2676. DOI:10.3390/biomedicines11102676. PMID:37893050. IF:4,700 (Q1/3D). Document type: Article.



## 5.1.6 Associated Groups

- De La Vega A, Pérez AN, Pérez M, Sonet MT, Buendia YD, Ballujera PO, López MR, Riera JS, Olmo A, Torra EV, García MA, Villamayor MI, Ibars RMC, Zelaya IO, Chica JP, Anglès CR, Tomasa TM, Serra AB, Casanova EJ, González De Molina FJ. "Acute kidney injury in critically ill patients with COVID-19: The AKICOV multicenter study in Catalonia". *PLoS One*. 2023; 18(4):e0284248. DOI:10.1371/journal.pone.0284248. PMID:37058544. IF:3,700 (Q2/4D). Document type: Article.
- López JC, Grau T, Mor E, Bordeje ML, Portugal E, Lorenzo C, Vera P, Macaya L, Llorente B, Iglesias R, Monge D, Martínez JF, Sánchez L, Sánchez A, Crespo M, Leon C, Flordelis JL, Servia L, ENPIC GRP. Parenteral Nutrition: Current Use, Complications, and Nutrition Delivery in Critically Ill Patients. *Nutrients*. 2023; 15(21):4665. DOI:10.3390/nu15214665. PMID:37960318. IF:5,900 (Q1/2D). Document type: Article.
- López JC, Servia L, Grau T, Bordeje L, Portugal E, Lorenzo C, Vera P, Macaya L, Martínez JF, Marin J, Flordelis JL, Seron C, Alcazar MLN, Navas E, Aldunate S, Nieto B, Martínez de Lagran I. Factors associated with the need of parenteral nutrition in critically ill patients after the initiation of enteral nutrition therapy. *Frontiers in Nutrition*. 2023; 10:1250305. DOI:10.3389/fnut.2023.1250305. PMID:37693244. IF:5,000 (Q2/4D). Document type: Article.
- Martín L, Martínez M, Díaz JF, Zapata L. Cardiogenic shock code 2023, towards a quality multidisciplinary organization. *Medicina Intensiva*. 2023; 47(7). DOI:10.1016/j.medin.2023.03.006. PMID:37173216. IF:3,000 (Q3/7D). Document type: Editorial Material.
- Martín M, Aseginolaza M, Boronat P, Asensio MJ, Alaman G, Alvarez F, Roa D, Socias L, Vera P, Ramirez P, Trabajo Infec Sepsis GTEIS GRP&, Soc Española Med I. Severe community-acquired *Streptococcus pneumoniae* bacterial meningitis: clinical and prognostic picture from the intensive care unit. *CRITICAL CARE*. 2023; 27(1):72. DOI:10.1186/s13054-023-04347-3. PMID:36823625. IF:15,100 (Q1/2D). Document type: Article.
- Martínez M, Hernández FJ, Urizarri A, Martín L, Zapata L, Alonso JJ, Amat IJ, Ariza A, Barrabés JA, Barrio JM, Canteli Á, Alonso M, Corbí MJ, Díaz D, Crespo MG, de la Torre JM, Ferrera C, García MJ, García J, García L, García A, Jorge P, González JR, López de Sá E, Sánchez PL, Monteagudo M, Palomo N, Reyes G, Rosell F, Solla MA, Segovia J, Sionis A, Stepanenko A, Iglesias D, Viana A, Voces R, Fuset MP, Gimeno JR, Díaz J, Fernández F. Cardiogenic shock code 2023. Expert document for a multidisciplinary organization that allows quality care. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(4). DOI:10.1016/j.recesp.2022.10.010. PMID:36565750. IF:7,050 (Q1/3D). Document type: Article.
- Mateos A, Roig A, Rodríguez J, Guix EM. Change in prefilter pressure as a key determinant in the decision to return blood in continuous renal replacement therapy: An observational study. *Nursing in Critical Care*. 2023; DOI:10.1111/nicc.12933. PMID:37277948. IF:3,000 (Q1/2D). Document type: Article.
- Mateos A, Roig A, Rodríguez J, Guix EM. Comparison of diluted vs concentrated regional citrate anticoagulation in continuous renal replacement therapy: A quasi-experimental study. *Nursing in Critical Care*. 2023; DOI:10.1111/nicc.12991. PMID:37897131. IF:3,000 (Q1/2D). Document type: Article.
- Morales L, Scala R, Silva JM, Leidi A, Leszek A, Vazquez R, Pascual S, Serpa A, Artigas A, Schultz MJ. Associations of Awake Prone Positioning-Induced Changes in Physiology with Intubation: An International Prospective Observational Study in Patients with Acute Hypoxemic Respiratory Failure Related to COVID-19. *Pulmonary Therapy*. 2023; 9(4). DOI:10.1007/s41030-023-00242-y. PMID:37917322. Document type: Article.
- Mulet M, Osuna R, Zamora C, Artesero I, Arús M, Vera P, Cerdón A, Vilalta N, San P, Abril A, Moliné A, Morán I, López J, Vidal S. Dysregulated neutrophil extracellular traps formation in sepsis. *IMMUNOLOGY*. 2023; 170(3). DOI:10.1111/imm.13676. PMID:37381594. IF:6,400 (Q2/3D). Document type: Article.
- Ochagavía A, Fraile V, Zapata L. Introduction to the update series: update in intensive care medicine: ultrasound in the critically ill patient. *Clinical applications*. *Medicina Intensiva*.



## 5.1.6 Associated Groups

- 2023; 47(9). DOI:10.1016/j.medine.2023.08.001. PMID:37634919. Document type: Article.
- Ochagavía A, Fraile V, Zapata L. Introduction to the Update series: Update in intensive care medicine: ultrasound in the critically ill patient. Clinical applications. *Medicina Intensiva*. 2023; 47(9). DOI:10.1016/j.medin.2023.08.001. IF:3,000 (Q3/7D). Document type: Article.
  - Suarez JC, Cordon A, Torrego A. An unusual foreign body aspiration. *Medicina Intensiva*. 2023; 47(3). DOI:10.1016/j.medin.2021.01.005. PMID:33674124. Document type: Article.
  - Weiss R, von T, Ostermann M, Lumlertgul N, Weerapolchai K, García M, Cano JMM, del Corral BD, Broch MJ, Carrasco MP, Sánchez AD, Sousa E, Catarino A, Roig A, de Irujo JBM, de Rosa S, de la Pena MGM, Tomasa T, Brivio M, De Molina FJG, Gerst J, Kellum JA, Wempe C, Leidereiter A, Meersch M, Zarbock A. The Role of Cell Cycle Arrest Biomarkers for Predicting Acute Kidney Injury in Critically Ill COVID-19 Patients: A Multicenter, Observational Study. *CRITICAL CARE MEDICINE*. 2023; 51(8). DOI:10.1097/CCM.0000000000005853. PMID:36975308. IF:8,800 (Q1/2D). Document type: Article.
  - Zapata L, Blancas R, Conejo I, García M. Role of ultrasound in acute respiratory failure and in the weaning of mechanical ventilation. *Medicina Intensiva*. 2023; 47(9). DOI:10.1016/j.medine.2023.03.018. PMID:37419839. Document type: Article.
  - Zapata L, Blancas R, Conejo I, García M. Role of ultrasound in acute respiratory failure and in the weaning of mechanical ventilation. *Medicina Intensiva*. 2023; 47(9). DOI:10.1016/j.medin.2023.03.009. IF:3,000 (Q3/7D). Document type: Article.
  - Zapata L, Guía C, Gómez R, García T, Colinas L, Portugal E, Rodado I, Leache I, Fernández A, Hermosilla IA, Roche F, ICA G. Clinical presentation and outcomes of acute heart failure in the critically ill patient: A prospective, observational, multicentre study. *Medicina Intensiva*. 2023; 47(4). DOI:10.1016/j.medin.2022.03.009. PMID:36272910. IF:3,000 (Q3/7D). Document type: Article.
  - Zapata L, Suarez JC, López PA. Association between diastolic dysfunction and fluid balance in critically ill patients during weaning from mechanical ventilation. *Medicina Intensiva*. 2023; 47(12). DOI:10.1016/j.medine.2023.05.012. PMID:37380508. Document type: Article.

## 5.1.6 Associated Groups

## Pharmacy

### Group leader

Feliu Ribera, Anna (FGS)  
Mangues Bafalluy, Maria Antònia (FGS) until 2023/11/09

### Researchers

Cardenete Ornaque, Juana (FGS)  
De Dios López, Anna (FGS)  
De Pourcq, Jan Thomas (FGS)  
Edo Peñarrocha, Josep (FGS)  
Fernández De Gamarra Martinez, Edurne (FGS)  
Gamez Lechuga, Maria (FGS)  
Garin Escriva, Noe (FGS)  
Gasó Gago, Ingrid (FGS)  
Gomis Pastor, Mar (FGS)  
Gras Martin, Laura (FGS)  
Juanes Borrego, Ana Maria (FGS)  
Mangues Bafalluy, Maria Antonia (FGS)  
Marcos Fendian, Angel (FGS)  
Masip Torne, Montserrat (FGS)  
Medina Catalan, David (FGS)  
Moreno Martinez, Maria Estela (FGS)  
Pages Puigdemont, Neus (FGS)  
Pelegrin Cruz, Rebeca (FGS)  
Plaza Diaz, Adrian (FGS)  
Riba Sole, Mireia (FGS)  
Rodríguez Murphy, Esther (FGS)  
Ruiz Ramos, Jesus (FGS)  
Vallez Valero, Lucia (FGS)  
Villamarin Vallejo, Laura (FGS)  
Zarate Tamames, Borja (FGS)

### Research Technicians

Berga Garrote, Nuria (IR)  
Crusat Abello, Xenia (IR)  
Fuset Gonzalez, Marina (IR)  
Jorba Cortada, Celia (IR)  
Juanes Borrego, Maria Elena (IR)  
Rodríguez-Arias Pal, Ainhoa (IR)  
Zari Kasas, Nabila (IR)



### DESCRIPTION

Our research group is to investigate and improve the use of medications and optimize patient outcomes through research and evidence-based practice.

### MAIN LINES OF RESEARCH

- Pharmaceutical care and personalized medicine.
- Clinical Epidemiology and Public Health.
- Artificial nutrition.
- Pharmaceutical formulation.
- Oncohematology.
- Independent clinical trials.
- Innovation, artificial intelligence & big data.

### SCIENTIFIC CHALLENGES

- Evaluate the impact of different pharmaceutical care programs on the effectiveness and the safety of pharmacological treatments: personalized medicine (clinical pharmacokinetics & pharmacogenetics), health education, medication reconciliation, identification and prevention of drug-related health problems, etc.
- Use of clinical epidemiology to gain evidence in patient care: association between risk factors and health outcomes, study of drug interactions, medication adherence, assessment of regular clinical practice.
- Evaluate the impact of artificial nutrition on the clinical evolution of patients.
- Study the stability of cytostatics in different pharmaceutical forms.



### 5.1.6 Associated Groups

- Determine the stability and the PK-PD of protein nanoparticles with antimetastatic activity.
- Actively cooperate in independent clinical trials performed in Sant Pau.
- Health, eHealth, artificial intelligence, big data, innovative procedures, etc.

### ACTIVE GRANTS

- Mangués Bafalluy, Maria Antonia. Abordaje integral de los problemas de salud relacionados con los medicamentos: Código Medicamento. PI18/00889. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 87.120,00 €.
- Mangués Bafalluy, Maria Antonia. Coordinadora. Acuerdo de Cooperación en el Programa de Becas de Investigación Científica de Janssen-Cilag 2023. Gras Martin, Laura. Impacto clínico de la monitorización farmacocinética de antibióticos en paciente crítico. IIBSP-TDM-2023-28.

### SCIENTIFIC PRODUCTION

- Aguilar R, Gispert MA, de Gamarra EF, Martínez L, García M, Pi N, Salgado E, Nogue S. An antidote network in Spain, a tool to improve antidote availability in hospitals. *EUROPEAN JOURNAL OF HOSPITAL PHARMACY*. 2023; 30(2):e03328. DOI:10.1136/ejhpharm-2022-003328. PMID:35501035. IF:1,700 (Q4/9D). Document type: Letter.
- Calleja MA, Albanell J, Aranda E, García J, Feliu A, Rivera F, Oyagüez I, Salinas L, Alvarez JS. Budget impact analysis of bevacizumab biosimilars for cancer treatment in adult patients in Spain. *EUROPEAN JOURNAL OF HOSPITAL PHARMACY*. 2023; 30(1):002955. DOI:10.1136/ejhpharm-2021-002955. PMID:34810173. IF:1,700 (Q4/9D). Document type: Article.
- De Pourcq JT, Riera P. Critical Commentary on the paper: Compatibility of prolonged infusion antibiotics during Y-site administration with parenteral nutrition. *Nursing in Critical Care*. 2023; 28(6). DOI:10.1111/nicc.12910. PMID:37232328. IF:3,000 (Q1/2D). Document type: Editorial Material.
- Domingo C, Fernández M, Garin N, Milara J, Moran I, Muerza I, Pacheco A, Teruel C, Bentley R, Subiran R, Gil A. Determining What Represents

Value in the Treatment of Refractory or Unexplained Chronic Cough from the Perspective of Key Stakeholders in Spain Using Multi-Criteria Decision Analysis. *Applied Health Economics and Health Policy*. 2023; 21(1). DOI:10.1007/s40258-022-00770-9. PMID:36319945. IF:3,600 (Q2/3D). Document type: Article.

- Duncan N, Moreno ME, Pires V, Domingos V, Bonnin A, Nezvalova K, Admiraal R, Bauters T, Langebrake C, Pharmacist E. Role and competencies of the EBMT clinical pharmacists and clinical pharmacologists: a pan-European survey. *BONE MARROW TRANSPLANTATION*. 2023; 58(7). DOI:10.1038/s41409-023-01983-9. PMID:37029183. IF:4,800 (Q1/2D). Document type: Letter.
- Garin N, Zarate B, Gras L, Mila R, Crespo A, Curto E, Hernandez M, Mestres C, Plaza V. Clinical Impact of Electronic Monitoring Devices of Inhalers in Adults with Asthma or COPD: A Systematic Review and Meta-Analysis. *Pharmaceuticals*. 2023; 16(3):414. DOI:10.3390/ph16030414. PMID:36986513. IF:4,600 (Q2/3D). Document type: Review.
- Garrido G, Saborit G, Guarga L, de Pando T, Umbria M, Oriol A, Feliu A, Pontes C, Vallano A. Evolution of Pharmacological Treatments and Associated Costs for Multiple Myeloma in the Public Healthcare System of Catalonia: A Retrospective Observational Study. *Cancers*. 2023; 15(22):5338. DOI:10.3390/cancers15225338. PMID:38001598. IF:5,200 (Q2/3D). Document type: Article.
- Gomis M, Perez SM, López AD, Loidi VB, López LL, Cruz RP, Bafalluy M. Does an eHealth Intervention Reduce Complications and Healthcare Resources? A mHeart Single-Center Randomized-Controlled Trial. *Journal of Cardiovascular Development and Disease*. 2023; 10(2):77. DOI:10.3390/jcdd10020077. PMID:36826572. IF:2,400 (Q3/7D). Document type: Article.
- González CGR, Vega EC, Martínez SV, Minero MV, Urbón JMG, Manzorro ÁG, Martínez EFG, Sacristán SC, Santiago EB, Alonso AH, Paredes PMG, Sáez MS; DAPTOMISE Study Group (DAPTOMICINA: eStudio de su uso clínico en España). A critical view on the current use of daptomycin in Spain: The daptomise study. *J Infect Public*



## 5.1.6 Associated Groups

- Health. 2023; 16(7):1115-1122. DOI: 10.1016/j.jiph.2023.05.008. PMID: 37220712. IF:6,700 (Q1/2D). Document type: Article.
- Juanes A, Ruiz J, Puig M, Blazquez M, Gilabert A, López L, Baena MI, Guiu JM, Manges MA. The Effect of the Drug-Related Problems Prevention Bundle on Early Readmissions in Patients From the Emergency Department: A Randomized Clinical Trial. ANNALS OF PHARMACOTHERAPY. 2023; 57(9). DOI:10.1177/10600280221143237. PMID:36539949. IF:2,900 (Q3/6D). Document type: Article.
  - Mir JF, Rodríguez C, Estrada M, de Gamarra EF, Manges MA, Bagaria G, Riera P. An Integrated Multidisciplinary Circuit Led by Hospital and Community Pharmacists to Implement Clopidogrel Pharmacogenetics in Clinical Practice. Pharmacy. 2023; 11(2):76. DOI:10.3390/pharmacy11020076. PMID:37104082. Document type: Article.
  - Navarro AJ, Ramos JR, Alquezar A, Gil SO, Baena SP, Andreu OM. Association between polypharmacy and mortality in patients aged over 64 years attended in hospital emergency departments: results of the EDEN project. Emergencias. 2023; 35(3)IF:5,500 (Q1/2D). Document type: Letter.
  - Nezvalova K, Langebrake C, Bauters T, Moreno M-E, Ahnfelt E, Ekelund H, Domingos V, Pires V, Bonnin A, Bojanic I, Cabrerizo Y, Terwel S, Tam A. Implementation and operational management of marketed chimeric antigen receptor T cell (CAR-T Cell) therapy-a guidance by the GoCART Coalition Pharmacist Working Group. BONE MARROW TRANSPLANTATION. 2023; 58(10). DOI:10.1038/s41409-023-02072-7. PMID:37528237. IF:4,800 (Q1/2D). Document type: Article.
  - Plaza V, Alobid I, Álvarez C, Blanco M, Ferreira J, García G, Gómez A, Garín N, Gómez F, Hidalgo A, Korta J, Molina J, Pellegrini FJ, Plaza J, Praena M, Quirce S, Sanz J, Soto JG. GEMA 5.3. Spanish Guideline on the Management of Asthma. Open Respiratory Archives. 2023; 5(4):100277. DOI:10.1016/j.opresp.2023.100277. PMID:37886027. Document type: Article.
  - Ramos JR, Hernanz BC, Clemente YC, Sánchez MB, Alcon EV, Perrin M, Martin M, Pintó A, Campana JMR, Rodríguez JR, Blanco CC, Pelaez MG, Ramos HA, Ruiz JA, Serrano PS, Cerezuela MM, Parraga LP, Borrego A, Fernández BS, Camacho JMR, Campmany MP, Blanco IM, Vecina ST, Galmes CN, Marco JP. Pharmacist care in hospital emergency departments: a consensus paper from the Spanish hospital pharmacy and emergency medicine associations. Emergencias. 2023; 35(3) PMID:37350603. IF:5,500 (Q1/2D). Document type: Article.
  - Ramos JR, Hernanz BC. [Translated article] Pharmaceutical care in emergency department [Atención Farmacéutica en los servicios de urgencias]. Farmacia Hospitalaria. 2023; 47(3):T97-T99. DOI:10.1016/j.farma.2023.05.001. PMID:37236837. Document type: Editorial Material.
  - Ramos JR, Puig MS, Vinardell LL, Pons M, Carbo EG, Campmany MP, Manges MA, Borrego AJ. Usefulness of ICD-10 diagnosis triggers to identify adverse drug events in emergency care. Farmacia Hospitalaria. 2023; 47(2). DOI:10.1016/j.farma.2023.01.001. PMID:36702641. Document type: Article.
  - Ramos JR, Puig MS, Vinardell LL, Ponsa M, Carbo EG, Campmany MP, Manges MA, Borrego AJ. [Translated article] Usefulness of ICD-10 diagnostic triggers to identify adverse drug events in emergency care. Farmacia Hospitalaria. 2023; 47(2):T75-T79. DOI:10.1016/j.farma.2023.02.004. PMID:36934016. Document type: Article.
  - Ruiz Ramos J, Calderón Hernanz B. Pharmaceutical care in the emergency department. Farm Hosp. 2023 May-Jun;47(3):97-99. DOI: 10.1016/j.farma.2023.02.006. PMID: 37088598. IF:1,400. Document type: Editorial Material.
  - Redondo S, De Dios A, Gomis M, Esquirol A, Aso O, Triquell M, Moreno ME, Riba M, Ruiz J, Blasco A, Tobajas E, Gonzalez I, Sierra J, Martino R, García I. Feasibility of a New Model of Care for Allogeneic Stem Cell Transplantation Recipients Facilitated by eHealth: The MY-Medula Pilot Study. Transplantation And Cellular Therapy. 2023; 29(6):385.e1-385.e8. DOI:10.1016/j.jtct.2023.03.016. PMID:36948273. IF:3,200 (Q2/5D). Document type: Article.
  - Ruiz J, Escolà L, Monje AE, Herrera S, Rivera A. The Interventions and Challenges of Antimicrobial Stewardship in the Emergency Department. An-



## 5.1.6 Associated Groups

- tibiotics-Basel. 2023; 12(10):1522. DOI:10.3390/antibiotics12101522. PMID:37887223. IF:4,800 (Q1/3D). Document type: Review.
- Ruiz J, Gras L, Ramirez P. Antimicrobial Pharmacokinetics and Pharmacodynamics in Critical Care: Adjusting the Dose in Extracorporeal Circulation and to Prevent the Genesis of Multiresistant Bacteria. *Antibiotics-Basel*. 2023; 12(3):475. DOI:10.3390/antibiotics12030475. PMID:36978342. IF:4,800 (Q1/3D). Document type: Review.
  - Ruiz J, Herrera S, Rivera MA, Monje AE, Hernández H, Pereira CS, Martínez YM, Puig M. Programa de optimización de antibioterapia en infección urinaria por cepas multirresistentes en el servicio de urgencias. *Revista Española de Quimioterapia*. 2023; 36(5). DOI:10.37201/req/009.2023. PMID:37458335. IF:1,900 (Q4/9D). Document type: Article.
  - Ruiz J, Monje AE, Medina D, Herrera S, Hernandez H, Rivera MA, Pereira CS, Puig M. PREDICTION OF MULTIDRUG-RESISTANT BACTERIA IN URINARY TRACT INFECTIONS IN THE EMERGENCY DEPARTMENT. *JOURNAL OF EMERGENCY MEDICINE*. 2023; 65(1). DOI:10.1016/j.jemermed.2023.04.004. PMID:37385920. IF:1,500 (Q3/7D). Document type: Article.
  - Ruiz J, Ramírez P. Antimicrobial stewardship programs in the intensive care unit in patients with infections caused by multidrug-resistant gram-negative bacilli. *Medicina Intensiva*. 2023; 47(2). DOI:10.1016/j.medin.2022.07.007. PMID:36319534. IF:3,000 (Q3/7D). Document type: Article.
  - Ruiz J. Drug-related problems as reason for emergency department visit: 3 years of the FARMURG registry. *International Journal Of Pharmacy Practice*. 2023; 31(4). DOI:10.1093/ijpp/riad022. PMID:37029923. Document type: Article.
  - Vallez L, Gasó I, Marcos Á, Garrido G, Riera A, Plaza A, Martínez C, Mangués MA, Corominas H. Are all JAK inhibitors for the treatment of rheumatoid arthritis equivalent? An adjusted indirect comparison of the efficacy of tofacitinib, baricitinib, upadacitinib, and filgotinib. *CLINICAL RHEUMATOLOGY*. 2023; DOI:10.1007/s10067-023-06787-2. PMID:37831336. IF:3,400 (Q3/7D). Document type: Article.
  - Walsh DJ, Kantilal K, Herledan C, Nightingale G, Slavova V, Moreno ME, Penn S, Chien J, Kantilal K. Medication assessment in older adults with cancer-Current practices in clinical pharmacy. *Journal of Geriatric Oncology*. 2023; 14(5):101531. DOI:10.1016/j.jgo.2023.101531. PMID:37211515. IF:3,000 (Q3/7D). Document type: Article.



## 5.1.6 Associated Groups

## Dermatology

### Group leader

Puig Sanz, Luis (FGS)

### Researchers

Altemir Vidal, Arcadi (FGS)

Garces Gatnau, Joan Ramon (FGS)

García Muret, M. Pilar (FGS)

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López Sánchez, Cristina (FGS)

Morales Munera, Caridad Elena (FGS)

Roe Crespo, Esther (FGS)

Ruiz Salas, Veronica (FGS)

Rusiñol Batlle, Lluís (FGS)

Serra Baldrich, Esther (FGS)

Spertino, Jorge Luis (FGS)

Vilarrasa Rull, Eva (FGS)

Yelamos Pena, Oriol (FGS)

### Research Technicians

Bravo Gonzalez, Marina (IR)

Diaz-Salazar Monreal, Maria (IR)

Flores Climente, Victor Adrian (IR)

Fuentes García, Ruben (IR)

Gely Vila, Cristina (IR)



### DESCRIPTION

Clinical trials and translational research (in collaboration with the Inflammatory Diseases Translational Medicine Research Group) on inflammatory-mediated dermatoses including psoriasis, atopic dermatitis, hidradenitis suppurativa, urticaria, vitiligo, and alopecia areata. Epidemiology, genetics, AI-assisted imaging, and treatment of different types of skin cancers and its precursors (melanoma, basal cell carcinoma, squamous cell carcinoma, actinic keratoses). Epidemiological research on Cutaneous Lymphoma.

### MAIN LINES OF RESEARCH

- Psoriasis: Dr. Anna López.
- Hidradenitis: Dr. Eva Vilarrasa.
- Atopic dermatitis and urticaria: Dr. Esther Serra.
- Skin Cancer (MM and NMSC): Dr. Oriol Yélamos.
- Cutaneous Lymphoma: Dr. M<sup>a</sup> Pilar García Muret.

### SCIENTIFIC CHALLENGES

- Translation of scientific results into clinical practice. External validation of AI studies.

### DOCTORAL THESES DEFENDED

- Vilarrasa Rull, Eva. Dosis acumulada de metotrexato y fibrosis hepática en pacientes con psoriasis: cuantificación mediante elastografía transitoria. 05/10/2023. Universitat Autònoma de Barcelona. Supervisors: Puig Sanz, Luis. <http://hdl.handle.net/10803/691060>.



## 5.1.6 Associated Groups

## SCIENTIFIC PRODUCTION

- Armario JC, Carrascosa JM, Flórez Á, Herranz P, Pereyra JJ, Serra E, Silvestre JF, Comellas M, Isidoro O, Ortiz de Frutos FJ. Pruritus and Pain Constitute the Main Negative Impact of Atopic Dermatitis From the Patient's Perspective: A Systematic Review. *Dermatitis*. 2023; DOI:10.1089/derm.2023.0163. PMID:37751176. IF:5,200 (Q1/2D). Document type: Review.
- Artime E, Serra E, Mert C, Díaz S, Huete T, Hernández I, Lledo L, Sicras A. Real-World Treatment Patterns, Resource Use and Costs in Adult Patients With Atopic Dermatitis Receiving Systemic Treatment: Derma-Atopic Study in Spain. *Actas Dermo-Sifiliograficas*. 2023; 114(1):T9-T18. DOI:10.1016/j.ad.2022.08.025. PMID:36368579. Document type: Article.
- Berenguer S, Aparicio M, Herranz P, Ruíz R, López A, Santos J, Rodríguez Fernández L, Hospital M, Arias S, Carretero G, Mateu A, Ferran M, del Alcázar E, Santos S, García FJ, Belinchón I, González Á, Ruíz D, Eiris N, Rocamora V, Rivera R, de la Cueva P, Daudén E, Salgado L, Llamas M. Effectiveness and safety of tildrakizumab for the treatment of psoriasis in real-world settings at 24 weeks: A retrospective, observational, multicentre study by the Spanish Psoriasis Group. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; DOI:10.1111/jdv.19468. PMID:37625815. IF:9,200 (Q1/1D). Document type: Article.
- Berna E, ABBAD C, García Á, Palacios D, Ballester A, Carrascosa J-M, DE LA CUEVA P, Anton C, Azcarraga C, García E, DE NICOLAS B, Puig L, Jaen P, Mehta NN, Gelfand JM, Gonzalez Á. Cardiovascular Screening Practices and Statin Prescription Habits in Patients with Psoriasis among Dermatologists, Rheumatologists and Primary Care Physicians. *ACTA DERMATO-VENEREOLOGICA*. 2023; 103:adv5087. DOI:10.2340/actadv.v103.5087. PMID:36987537. IF:3,600 (Q1/3D). Document type: Article.
- Blanco G, López D, Pujol RM, Gómez A, Puiggros A, López M, Estrach T, García MP, López I, Servitje O, Bellosillo B, Muro M, Espinet B, Rabionet R, Gallardo F. High-throughput RNA sequencing of the T cell receptor alpha and beta chains for simultaneous clonality and biological analyses in Sezary syndrome. *JOURNAL OF CLINICAL LABORATORY ANALYSIS*. 2023; 37(23-24) DOI:10.1002/jcla.24982. PMID:38115685. IF:2,700 (Q2/5D). Document type: Article.
- Blauvelt A, Thyssen JP, Guttman E, Bieber T, Serra E, Simpson E, Rosmarin D, Elmaraghy H, Meskimen E, Natalie CR, Liu Z, Xu C, Pierce E, Morgan M, García E, Silverberg JI. Efficacy and safety of lebrikizumab in moderate-to-severe atopic dermatitis: 52-week results of two randomized double-blinded placebo-controlled phase III trials. *BRITISH JOURNAL OF DERMATOLOGY*. 2023; 188(6)DOI:10.1093/bjd/ljad022. PMID:36994947. IF:10,300 (Q1/1D). Document type: Article.
- Camina G, Mateu L, López A, Puig L. Bimekizumab in the Treatment of Plaque Psoriasis Focus on Patient Selection and Perspectives. *Patient Preference and Adherence*. 2023; 17DOI:10.2147/PPA.S350760. PMID:37408843. IF:2,200 (Q3/7D). Document type: Review.
- Carmona E, Aguado M, Tubau C, Sánchez S, Mozos A, Sullivan I, Spertino J. Epidermolysis bullosa acquisita induced by atezolizumab. *JOURNAL DER DEUTSCHEN DERMATOLOGISCHEN GESELLSCHAFT*. 2023; DOI:10.1111/ddg.15203. PMID:37658659. IF:3,600 (Q1/3D). Document type: Letter.
- Carmona E, Puig L. Ixekizumab for the treatment of moderate-to-severe plaque psoriasis: the first septennium. *Immunotherapy*. 2023; 15(15) DOI:10.2217/imt-2023-0013. PMID:37609785. IF:2,800 (Q4/8D). Document type: Article.
- Carmona E, Puig L. The biological basis of disease recurrence in psoriasis. *Italian Journal of Dermatology and Venereology*. 2023; 158(4)DOI:10.23736/S2784-8671.23.07583-7. PMID:37404193. IF:1,900 (Q3/7D). Document type: Review.
- Carmona E, Sullivan I, Yélamos O. Vitiligo-like hypopigmentation induced by dabrafenib-trametinib: a potential marker for clinical response. *MELANOMA RESEARCH*. 2023; 33(6)DOI:10.1097/CMR.0000000000000918. PMID:37890183. IF:2,200 (Q3/7D). Document type: Letter.
- Carrascosa JM, Vilarrasa E, Belinchon I, Herranz P, Crespo J, Guimera F, Oliveira A, Trabajoparael GRP.



## 5.1.6 Associated Groups

- Common Approach to Metabolic-Associated Fatty Liver Disease in Patients With Psoriasis: Consensus-Based Recommendations From a Multidisciplinary Group of Experts. *Actas Dermo-Sifiliograficas*. 2023; 114(5)DOI:10.1016/j.ad.2023.01.004. PMID:36720362. Document type: Article.
- Castellanos M, Bris BB, Marsol IB, Campos MM, Ruiz R, Llorente CP, Nuno A, Sánchez JT, Mur EC, García RG, Alonso AB, Español GA, García YH, Schmidt JMS, Sánchez MA, Crespo ER, Alonso ED, Gallo G, Izquierdo J, Varillas D. Prädiktive Faktoren für Anti-MDA5-Antikörper bei Patienten mit Dermatomyositis: eine retrospektive multizentrische Studie. *JOURNAL DER DEUTSCHEN DERMATOLOGISCHEN GESELLSCHAFT*. 2023; 21(7):21. DOI:10.1111/ddg.15089\_g. PMID:37427730. IF:3,600 (Q1/3D). Document type: Article.
  - Castillo E, Ríos R, Aràjol C, Gely C, Márquez L, Calafat M, González C, Cañete F, Mesonero F, Guardiola J, García E, Mañosa M, Domènech E. Clinical and endoscopic outcomes of patients with colonic Crohn's disease treated with 5-aminosalicylates as monotherapy. *Gastroenterologia y Hepatologia*. 2023; 46(3)DOI:10.1016/j.gastrohep.2022.09.003. PMID:36179946. IF:1,900 (Q4/10D). Document type: Article.
  - Choon SE, Elewski BE, Fujita H, Geng S, van de Kerkhof P, Mburu S, Puig L, Romiti R, Venturini M. Diversity in the clinical presentation of generalized pustular psoriasis (GPP): A series of case vignettes from around the world. *EXPERIMENTAL DERMATOLOGY*. 2023; 32(8)DOI:10.1111/exd.14794. PMID:36999936. IF:3,600 (Q1/3D). Document type: Article.
  - Costanzo A, Llamas M, Fabbrocini G, Cuccia A, Rivera R, Du KG, Kasujee I, Puig L, Carrascosa JM. Tildrakizumab improves high burden skin symptoms, impaired sleep and quality of life of moderate-to-severe plaque psoriasis patients in conditions close to clinical practice. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; 37(10) DOI:10.1111/jdv.19229. PMID:37246505. IF:9,200 (Q1/1D). Document type: Article.
  - Docampo A, Sánchez MJ, Pastor MA, Gimenez A, Rodríguez M, Serra E, Miquel J, Sánchez J, Sanz T, Zaragoza V, Sánchez P, Carrascosa JM, Gatica ME, Fernández V, Cordoba S, Gonzalez R, Silvestre JF. Patch Testing in Patients With Severe Atopic Dermatitis Treated With Dupilumab: A Multicentric Approach in Spain. *Dermatitis*. 2023; 34(4)DOI:10.1089/derm.2022.0023. PMID:37001174. IF:5,200 (Q1/2D). Document type: Article.
  - Egeberg A, Kristensen LE, Puig L, Rich P, Smith SD, Garrelts A, See K, Holzkaemper T, Fotiou K, Schuster C. Network meta-analyses comparing the efficacy of biologic treatments for achieving complete resolution of nail psoriasis at 24-28 and 48-52 weeks. *JOURNAL OF DERMATOLOGICAL TREATMENT*. 2023; 34(1):2263108. DOI:10.1080/09546634.2023.2263108. PMID:37781881. IF:2,900 (Q2/4D). Document type: Article.
  - Egeberg A, Merola JF, Schäkel K, Puig L, Mahar PD, Wang IY, Pavo I, Schuster C, Griffiths CEM. Efficacy of ixekizumab in patients with moderate-to-severe plaque psoriasis and prediabetes or type 2 diabetes. *Frontiers in Medicine*. 2023; 9:1092688. DOI:10.3389/fmed.2022.1092688. PMID:36777159. IF:3,900 (Q2/4D). Document type: Article.
  - Escala A, Yelamos O, Vidal J, Fuster A, Catalina QM, Borve A, Aguilar R, Fusta X, Cubiro X, Rafat ME, López C, Marin FX. Exploring the potential of artificial intelligence in improving skin lesion diagnosis in primary care. *Scientific Reports*. 2023; 13(1):4293. DOI:10.1038/s41598-023-31340-1. PMID:36922556. IF:4,600 (Q2/4D). Document type: Article.
  - Eyerich K, Krueger J, Stahle M, Schakel K, Conrad C, Armstrong A, Gniadecki R, Puig L, Scoble T, Williams N. An international Delphi consensus to define a clinically appropriate definition of disease modification for plaque psoriasis. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; DOI:10.1111/jdv.19652. PMID:38071690. IF:9,200 (Q1/1D). Document type: Letter.
  - Falkenhain D, Muniesa C, Estrach MT, Morillo M, Penate Y, Acebo E, Pujol RM, García MP, Machan S, Medina S, Botella R, de Misa RF, Blanes M, Florez A, Perez G, Izu R, Yanguas I, Silva E, Perez A, Prieto L, Zayas A, Parera ME, Perez A, Aspe L,



## 5.1.6 Associated Groups

- Roman C, Sánchez MP, Bassas J, Dominguez JD, Calzado L, Navedo M, Ortiz A, Servitje O, Polo I, Torres I, Hernandez MN, Mitxelena J, García A, García I, Ortiz PL. Primary Cutaneous Lymphoma Registry of the Spanish Academy of Dermatology and Venereology (AEDV): Data for the First 5 Years. *Actas Dermo-Sifiliograficas*. 2023; 114(4) DOI:10.1016/j.ad.2022.11.013. PMID:36848951. Document type: Article.
- Fustà X, García A, Yélamos O. [Translated article] BAP1-inactivated Melanocytic Tumor: Dermoscopic Features to Aid Diagnosis [Tumor melanocítico inactivado a BAP1: claves para su diagnóstico dermatoscópico]. *Actas Dermo-Sifiliograficas*. 2023; 114(2) DOI:10.1016/j.ad.2022.11.008. PMID:36464005. Document type: Article.
  - Geat D, Gisondi P, Maurelli M, Puig L, Paul C, Thaci D, Iversen L, Bellinato F, Girolomoni G. Price variability of TNF- $\alpha$  inhibitor biosimilars among European countries. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; DOI:10.1111/jdv.19756. PMID:38108512. IF:9,200 (Q1/1D). Document type: Letter.
  - Gely C, Gordillo J, Bertolotti F, González C, López A, García E. Perception of the need for dietary advice and dietary modifications in inflammatory bowel disease patients. *Gastroenterología y Hepatología*. 2023; 46(5) DOI:10.1016/j.gastrohep.2022.10.005. PMID:36243252. IF:1,900 (Q4/10D). Document type: Article.
  - Girolomoni G, Savage L, Gisondi P, Svensson Å, Mahé E, Augustin M, Puig L. Increasing Access to Effective Systemic Treatments in Patients with Moderate-to-Severe Psoriasis: Narrative Review. *Dermatology and Therapy*. 2023; 13(10) DOI:10.1007/s13555-023-01014-x. PMID:37710078. IF:3,400 (Q2/3D). Document type: Review.
  - Gisondi P, Puig L, Richard MA, Paul C, Nijsten T, Taieb C, Stratigos A, Trakatelli M, Salavastru C, EADV Burden of Skin Diseases Project T. Quality of life and stigmatization in people with skin diseases in Europe: A large survey from the 'burden of skin diseases' EADV project. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; 37 Suppl 7 DOI:10.1111/jdv.18917. PMID:37806002. IF:9,200 (Q1/1D). Document type: Article.
  - Gisondi P, Simon D, Alarcon I, Pournara E, Puig L. Immune response to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) vaccination in patients receiving secukinumab: a literature review. *JOURNAL OF DERMATOLOGICAL TREATMENT*. 2023; 34(1):2167487. DOI:10.1080/09546634.2023.2167487. PMID:36625506. IF:2,900 (Q2/4D). Document type: Review.
  - Gonzalez A, Boehncke WH, De Sutter J, Zamorano JL, Lambert J, Puig L. Statins and psoriasis: Position statement by the Psoriasis Task Force of the European Society of Dermatology and Venereology. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; 37(9) DOI:10.1111/jdv.19191. PMID:37259959. IF:9,200 (Q1/1D). Document type: Article.
  - Gonzalez M, Puertolas T, Martinez C, Carrera C, Seral CM, Rodríguez P, Sequero S, Cerezuela P, Ochoa RF, Munoz E, Basa MA, Martin J, Soria A, Moreno JFR, Marquez I, Criado PL, Manzano JL, López R, De Miguel PA, Villalobos L, Algarra SM, Gonzalez I, Boada A, Castano AG, Puig S, Crespo G, Fra PL, Zamora CA, Rodríguez MF, Valles L, Drozdowskyj A, Gardeazabal J, Fernández LA, Rodrigo A, Cruz R, Yelamos O, Rubio B, Mujica K, Provencio M, Berrocal A, Spanish Melanoma GEM GRP. SARS-CoV-2 infection in patients with melanoma: results of the Spanish Melanoma Group registry. *Clinical & Translational Oncology*. 2023; 25(3) DOI:10.1007/s12094-022-02985-7. PMID:36566266. IF:3,400 (Q3/6D). Document type: Article.
  - Hernández CP, Borrego L, Mercader P, Giménez AM, Sánchez J, Silvestre JF, González R, Sanz T, Sánchez A, Melé G, Zaragoza V, Miquel FJ, Carrascosa JM, Córdoba S, Gatica ME, Ruiz I, Serra E, Tous F, Rodríguez M, Pastor MA, Pérez P, Hervella M, de Vega M, García I. Sensitization to isothiazolinones in the Spanish Contact Dermatitis Registry (REIDAC): 2019–2021 epidemiological situation. *CONTACT DERMATITIS*. 2023; 88(3) DOI:10.1111/cod.14251. PMID:36403138. IF:5,500 (Q1/1D). Document type: Article.
  - Iznardo H, Bernal S, Boronat S, Roé E. Sclerotic Bone Lesions as a Clue in the Diagnosis of Three



## 5.1.6 Associated Groups

- Generations of Tuberous Sclerosis Complex: Case Report and Review of Literature. *PEDIATRIC NEUROLOGY*. 2023; 148DOI:10.1016/j.pediatr-neurol.2023.07.022. PMID:37634327. IF:3,800 (Q1/2D). Document type: Article.
- Iznardo H, Roe E, Serra E, Puig L. Efficacy and Safety of JAK1 Inhibitor Abrocitinib in Atopic Dermatitis. *Pharmaceutics*. 2023; 15(2):385. DOI:10.3390/pharmaceutics15020385. PMID:36839707. IF:5,400 (Q1/2D). Document type: Review.
  - Kirkham BW, Egeberg A, Behrens F, Pinter A, Merola JF, Holzkaemper T, Gallo G, Ng KJ, Bolce R, Schuster C, Nash P, Puig L. A Comprehensive Review of Ixekizumab Efficacy in Nail Psoriasis from Clinical Trials for Moderate-to-Severe Psoriasis and Psoriatic Arthritis. *Rheumatology and Therapy*. 2023; 10(5)DOI:10.1007/s40744-023-00553-1. PMID:37400681. IF:3,800 (Q3/6D). Document type: Review.
  - Kokolakis G, Warren RB, Strober B, Blauvelt A, Puig L, Morita A, Gooderham M, Korber A, Vanvoorden V, Wang M, de Cuyper D, Madden C, Gomez NN, Lebwohl M. Bimekizumab efficacy and safety in patients with moderate-to-severe plaque psoriasis who switched from adalimumab, ustekinumab or secukinumab: results from phase III/IIIb trials. *BRITISH JOURNAL OF DERMATOLOGY*. 2023; 188(3)DOI:10.1093/bjd/ljac089. PMID:36751950. IF:10,300 (Q1/1D). Document type: Article.
  - Koren J, Lambert JLW, Thomsen SF, McAteer H, Fabbrocini G, Corazza V, Jullien D, Augustin M, Warren RB, de Rie MA, Lazaridou E, Puig L, Guillemin L, Grosser M, Boehncke WH. Elevating the Standard of Care for Patients with Psoriasis: 'Calls to Action' from Epicensus, a Multistakeholder Pan-European Initiative. *Dermatology and Therapy*. 2023; 13(1)DOI:10.1007/s13555-022-00846-3. PMID:36484915. IF:3,400 (Q2/3D). Document type: Article.
  - Kwatra SG, Yosipovitch G, Legat FJ, Reich A, Paul C, Simon D, Naldi L, Lynde C, De Bruin MS, Nahm WK, Sauder M, Gharib R, Barbarot S, Szepietowski JC, Conrad C, Fleischer A, Laquer VT, Misery L, Serra E, Lapeere H, Ahmad F, López ZKJ, Picketty C, Ständer S, OLYMPIA 2. Phase 3 Trial of Nemolizumab in Patients with Prurigo Nodularis. *NEW ENGLAND JOURNAL OF MEDICINE*. 2023; 389(17)DOI:10.1056/NEJMoa2301333. PMID:37888917. IF:158,500 (Q1/1D). Document type: Article.
  - Langenbruch A, Mohr N, Andrees V, Kessens I, Reich A, Czarnecka M, Puig L, Dauden E, Iversen L, Augustin M. PsoBarrier EU study: a Multicentre, Cross-sectional Survey Investigating the Quality of Psoriasis Care in Four European Countries. *ACTA DERMATO-VENEREOLOGICA*. 2023; 103:adv6532. DOI:10.2340/actadv.v103.6532. PMID:37649411. IF:3,600 (Q1/3D). Document type: Article.
  - Longo C, Lippolis N, Lai M, Spadafora M, Kaleci S, Condorelli AG, Lombardi M, Pampena R, Argenziano G, Nazzaro G, Scalvenzi M, Akay BN, Broganelli P, Fargnoli MC, Paoli J, Yélamos O, Pellacani G, Borsari S, Lallas A. Dermoscopic features of trichoepithelioma: A multicentre observational case-control study conducted by the International Dermoscopy Society. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; 37(10):e1253-e1255. DOI:10.1111/jdv.19262. PMID:37326166. IF:9,200 (Q1/1D). Document type: Letter.
  - Lynde C, Riedl E, Maul JT, Torres T, Pinter A, Fabbrocini G, Daniele F, Brnabic A, Reed C, Wilhelm S, Holzkamper T, Schuster C, Puig L. Comparative Effectiveness of Biologics Across Subgroups of Patients with Moderate-to-Severe Plaque Psoriasis: Results at Week 12 from the PSoHO Study in a Real-World Setting. *ADVANCES IN THERAPY*. 2023; 40(3)DOI:10.1007/s12325-022-02379-9. PMID:36515803. IF:3,800 (Q2/4D). Document type: Article.
  - Maravilla P, Merino M, Alfonso S, Balea J, Carrascosa JM, Delgado O, Dolz F, García A, Herranz P, Manfredi A, Martínez J, Morales de los Ríos Luna P, Puig L, Ros S, Hidalgo Á. The social value of a PASI 90 or PASI 100 response in patients with moderate-to-severe plaque psoriasis in Spain. *Frontiers in Public Health*. 2023; 11:1000776. DOI:10.3389/fpubh.2023.1000776. PMID:36778548. IF:5,200 (Q1/2D). Document type: Article.



## 5.1.6 Associated Groups

- Marti I, Podlipnik S, Cañueto J, Ferrándiz C, Deza G, Sanmartín O, Jaka A, Beà S, Botella R, Redondo P, Turrión L, Ruiz V, Masferrer E, Yébenes M, Sánchez J-M, Gracia I, Altemir A, Aguayo RS, Becerril S, Bodet D, Leal L, Fuente MJ, Moreno OM, Abril C, Tomás A, Sandoval A, Toll A. Prognostic factors for satellitosis or in-transit metastasis in cutaneous squamous cell carcinoma: A multicentric cohort study. *JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY*. 2023; 89(1) DOI:10.1016/j.jaad.2023.02.048. PMID:36907554. IF:13,800 (Q1/1D). Document type: Article.
- Martos L, Llamas M, Armesto S, Herrera E, Vidal D, Vilarrasa E, Rivera R, de la Cueva P, Martorell A, Ballesca F, Belinchon I, Carretero G, Rodríguez L, Romero A, Pujol J, Salgado L, Sahuquillo A, Coto P, BaniAndrés O, Feltes R, Alsina M, Dauden E. High adherence to secukinumab in patients with moderate to severe psoriasis: a long-term multicenter study in a daily practice setting. *INTERNATIONAL JOURNAL OF DERMATOLOGY*. 2023; 62(3):e146-e149. DOI:10.1111/ijd.16365. PMID:35867958. IF:3,600 (Q1/3D). Document type: Letter.
- Mateu L, Puig L. Genetic and Epigenetic Mechanisms of Psoriasis. *Genes*. 2023; 14(8):1619. DOI:10.3390/genes14081619. PMID:37628670. IF:3,500 (Q2/4D). Document type: Review.
- Mateu L, Rusinol L, Puig L. Reddish and edematous nodules in an immunosuppressed patient. *INTERNATIONAL JOURNAL OF DERMATOLOGY*. 2023; 62(7)DOI:10.1111/ijd.16512. PMID:36371702. IF:3,600 (Q1/3D). Document type: Note.
- Montero T, Garces JR, Rodríguez MA, Ruiz V, de Eusebio E, Minano R, Escutia B, Gonzalez B, Artola JL, Alfaro A, Redondo P, Delgado Y, Sánchez JM, Allende I, Alonso ML, García B, de la Cueva P, Navarro R, Ciudad C, Carnero L, Vazquez H, Cano N, Vilarrasa E, Sánchez P, López JL, Botella R, Feal JC, Martorell A, Gil P, Morales V, Toll A, Ocerin I, Mayor M, Suarez R, Sainz L, Descalzo MA, García I, Sanmartin O, REGESMOHS E. Development and validation of a model to predict complex Mohs micrographic surgery in clinical practice: REGESMOSH scale. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; 37(8)DOI:10.1111/jdv.19056. PMID:36950898. IF:9,200 (Q1/1D). Document type: Article.
- Moreno OM, Bea S, Mayo F, Perez G, Torres I, Bonfill M, Deza G, Ruiz V, Masferrer E, Feal C, Turrión L, Toll A, Yébenes M, Galiano S, Jaka A, Ferrandiz C, Florez A, Hernandez N, Fernández R, Rios L, Sanmartin O. Sonidegib as a Locally Advanced Basal Cell Carcinoma Therapy in Real-life Clinical Setting: A National Multicentre Study. *Actas Dermo-Sifiliograficas*. 2023; 114(7):T565-T571. DOI:10.1016/j.ad.2023.06.011. PMID:37302483. Document type: Article.
- Muniesa C, Gallardo F, García I, Estrach MT, Combalia A, Morillo M, De la Cruz F, Machan S, Moya C, Rovira R, Sánchez B, Acebo E, Amutio E, Penate Y, Losada MD, García MP, Iznardo H, Román C, Canueto J, Fernández R, Flórez Á, Izu RM, Torres I, Zayas A, Pérez G, Blanes M, Yanguas JI, Pérez A, Callejas M, Ortiz PL, Pérez A, Prieto L, González E, Servitje O. Brentuximab vedotin in the treatment of cutaneous T-cell lymphomas: Data from the Spanish Primary Cutaneous Lymphoma Registry. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; 37(1)DOI:10.1111/jdv.18563. PMID:36017748. IF:9,200 (Q1/1D). Document type: Article.
- Navarro A, Gracia T, Almagro M, De la Fuente S, Florez Á, Yélamos O, Montero T, González C, Diago A, Abadías I, Fuentelsaz V, Colmenero M, Banuls J, Arias S, Buendía A, Almenara M, Gil P, Gilaberte Y. A multicenter case-control study comparing sun exposure habits and use of photoprotection measures in patients diagnosed with different types of skin cancer. *PHOTODERMATOLOGY PHOTOIMMUNOLOGY & PHOTOMEDICINE*. 2023; 39(5)DOI:10.1111/phpp.12878. PMID:37130164. IF:2,600 (Q2/5D). Document type: Article.
- Navarro A, Gracia T, Almagro M, de la Fuente S, Flórez A, Yélamos O, Montero T, González C, Diago A, Abadías I, Fuentelsaz V, Colmenero M, Bañuls J, Arias S, Buendía A, Almenara M, Gil P, Gilaberte Y. The Influence of the Exposome in the Cutaneous Squamous Cell Carcinoma, a Multicenter Case-Control Study. *Cancers*. 2023; 15(22):5376. DOI:10.3390/cancers15225376. PMID:38001636. IF:5,200 (Q2/3D). Document type: Article.
- Navarro V, Puig L, Vidal S, Ramírez J, Llamas M, Fernández C, Almodóvar R, Pinto JA, Galíndez E,



## 5.1.6 Associated Groups

- Zarco P, Joven B, Gratacós J, Juanola X, Blanco R, Arias S, Sanz J, Queiro R, Canete JD. The paradigm of IL-23-independent production of IL-17F and IL-17A and their role in chronic inflammatory diseases. *Frontiers in Immunology*. 2023; 14:1191782. DOI:10.3389/fimmu.2023.1191782. PMID:37600764. IF:7,300 (Q1/3D). Document type: Review.
- Oliveira A, Augustin S, Benlloch S, Ampuero J, Suárez JA, Armesto S, Vilarrasa E, Belinchón I, Herranz P, Crespo J, Guimerá F, Gómez L, Martín V, Carrascosa JM. The Essential Role of IL-17 as the Pathogenetic Link between Psoriasis and Metabolic-Associated Fatty Liver Disease. *Life-Basel*. 2023; 13(2):419. DOI:10.3390/life13020419. PMID:36836776. IF:3,200 (Q2/4D). Document type: Review.
  - Papp KA, Blauvelt A, Puig L, Ohtsuki M, Beissert S, Gooderham M, Amin AZ, Liu J, Wu T, Azam T, Stakias V, Espallat R, Sinvhal R, Soliman AM, Pang Y, Chen MM, Lebwohl MG. Long-term safety and efficacy of risankizumab for the treatment of moderate-to-severe plaque psoriasis: Interim analysis of the LIMMitless open-label extension trial up to 5 years of follow-up. *JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY*. 2023; 89(6) DOI:10.1016/j.jaad.2023.07.1024. PMID:37553030. IF:13,800 (Q1/1D). Document type: Article.
  - Pereira MP, Weisshaar E, Halvorsen JA, Wallengren J, Legat FJ, Garcovich S, Savk E, Reich A, Bozek A, Lvov A, Bobko S, Metz M, Streit M, Misery L, Brenaut E, Serra E, Gonçalo M, Szepietowski JC, Augustin M, Nau T, Zeidler C, Ständer S. Chronic prurigo: Insufficient disease control in spite of high healthcare usage. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; 37(6):e808-e812. DOI:10.1111/jdv.18903. PMID:36682045. IF:9,200 (Q1/1D). Document type: Letter.
  - Pereyra JJ, Baldrich ES, Ruiz R, Torres EB, Dobao PD, Nart IF, Menéndez AF, Martín A, Miquel JM, Silvestre JF, Armario JC. Clinical Approach to Patients with Moderate-to-Severe Atopic Dermatitis: A Spanish Delphi Consensus. *ACTA DERMATO-VENEREOLOGICA*. 2023; 103:adv12314. DOI:10.2340/actadv.v103.12314. PMID:37982727. IF:3,600 (Q1/3D). Document type: Article.
  - Pereyra JJ, Herranz P, Figueras I, Perez B, Elosua M, Munera M, Melgosa J, Zaragoza V, Silvestre JF, Campos M, Guilabert A, Miquel J, Alcantara S, de la Cueva P, Serra E, Armario JC. Treatment of Severe Atopic Dermatitis With Upadacitinib in Clinical Practice: Short-Term Efficacy and Safety Results. *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY*. 2023; 33(3)DOI:10.18176/jiaci.0831. PMID:35671128. IF:7,200 (Q1/2D). Document type: Note.
  - Pereyra J-J, Herranz P, Ruiz R, Elosua M, Galán M, Figueras I, Miquel J, de la Cueva P, Serra E, Munera M, Melé G, Expósito V, Perez B, Serrano A, Ortiz de Frutos JF, Armario JC. Treatment of severe atopic dermatitis with tralokinumab in clinical practice: short-term effectiveness and safety results. *CLINICAL AND EXPERIMENTAL DERMATOLOGY*. 2023; 48(9)DOI:10.1093/ced/llad153. PMID:37098171. IF:4,100 (Q1/2D). Document type: Article.
  - Pereyra JJ, Poveda JL, Rivero A, Serra E, Silvestre JF, Armario JC, Calleja MÁ, Carrascosa JM, Flórez Á, Herranz P, Comellas M, Ortiz de Frutos FJ. Assessing the value of moderate-to-severe atopic dermatitis treatment using multi-criteria decision analysis (MCDA). *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; DOI:10.1111/jdv.19432. PMID:37594914. IF:9,200 (Q1/1D). Document type: Letter.
  - Puig L, Choon SE, Gottlieb AB, Marrakchi S, Prinz JC, Romiti R, Tada Y, von D, Gooderham M. Generalized pustular psoriasis: A global Delphi consensus on clinical course, diagnosis, treatment goals and disease management. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; 37(4)DOI:10.1111/jdv.18851. PMID:36606566. IF:9,200 (Q1/1D). Document type: Article.
  - Puig L, Costanzo A, de Jong E, Torres T, Warren RB, Wapenaar R, Wegner S, Gorecki P, Gramiccia T, Jazra M, Buyze J, Conrad C. Guselkumab-Treated Patients with Plaque Psoriasis Who Achieved Complete Skin Clearance for = 156 Consecutive Weeks: A Post-Hoc Analysis From the VOYAGE 1 Clinical Trial. *AMERICAN JOURNAL OF CLINICAL DERMATOLOGY*. 2023; DOI:10.1007/s40257-



## 5.1.6 Associated Groups

- 023-00816-1. PMID:37804472. IF:7,300 (Q1/1D). Document type: Article.
- Puig L, Daudén E, Cuervas M, Novella C, Guisado C. Persistence and effectiveness of guselkumab treatment in patients with moderate-to-severe plaque psoriasis in a non-interventional real-world setting: The SPRING study. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; DOI:10.1111/jdv.19403. PMID:37567861. IF:9,200 (Q1/1D). Document type: Article.
  - Puig L. Psoriasis treatment does not impair the immunogenicity of ChAOx1-S[recombinant] COVID-19 vaccination. *BRITISH JOURNAL OF DERMATOLOGY*. 2023; 188(2):ljac081. DOI:10.1093/bjd/ljac081. PMID:36763894. IF:10,300 (Q1/1D). Document type: Editorial Material.
  - Puig L. Race, Ethnicity, and Ancestry: A Short Review and Proposal for Consistent Classifications in Dermatology. *Actas Dermo-Sifiliograficas*. 2023; 114(10)DOI:10.1016/j.ad.2023.07.013. PMID:37482290. Document type: Letter.
  - Quirke S, Weinman J, Cook ES, Yiu ZZN, Dand N, Langan SM, Bechman K, Tsakok T, Mason KJ, McAteer H, Meynell F, Coker B, Vincent A, Urmston D, Vesty A, Kelly J, Lancelot C, Moorhead L, Barbosa IA, Bachelez H, Capon F, Contreras CR, De La Cruz C, Di P, Gisondi P, Jullien D, Lambert J, Naldi L, Puig L, Spuls P, Torres T, Warren RB, Waweru H, Galloway JB, Griffiths C, Barker JN, Norton S, Smith CH, Mahil SK, PsoProtect GRP. Nonadherence to systemic immune-modifying therapy in people with psoriasis during the COVID-19 pandemic: findings from a global cross-sectional survey. *BRITISH JOURNAL OF DERMATOLOGY*. 2023; 188(5)DOI:10.1093/bjd/ljac144. PMID:36763806. IF:10,300 (Q1/1D). Document type: Article.
  - Richard MA, Paul C, Nijsten T, Gisondi P, Salavastru C, Taieb C, Stratigos A, Trakatelli M, Puig L, EADV Burden of Skin Diseases Project T. The journey of patients with skin diseases from the first consultation to the diagnosis in a representative sample of the European general population from the EADV burden of skin diseases study. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; 37 Suppl 7DOI:10.1111/jdv.18916. PMID:37806003. IF:9,200 (Q1/1D). Document type: Article.
  - Richard MA, Wolkenstein P, Paul C, Nijsten T, Gisondi P, Salavastru C, Taieb C, Trakatelli M, Puig L, Stratigos A, EADV burden of skin diseases project T. Ethnicity and skin conditions in Europe: a large survey from the "Burden of Skin Diseases" EADV project. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; 37(11)DOI:10.1111/jdv.18994. PMID:36840384. IF:9,200 (Q1/1D). Document type: Letter.
  - Rivera R, Dauden E, Carrascosa JM, de la Cueva P, Puig L. Generalized Pustular Psoriasis: A Review on Clinical Characteristics, Diagnosis, and Treatment. *Dermatology and Therapy*. 2023; 13(3)DOI:10.1007/s13555-022-00881-0. PMID:36635445. IF:3,400 (Q2/3D). Document type: Review.
  - Rivera R, Pozo T, Alfageme F, Díaz B, Osorio GF, Chico R, Vilarrasa E, Silvente C, Ciudad C, Romaní J, Martorell A, Fernández P, Romero C, Molina A. The Effectiveness of Guselkumab in Patients With Hidradenitis Suppurativa Under Clinical Practice Conditions: A Spanish Multicentre Retrospective Study. *Actas Dermo-Sifiliograficas*. 2023; 114(9):T755-T762. DOI:10.1016/j.ad.2023.06.018. PMID:37479135. Document type: Article.
  - Ruiz R, Galán M, Llamas M, Salgado L, Puig L, de la Cueva P, Carrascosa JM, en representación (GPS). Updated Position of the Spanish Psoriasis Group (GPs) on the Use of Biosimilar Drugs in Moderate to Severe Psoriasis. *Actas Dermo-Sifiliograficas*. 2023; 114(6)DOI:10.1016/j.ad.2023.02.016. PMID:36906260. Document type: Article.
  - Ruiz V, Podlipnik S, Sandoval A, Sanmartin O, Bernia E, Bonfill M, Bassas P, Yebenes M, Florez A, Sola J, Just M, Aguayo RS, Niubo E, Quintana M, Deza G, Jaka A, Fuentes MJ, Canueto J, Toll A. Real-world experience with vismodegib on advanced and multiple BCCs: data from the RELIVIS study. *DERMATOLOGY*. 2023; 239(5) DOI:10.1159/000530813. PMID:37257423. IF:3,400 (Q2/3D). Document type: Article.





## 5.1.6 Associated Groups

- Rusinol L, Carmona E, Puig L. Durability and long-term outcomes of biologic therapies in psoriasis. *Expert Review of Clinical Immunology*. 2023; 20(1):2250918. DOI:10.1080/1744666X.2023.2250918. PMID:37610817. IF:4,400 (Q2/5D). Document type: Review.
- Rusinol L, Carmona E, Puig L. Psoriasis: a focus on upcoming oral formulations. *EXPERT OPINION ON INVESTIGATIONAL DRUGS*. 2023; 32(7)DOI:10.1080/13543784.2023.2242767 . PMID:37507233. IF:6,100 (Q1/2D). Document type: Review.
- Rusinol L, Carmona E, Spertino J. Bullous eruption in a pluripathological patient. *INTERNATIONAL JOURNAL OF DERMATOLOGY*. 2023; 62(5):e312-e313. DOI:10.1111/ijd.16590. PMID:36683133. IF:3,600 (Q1/3D). Document type: Letter.
- Rusiñol L, Mozos A, Yélamos O. Disseminated Monomorphic Pink Papules. *JAMA Dermatology*. 2023; 159(12)DOI:10.1001/jamadermatol.2023.3586. PMID:37938840. IF:10,900 (Q1/1D). Document type: Editorial Material.
- Rusinol L, Puig L. Tyk2 Targeting in Immune-Mediated Inflammatory Diseases. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(4):3391. DOI:10.3390/ijms24043391. PMID:36834806. IF:5,600 (Q1/3D). Document type: Review.
- Ryan C, Puig L, Zema C, Thompson EH, Yang M, Wu E, Bensimon A, Huang X, Joshi AD, Elewski B. The impact of achieving and maintaining near-complete or complete skin clearance on patient quality of life in moderate-to-severe psoriasis. *JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY*. 2023; 88(1)DOI:10.1016/j.jaad.2021.12.032. PMID:34954285. IF:13,800 (Q1/1D). Document type: Article.
- Sahuquillo A, Hospital M, Vilarrasa E, Llamas M, Rivera R, Carrascosa JM, de la Cueva P, Armesto S, Ruíz R, Velasco M, Magdaleno J, Yanguas JI, Ribera M, Salgado L, Herranz P, Romero A, Martínez E, López JL, Ballecá F, Botella R. Effectiveness and safety of brodalumab in the treatment of plaque, scalp and palmoplantar psoriasis: A multicentre retrospective study in a Spanish population. *AUSTRALASIAN JOURNAL OF DERMATOLOGY*. 2023; DOI:10.1111/ajd.14130. PMID:37435962. IF:2,000 (Q3/7D). Document type: Article.
- Sánchez G, Puig L. Pathogenic Role of IL-17 and Therapeutic Targeting of IL-17F in Psoriatic Arthritis and Spondyloarthropathies. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(12):10305. DOI:10.3390/ijms241210305. PMID:37373452. IF:5,600 (Q1/3D). Document type: Review.
- Sans L, Figueras I, García I, Bonfill M, Guilabert A, Curto L, Bertolín M, Ferran M, Serra E, Pujol RM, Santamaria LF. Allergen sensitization stratifies IL-31 production by memory T cells in atopic dermatitis patients. *Frontiers in Immunology*. 2023; 14:1124018. DOI:10.3389/fimmu.2023.1124018. PMID:36993985. IF:7,300 (Q1/3D). Document type: Article.
- Sanz T, Giménez AM, Mercader P, Perez RG, Zaragoza V, Miquel J, Silvestre JF, Córdoba S, Carrascosa JM, Gática ME, Ruíz I, Tous F, Ortiz FJ, Serra E, Pastor A, Rodríguez M, Sánchez J, Gilo AS, Melé G, Guillén PSP, García I, Borrego L. Sodium metabisulfite a current low relevant allergen in Spain. *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY*. 2023; DOI:10.1111/jdv.19702. PMID:38088580. IF:9,200 (Q1/1D). Document type: Letter.
- Schneller L, Vergara E, Martorell A, Romaní J, Lázaro M, Vilarrasa E, Díaz B, Vázquez I, Segura JM, Azaña JM, González MA, Cañueto J, Molina A, Leiva M, Navarro FJ, Sánchez J, Pascual JC. Reply to: "Comment on 'Interruption of oral clindamycin plus rifampicin therapy in patients with hidradenitis suppurativa: An observational study to assess prevalence and causes'". *JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY*. 2023; 88(5):e271-e272. DOI:10.1016/j.jaad.2019.03.006. PMID:30872153. IF:13,800 (Q1/1D). Document type: Letter.
- Segura S, Podlipnik S, Boada A, Martí RM, Sabat M, Yélamos O, Zarzoso I, Azón A, López D, Solà J, Baliu C, Galvany L, Pasquali P, Just M, Duran X, Carrera C, Richarz NA, Pujol RM, Malvey J, Puig S, Network of Melanoma Centres of C. Melanoma-specific survival in worse in the elderly: a multicentric cohort study. *MELA-*



## 5.1.6 Associated Groups

- NOMA RESEARCH. 2023; 33(6)DOI:10.1097/CMR.0000000000000923. PMID:37696262. IF:2,200 (Q3/7D). Document type: Article.
- Simpson EL, Pink AE, Blauvelt A, Gooderham M, Armstrong AW, Worm M, Katoh N, Peris K, Puig L, Barbarot S, Mark T, Steffensen LA, Tindberg A-M, Wollenberg A. Tralokinumab Efficacy Over 1 Year in Adults with Moderate-to-Severe Atopic Dermatitis: Pooled Data from Two Phase III Trials. AMERICAN JOURNAL OF CLINICAL DERMATOLOGY. 2023; 24(6)DOI:10.1007/s40257-023-00806-3. PMID:37682422. IF:7,300 (Q1/1D). Document type: Article.
  - Strober B, Paul C, Blauvelt A, Thaçi D, Puig L, Lebwohl M, White K, Vanvoorden V, Deherder D, Gomez NN, Eyerich K. Bimekizumab efficacy and safety in patients with moderate to severe plaque psoriasis: Two-year interim results from the open-label extension of the randomized BE RADIANT phase 3b trial. JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY. 2023; 89(3)DOI:10.1016/j.jaad.2023.04.063. PMID:37182701. IF:13,800 (Q1/1D). Document type: Article.
  - Taleb E, Yélamos O, Ardigo M, Christensen RE, Geller S. Non-invasive Skin Imaging in Cutaneous Lymphomas. AMERICAN JOURNAL OF CLINICAL DERMATOLOGY. 2023; DOI:10.1007/s40257-023-00824-1. PMID:37964050. IF:7,300 (Q1/1D). Document type: Review.
  - Tous F, Gimenez AM, Sanz T, Perez RG, Carrascolosa JM, Zaragoza V, Cordoba S, Gatica ME, Miquel J, Borrego L, Ruiz I, Serra E, Silvester JF, Mercader P, Sánchez J, Rodríguez M, Pastor A, Hervella M, García I, Ortiz FJ. Allergic contact dermatitis to alkyl glucosides: Epidemiological situation in Spain. JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY. 2023; 37(3)DOI:10.1111/jdv.18595. PMID:36153692. IF:9,200 (Q1/1D). Document type: Letter.
  - Van KR, Tzellos T, Alavi A, Benhadou F, Cuenca C, Daxhelet M, Daoud M, Efthymiou O, Giamarellos EJ, Guillem P, Gulliver W, Jemec GBE, Katoulis A, Koenig A, Lazaridou E, Lowes MA, Marzano AV, Matusiak L, Molina A, Moltrasio C, Pinter A, Potenza C, Prens EP, Romaní J, Saunte DM, Sayed C, Skroza N, Stergianou D, Szepietowski JC, Trigoni A, Vilarrasa E, Kyrgidis A, Zouboulis CC, Van Der Zee HH. External Validation of the IHS4-55 in a European Antibiotic-Treated Hidradenitis Suppurativa Cohort. DERMATOLOGY. 2023; 239(3)DOI:10.1159/000528968. PMID:36630943. IF:3,400 (Q2/3D). Document type: Article.
  - Wollenberg A, Kinberger M, Arents B, Aszodi N, Barbarot S, Bieber T, Brough HA, Pinton PC, Christen S, Deleuran M, Dittmann M, Fosse N, Gáspár K, Gerbens L, Gieler U, Girolomoni G, Gregoriou S, Mortz CG, Nast A, Nygaard U, Reh binder EM, Ring J, Rossi M, Roxburgh C, Serra E, Simon D, Szalai ZZ, Szepietowski JC, Torrelo A, Werfel T, Flohr C. First update of the living European guideline (EuroGuiDerm) on atopic eczema. JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY. 2023; 37(11):e1283-e1287. DOI:10.1111/jdv.19269. PMID:37328919. IF:9,200 (Q1/1D). Document type: Letter.
  - Yélamos O, Andersen D, Pont M, Iglesias P, Potrony M, Domínguez M, Herrero A, Alejo B, Mateu J, Røpke M, Danneskiold NB, Malvey J, Guy RH, Brix S, Puig S. Development and validation of a minimally invasive and image-guided tape stripping method to sample atopic skin in children. CLINICAL AND EXPERIMENTAL DERMATOLOGY. 2023; 48(2)DOI:10.1093/ced/llac040. PMID:36730521. IF:4,100 (Q1/2D). Document type: Article.
  - Yélamos O, Geller S, Tokez S. Skin cancer special issue in Skin Health and Disease. Skin Health And Disease. 2023; 3(2):e224. DOI:10.1002/ski2.224. PMID:37013119. Document type: Editorial Material.
  - Yosipovitch G, Lio PA, Rosmarin D, Serra E, Legat FJ, Casillas M, Pierce E, Liu ZQ, Sun LN, Elmaraghy H, Ständer S. <show/>Lebrikizumab improved itch and reduced the extent of itch interference on sleep in patients with moderate-to-severe atopic dermatitis: two randomized, placebo-controlled, phase III trials<show/>. BRITISH JOURNAL OF DERMATOLOGY. 2023; DOI:10.1093/bjd/ljad435. PMID:37939793. IF:10,300 (Q1/1D). Document type: Letter.
  - Zabotti A, De Marco G, Gosset L, Baraliakos X, Aletaha D, Iagnocco A, Gisondi P, Balint PV, Bertheussen H, Boehncke WH, Damjanov NS, de



## 5.1.6 Associated Groups

Wit M, Errichetti E, Marzo H, Protopopov M, Puig L, Queiro R, Ruscitti P, Savage L, Schett G, Siebert S, Stamm TA, Studenic P, Tinazzi I, Van den Bosch FE, van der Helm A, Watad A, Smolen JS, McGonagle DG. EULAR points to consider for the definition of clinical and imaging features suspicious for progression from psoriasis to psoriatic arthritis. *ANNALS OF THE RHEUMATIC DISEASES*. 2023; 82(9)DOI:10.1136/ard-2023-224148. PMID:37295926. IF:27,400 (Q1/1D). Document type: Article.

- Zuberbier T, Abdul A, Aggelidis X, Augustin M, Balan RG, Bangert C, Beck L, Bieber T, Bernstein JA, Bertolin M, Berardi A, Bedbrook A, Bindlev C, Bousquet J, de Bruin M, Bruscky D, Buyuktiryaki B, Canonica GW, Castro C, Chanturidze N, Chong HJ, Chu CY, Chularojanamontri L, Cork M, Criado RFJ, Barredo LC, Custovic A, Darsow U, Emurlai A, de Pablo A, Del Giacco S, Girolomoni G, Deleva T, Deleuran M, Douladiris N, Duarte B, Dubakiene R, Eller E, Engel B, Ensina LF, Filho NR, Flohr C, Fomina D, Francuzik W, Galimberti ML, Giménez AM, Godse K, Mortz CG, Gotua M, Hide M, Hoetzenecker W, Hunzelmann N, Irvine A, Jack C, Kanavarou I, Katoh N, Kinaciyan T, Kocaturk E, Kulthanan K, Lapeere H, Lau S, Machado Forti Natri M, Makris M, Mansour E, Marsland A, Morelo Rocha Felix M, Moschione AP, Nettis E, Nicolas JF, Nosbaum A, Odemyr M, Papapostolou N, Parisi C, Paudel S, Peter J, Pokharel P, Puig L, Quint T, Ramon GD, Regateiro F, Ricci G, Rosario C, Sackesen C, Schmid P, Serra E, Siemens K, Smith C, Staubach P, Stevanovic K, Su Ö, Sussman G, Tavecchio S, Teovska N, Thaci D, Toubi E, Traidl C, Treudler R, Vadasz Z, van I, Ventura MT, Wang Z, Werfel T, Wollenberg A, Yang A, Weng Y, Zhao Z, Zwiener R, Worm M. A concept for integrated care pathways for atopic dermatitis-A GA(2) LEN ADCARE initiative. *Clinical and Translational Allergy*. 2023; 13(9):e12299. DOI:10.1002/ctt2.12299. PMID:37746794. IF:4,400 (Q2/5D). Document type: Review.

## 5.1.6 Associated Groups

## Anaesthesiology

### Group leader

Paniagua Iglesias, Pilar (FGS)

### Researchers

Argilaga Nogues, Marta (FGS)  
 Azparren Cabezón, Gonzalo (FGS)  
 Bainac Albadalejo, Albert Lluís (FGS)  
 Barbero Espinosa, Silvia (FGS)  
 Batalla Gonzalez, Astrid Maria (FGS)  
 Bericat Melero, Paula (FGS)  
 Bueno Izquierdo, Ana (FGS)  
 Cegarra Sanmartín, Virginia (FGS)  
 Cueva Castro, Luisa Fernanda (FGS)  
 De La Torre Weinreiter, Mariano Raul (FGS)  
 Felipe Correoso, Maria Mar (FGS)  
 Fonseca Pinto, Teresa (FGS)  
 Font Gual, Adria (FGS)  
 García Alvarez, Maria Mercedes (FGS)  
 García Rodríguez, Alejandro (FGS)  
 Gil Sánchez, José Maria (FGS)  
 Gine Servén, Marta (FGS)  
 Gomez Caro, Ana Maria (FGS)  
 Gonzalez Fernández, Joaquin (FGS)  
 Gracia Tomas, Roger (FGS)  
 Guadalupe Fernández, Nerea (FGS)  
 Gutierrez Marques, Alejandro (FGS)  
 Hermenegildo Chavez, Gisela Myrella (FGS)  
 Herranz Perez, Gracia (FGS)  
 Hinojal Blanco, Ignacio (FGS)  
 India Aldana, Inmaculada (FGS)  
 Koller, Tobias Bernhard (FGS)  
 Maestre Hittinger, Maria Luz (FGS)  
 Martín Navarro, Manuel (FGS)  
 Martínez García, Clara (FGS)  
 Merten, Alfredo R. (FGS)  
 Millán Moreno, Irina (FGS)  
 Miralles Bagan, Jordi (FGS)  
 Moreno Bueno, Marisa (FGS)  
 Nuñez Sacristán, Sergio (FGS)  
 Pardo Pinzon, Laura Andrea (FGS)  
 Parrilla Quiles, Laura (FGS)  
 Paz Martín, Adriano (FGS)  
 Pérez García, Sergio (FGS)  
 Rivilla Lizano, M. Teresa (FGS)  
 Rodríguez Prieto, Mireia (FGS)  
 Sabate Tenas, Sergi (FGS)  
 Sneyers Closa, Marijke (FGS)  
 Solans Duran, Jose Ramon (FGS)  
 Toral Fernández, Diego (FGS)  
 Villamizar Avendaño, Angelica (FGS)



### DESCRIPTION

Different members of the Anesthesiology department actively collaborate in the international line of research in Perioperative Medicine led by Dr. PJ Devereaux of the Population Health Research Institute (PHRI) - McMaster University (Hamilton, Canada), some of them acting as local principal investigator of numerous international research projects (POISE-1, POISE-2, VISION, VISION Cardiac Surgery, MANAGE, POISE-3). The Anesthesiology department has also contributed to European multicentre studies such as EUSOS or POSE focused on peri interventional outcomes in the elderly population.

Other field of research in our group is about mechanical ventilation approach: iPROVE studies.

### DOCTORAL THESES DEFENDED

- Anaya Camacho, Rafael. Optimización del tiempo de espera para la cirugía, en pacientes con fractura proximal de fémur y en tratamiento crónico con antiagregantes plaquetarios, de manera individualizada guiada por métodos de medición de agregabilidad plaquetaria. 14/06/2023. Universitat Autònoma de Barcelona. Supervisors: Martínez Zapata, Maria José; Rodríguez Prieto, Mireia; León Vintró, Xavier. <http://hdl.handle.net/10803/690738>.
- Beltrán de Heredia Marrodán, Sandra. Complicacions cardiovasculars i cerebrovasculars i mortalitat en pacients amb lesió miocàrdica perioperatòria (MINS) tractats amb aspirina i estatinas: estudi prospectiu observacional. 23/01/2023. Universitat Autònoma de Barcelona. Supervisors:



## 5.1.6 Associated Groups

- Sabaté Tenas, Sergi; Gallart Gallego, Lluís. <http://hdl.handle.net/10803/688680>.
- Koller, Tobias Bernhard. Bleeding associated coagulopathy: new treatment strategies based on coagulation factor concentrates. 27/01/2023. Universitat Autònoma de Barcelona. Supervisors: Diaz Ricart, M. Isabel; Paniagua Iglesias, Pilar; León i Vintró, Xavier. <http://hdl.handle.net/10803/688676>.
  - Llau JV, Aldecoa C, Guasch E, Marco P, Marcos P, Paniagua P, Páramo JA, Quintana M, Rodríguez FJ, Serrano A. Multidisciplinary consensus document on the management of massive haemorrhage. First update 2023 (document HEMOMAS-II). *Revista Española De Anestesiología Y Reanimación*. 2023; 70(7)DOI:10.1016/j.redare.2023.08.001. PMID:37640281. Document type: Article.
  - Llau JV, Aldecoa C, Guasch E, Marco P, Marcos P, Paniagua P, Páramo JA, Quintana M, Rodríguez FJ, Serrano A. Multidisciplinary consensus document on the management of massive haemorrhage. First update 2023 (document HEMOMAS-II). *Medicina Intensiva*. 2023; 47(8)DOI:10.1016/j.medin.2023.03.007. IF:3,000 (Q3/7D). Document type: Article.

## SCIENTIFIC PRODUCTION

- Álvarez J, Popova E, Vives M, de Nadal M, Ordonez J, Rivas M, Moustafa A-H, Solé E, Paniagua P, García X, Viladés D, Leta R, Oristrell G, Zamora J, Ferreira I, Alonso P, Carreras F. Myocardial injury after major non-cardiac surgery evaluated with advanced cardiac imaging: a pilot study. *BMC Cardiovascular Disorders*. 2023; 23(1):78. DOI:10.1186/s12872-023-03065-6. PMID:36765313. IF:2,100 (Q3/8D). Document type: Article.
- Beltran de Heredia S, Mases A, Recasens L, Sabat T S, Nunez M, Bosch L, Roman L, Rueda M, Alonso E, Gallart L. Mortality and incidence of cardiovascular events in patients treated with aspirin and statins at one year after myocardial injury in noncardiac surgery: a prospective observational study. *Minerva Anestesiologica*. 2023; 89(5)DOI:10.23736/S0375-9393.22.16807-0. PMID:36287395. IF:3,200 (Q2/5D). Document type: Article.
- Castellarnau S, Gaya JM, Espinosa J, Sierra P, Huguet J, Palou J, Hernando D, Sabate S, Breda A. Clinical impact of the suspension of the ERAS protocol on patients undergoing radical cystectomy during the COVID-19 pandemic. *Actas Urológicas Españolas*. 2023; 47(6)DOI:10.1016/j.acuro.2023.01.005. PMID:36776227. IF:1,100 (Q4/9D). Document type: Article.
- Jiménez E, Asmarats L, Roqué M, Millán X, Li CHP, Fernández E, Sánchez J, Massó van Roessel A, Maestre ML, Paniagua P, Arzamendi D. Impact of Baseline Anemia in Patients Undergoing Transcatheter Aortic Valve Replacement: A Prognostic Systematic Review and Meta-Analysis. *Journal of Clinical Medicine*. 2023; 12(18):6025. DOI:10.3390/jcm12186025. PMID:37762965. IF:3,900 (Q2/4D). Document type: Review.
- Marcucci M, Painter TW, Conen D, Lomivorotov V, Sessler DI, Chan MTV, Borges FK, Leslie K, Duceppe E, Martinez MJ, Wang CY, Xavier D, Ofori SN, Wang MK, Efremov S, Landoni G, Kleinlugtenbelt YV, Szczeklik W, Schmartz D, Garg AX, Short TG, Wittmann M, Meyhoff CS, Amir M, Torres D, Patel A, Ruetzler K, Parlow JL, Tandon V, Fleischmann E, Polanczyk CA, Lamy A, Jayaram R, Astrakov SV, Wu WKK, Cheong CC, Ayad S, Kirov M, de Nadal M, Likhvantsev VV, Paniagua P, Aguado HJ, Maheshwari K, Whitlock RP, McGillion MH, Vincent J, Copland I, Balasubramanian K, Biccand BM, Srinathan S, Ismoilov S, Pettit S, Stillo D, Kurz A, Belley EP, Spence J, McIntyre WF, Bangdiwala SI, Guyatt G, Yusuf S, Devereaux PJ, POISE Trial Investigators Study 3. Hypotension-Avoidance Versus Hypertension-Avoidance Strategies in Noncardiac Surgery An International Randomized Controlled Trial. *ANNALS OF INTERNAL MEDICINE*. 2023; 176(5)DOI:10.7326/M22-3157. PMID:37094336. IF:39,200 (Q1/1D). Document type: Article.
- Mases A, Beltrán de Heredia S, Gallart L, Román L, Bosch L, Núñez M, Rueda M, Recasens L, Sabaté S. Prediction of Acute Myocardial Injury in Noncardiac Surgery in Patients at Risk for Major Adverse Cardiovascular and Cerebrovascular Events: A Multivariable Risk Model. *ANESTHESIA AND ANALGESIA*. 2023; 137(6)DOI:10.1213/ANE.0000000000006469. PMID:37043386. IF:5,700 (Q1/2D). Document type: Article.



## 5.1.6 Associated Groups

- Merchán A, Anaya R, Rodríguez M, Llorca J, Castejón M, Gil JM, Millan A, Estepa V, Cardona E, García Y, Ruiz A, Martínez MJ, AFFEcT G. Quality of Life and Post-Surgical Complications in Patients on Chronic Antiplatelet Therapy with Proximal Femur Fracture: 12-Month Follow-Up after Implementing a Strategy to Shorten the Time to Surgery. *Journal of Clinical Medicine*. 2023; 12(3):1130. DOI:10.3390/jcm12031130. PMID:36769778. IF:3,900 (Q2/4D). Document type: Article.
- Popova E, Alonso P, Álvarez J, Paniagua P, Rué M, Vives M, Font A, Gich I, Martínez C, Ordóñez J, Carles M. Cost-effectiveness of a high-sensitivity cardiac troponin T systematic screening strategy compared with usual care to identify patients with perioperative myocardial injury after major noncardiac surgery. *EUROPEAN JOURNAL OF ANAESTHESIOLOGY*. 2023; 40(3)DOI:10.1097/EJA.0000000000001793. PMID:36722187. IF:3,600 (Q2/4D). Document type: Article.
- Popova E, Paniagua P, Álvarez J, Vives M, González A, García Á, Rivas M, Hermenegildo G, Díaz R, Azparren G, Barceló M, Moustafa A-H, Aguilar R, Ordonez J, Alonso P. The Relevance of Implementing the Systematic Screening of Perioperative Myocardial Injury in Noncardiac Surgery Patients. *Journal of Clinical Medicine*. 2023; 12(16):5371. DOI:10.3390/jcm12165371. PMID:37629413. IF:3,900 (Q2/4D). Document type: Article.
- Rincón MD, Felipe MM, Candela Á. Assessment of the degree of knowledge of the massive transfusion protocol in four Spanish hospitals. *MEDICINA CLINICA*. 2023; 161(7)DOI:10.1016/j.medcli.2023.05.010. PMID:37380548. IF:3,900 (Q2/4D). Document type: Article.
- Zarbock A, Weiss R, Albert F, Rutledge K, Kellum JA, Bellomo R, Grigoryev E, Candela AM, Demir ZA, Legros V, Rosenberger P, Menéndez PG, Alvarez MG, Peng K, Leger M, Khalel W, Orhan M, Meersch M, Epis I. Epidemiology of surgery associated with acute kidney injury (EPIS-AKI): a prospective international observational multi-center clinical study. *INTENSIVE CARE MEDICINE*. 2023; DOI:10.1007/s00134-023-07169-7. PMID:37505258. IF:38,900 (Q1/1D). Document type: Article.

## 5.1.6 Associated Groups

## Plastic Surgery

### Group leader

Masia Ayala, Jaume (FGS)

### Researchers

Condrea , Silvia (FGS)

Fernández Garrido, Manuel (FGS)

Guerrero Lojano, Andrea Elisabeth (FGS)

Leoveanu , Floriana Irina (FGS)

López Fernández, Susana (FGS)

Lusetti , Irene Laura (FGS)

Olivares Dominguez, Maria De Leyre (FGS)

Perez Sempere, Maria (FGS)

Pons Playa, Gemma (FGS)

Vega García, Maria Del Carmen (FGS)

Vela Lasagabaster, Arturo (FGS)

Zamora Alarcon, Paul David (FGS)

### Research Technicians

Masso Cercos, Silvia (IR)

Mohedano Puig, Elena (IR)



### DESCRIPTION

The fields of research of our group are centered mainly in the development of new tools in microsurgery and supermicrosurgery and breast reconstruction.

In microsurgery and supermicrosurgery we are using a robot (Symani) in a multicentric study to monitor his efficacy and safety.

We form part of multicentric studies for breast reconstruction specifically for developing a hybrid reconstruction (fat and implants) and to confirm the efficacy of new implants. We are using different types of ADM to monitor their results and comparing them with other centers.

### MAIN LINES OF RESEARCH

- Motiva Flora Tissue Expander – Hybrid breast reconstruction, pivotal study. Started in July 2023. It is a multicentric study where we are using this kind of expander (Motiva Flora) to develop a hybrid breast reconstruction with fat and implant.
- PRIMO Post-Market, Non-Randomized, Multi-centre PMCF Study To Monitor The Safety And Performance Of Symani System In Microsurgical Reconstructive Procedures In A Real Life Setting. It is a multicentric study in order to monitor the safety and the efficacy of the Symani Robot in microsurgery and supermicrosurgery. Thanks to this device we are improving the treatment of lymphedema both as a prophylactic treatment after axillary lymph node dissection in breast cancer and as a physiological treatment in cases where the lymphedema is already present.
- ABI: Research study to confirm the security of breast implants Motiva Anatomical TrueFixation – Started in July 2023.



## 5.1.6 Associated Groups

## SCIENTIFIC PRODUCTION

- Abdelfattah U, Pons G, Masia J. Evaluating the Impact of Immediate Lymphatic Reconstruction for the Surgical Prevention of Lymphedema. *PLASTIC AND RECONSTRUCTIVE SURGERY*. 2023; 151(3):522e-523e. DOI:10.1097/PRS.00000000000009942. PMID:36730128. IF:3,600 (Q1/2D). Document type: Letter.
- Al AM, Bonfill X, Ardiles S, Bendersky J, Sola I, Masia J. Risk-of-bias assessment of the randomized clinical trials and systematic reviews on surgical treatments for breast cancer-related lymphedema: A mapping review. *Journal of Plastic Reconstructive and Aesthetic Surgery*. 2023; 84DOI:10.1016/j.bjps.2023.05.002. PMID:37329747. IF:2,700 (Q2/4D). Document type: Review.
- Casanovas A, Sebio R, Ciendones M, Cuartero J, Estanyol B, Padrós J, García B, Barnadas A, Masia J. Prehabilitation in Patients With Breast Cancer Receiving Neoadjuvant Therapy to Minimize Musculoskeletal Postoperative Complications and Enhance Recovery (PREOptimize): A Protocol for a Randomized Controlled Trial. *PHYSICAL THERAPY*. 2023; 103(9):pzad062. DOI:10.1093/ptj/pzad062. PMID:37318267. IF:3,200 (Q1/3D). Document type: Article.
- Fernández M, Torrano L, González J, Masia J, Sisternas L, D'Guilio G, Zamora P. To bulge or not to bulge: Rectus abdominis functional reconstruction after soft tissue sarcoma resection. *Journal of Plastic Reconstructive and Aesthetic Surgery*. 2023; 78DOI:10.1016/j.bjps.2022.11.051. PMID:36736105. IF:2,700 (Q2/4D). Document type: Letter.
- Martínez P, Linares PF, Masià J, Jané P, Monforte C. Temporal validation of a risk prediction model for breast cancer-related lymphoedema in European population: A retrospective study. *JOURNAL OF ADVANCED NURSING*. 2023; 79(12). DOI:10.1111/jan.15727. PMID:37269083. IF:3,800 (Q1/1D). Document type: Article.
- Torrano L, Zamora P, Ibarra A, Masiá J, Sisternas L, Fernández M. Chimeric SCIP flap with iliac bone for reconstruction of foot first ray in a radiated surgical bed: A case report. *MICRO-SURGERY*. 2023; 43(4). DOI:10.1002/micr.31019. PMID:36748171. IF:2,100 (Q2/5D). Document type: Article.



## Palliative Care

### Group leader

Pascual López, Antonio (FGS)

### Researchers

Güell Perez, Ernest (FGS)

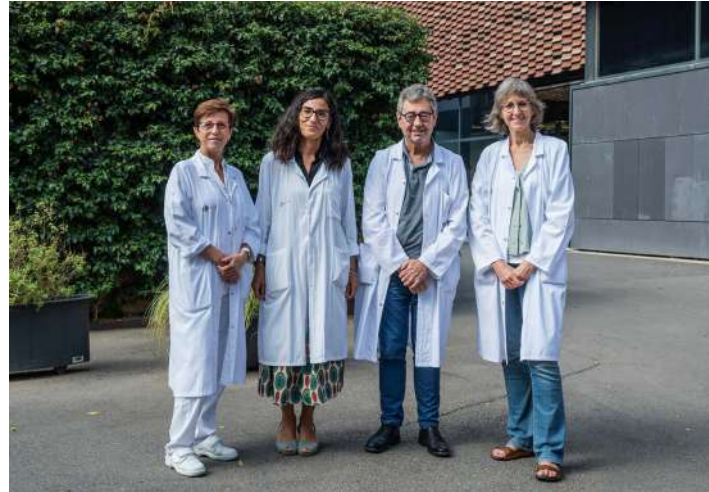
Martinez Peralta, Susana (FGS)

Navarri Sese, Laia (FGS)

Prada Jaiimez, Maria Luisa (FGS)

### Research Technicians

Collette, Nadia (IR)



### DESCRIPTION

Clinical research carried out by an interdisciplinary team in an acute palliative care hospital unit.

### MAIN LINES OF RESEARCH

- Art therapy at the end of life. Nadia Collette.
- Prevention and management of professional stress through art therapy Nadia Collette.
- Electronic patient-reported outcome measures (PROMs). Susana Martínez.
- Training in palliative care: training needs, outcomes. Antonio Pascual.

### SCIENTIFIC PRODUCTION

- Goni B, Pergolizzi D, Monforte C, Alonso A, Belar A, Crespo I, Güell E, Julià J, Moreno D, Nabal M, Pascual A, Porta J, Rocafort J, Rodríguez A, Rodríguez D, Sala C, Serrano G, Serna J, Balaguer A. Development of a Guide to Multidimensional Needs Assessment in the Palliative Care Initial Encounter (MAP). *JOURNAL OF PAIN AND SYMPTOM MANAGEMENT*. 2023; 66(4):361-369.e6. DOI:10.1016/j.jpainsymman.2023.07.011. PMID:37468050. IF:4,700 (Q1/2D). Document type: Article.
- Salazar J, Bracchiglione J, Savall O, Antequera A, Bottaro D, Gutierrez M, Martinez S, Pericay C, Tibau A, Bonfill X, Appropriateness SYSTT. Treatment with anticancer drugs for advanced pancreatic cancer: a systematic review. *BMC CANCER*. 2023; 23(1):748. DOI:10.1186/s12885-023-11207-4. PMID:37573294. IF:3,800 (Q2/5D). Document type: Review.

## Andrology

### Group leader

Ruiz Castañe, Eduard (F.Puigvert)

### Researchers

Bassas Arnau, Lluís (F.Puigvert)

De Rocco Ponce, Maurizio (F.Puigvert)

Gonzalez Fernández, Monica (F.Puigvert)

Krausz, Csilla Gabriella (F.Puigvert)

Maestre Loren, Francesc (F.Puigvert)

Martinez Pasarell, Olga (F.Puigvert)

Riera Escamilla, Antoni (F.Puigvert)

Sánchez Curbelo, Josvany (F.Puigvert)

Sarquella Geli, Joaquim (F.Puigvert)

Vives Suñe, Álvaro (F.Puigvert)

### Research Technicians

Spinelli, Matilde (F.Puigvert)



### DESCRIPTION

The Andrology Group focuses its research on several different fields. The most important areas of interest are: (1) diagnosis and treatment of male and female sexual dysfunction (including erectile dysfunction, premature ejaculation, Peyronie disease, hypoactive sexual desire), (2) diagnosis and treatment of male infertility (including genetics of male infertility and reproductive genomics, and “oncofertility”), (3) sexual transmitted infections, and (4) endocrinological impairments related to male infertility and sexual dysfunctions (including hypogonadism, hyperprolactinemia, and obesity). This research activity is oriented to improve both medical and surgical approaches for each issue.

### MAIN LINES OF RESEARCH

- Genetics applied to male infertility. C. Krausz / A. Riera.
- Male fertility preservation in oncological patients. C. Krausz/ A. Riera.
- Optimisation of preimplantation genetics diagnosis and in vitro fertilization techniques. O. Martínez.
- New surgical procedures, drugs and medical devices applied to diagnosis, prevention and treatment of andrological diseases and conditions (male sexual dysfunction, hypogonadism, Peyronie disease, premature ejaculation, sexually transmitted diseases). E. Castañé.
- Sexually transmitted diseases and public health. A. Vives.
- Quality of life and integral sexual approach: gender and psychological aspects. F. Maestre.



## 5.1.6 Associated Groups

## SCIENTIFIC CHALLENGES

Our multidisciplinary team of professionals develops translational and clinical research in the field of diagnosis and treatment of andrological disorders and female sexuality.

- To improve our knowledge and thereby improve healthcare for patients, we seek to continue active projects, develop new lines of investigation, increase the number of international publications, train professionals and enhance collaboration with hospital and university groups inside and outside the IR Sant Pau.
- To promote awareness and divulgate sexuality as a health topic and as the main aspect of global health and quality life inclusive in chronic and ill patients to professionals who require a broad and multidisciplinary approach to their patients.
- To work up in the relationship with patients associations and progressively incorporate them as a work team to develop responsible research with relevant results with social impact.

## ACTIVE GRANTS

- Bassas Arnau, Lluís. Impact of COVID-19 on male reproductive health. 202128-31. Fundació La Marató de TV3. Duration: 2021-2024. 50.000,00 €.
- Krausz, Csilla Gabriella. Análisis del exoma en pacientes azoospermicos con bloqueo de la espermatogénesis: desarrollo de un panel genético con valor diagnóstico y pronóstico pre-biopsia testicular. PI20/01562. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 97.889,00 €.
- Krausz, Csilla Gabriella. Severe spermatogenic failure as a sentinel for early diagnosis of late-onset Fanconi Anemia. Fanconi Anemia Research Foundation. Duration: 2021-2023. 103.900,00 \$ (F. PUIGVERT).

## GRANTS AWARDED

- Krausz, Csilla Gabriella. Caracterización genómica de la azoospermia debido a sólo células de Sertoli: desarrollo de un panel de genes con valor diagnóstico y pronóstico pre-biopsia testicular. PI23/00425. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2026. 102.500,00 €.

## SCIENTIFIC PRODUCTION

- Borràs J, Alonso C, Vives A, Palou J. Neisseria meningitidis and the increase of oral sex. A case report. *Revista Internacional de Andrologia*. 2023; 21(1):100323. DOI:10.1016/j.androl.2021.02.010. PMID:36307367. IF:0,800 (Q4/10D). Document type: Article.
- Chan D, Oros K, Riera A, Krausz C, O'Flaherty C, Chan P, Robaire B, Trasler JM. Sperm DNA methylome abnormalities occur both pre- and post-treatment in men with Hodgkin disease and testicular cancer. *Clinical Epigenetics*. 2023; 15(1):5. DOI:10.1186/s13148-022-01417-1. PMID:36611168. IF:5,700 (Q1/2D). Document type: Article.
- Farnetani G, Fino MG, Cioppi F, Riera A, Tamburrino L, Vannucci M, Rosta V, Vinci S, Casamonti E, Turki L, Degl'Innocenti S, Spinelli M, Marchiani S, Lotti F, Muratori M, Krausz C. Long-term effect of cytotoxic treatments on sperm DNA fragmentation in patients affected by testicular germ cell tumor. *Andrology*. 2023; 11(8). DOI:10.1111/andr.13429. PMID:36932666. IF:4,500 (Q1/3D). Document type: Article.
- Ferre A, Santiago L, Sánchez JF, López O, Sánchez J, Sumoy L, Bassas L, Larriba S. 3'IsomiR Species Composition Affects Reliable Quantification of miRNA/isomiR Variants by Poly(A) RT-qPCR: Impact on Small RNA-Seq Profiling Validation. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(20):15436. DOI:10.3390/ijms242015436. PMID:37895116. IF:5,600 (Q1/3D). Document type: Article.
- Jacques C, Alarcón M, Barbera MJ, Fuertes I, Martín G, López J, Vives Á, Rodríguez R, Ros M, Rius C, De Olalla PG. Epidemiological Characteristics and Factors Associated with Repeat Sexually Transmitted Infections in Barcelona, Spain Over a Decade. *ARCHIVES OF SEXUAL BEHAVIOR*. 2023; DOI:10.1007/s10508-023-02711-6. PMID:37875628. IF:3,800 (Q1/2D). Document type: Article.
- Kimmins S, Anderson RA, Barratt CLR, Behre HM, Catford SR, De Jonge CJ, Delbes G, Eisenberg ML, Garrido N, Houston BJ, Jorgensen N, Krausz C, Lisper A, McLachlan RI, Minhas S, Moss T, Pacey A, Priskorn L, Schlatt S, Trasler J, Trasande



## 5.1.6 Associated Groups

- L, Tüttelmann F, Vazquez MH, Veltman JA, Zhang F, O'Bryan MK. Frequency, morbidity and equity - the case for increased research on male fertility. *Nature Reviews Urology*. 2023; DOI:10.1038/s41585-023-00820-4. PMID:37828407. IF:15,300 (Q1/1D). Document type: Article.
- Krausz C, Navarro P, Wilke M, Tüttelmann F. EAA/EMQN best practice guidelines for molecular diagnosis of Y-chromosomal microdeletions: State of the art 2023. *Andrology*. 2023; DOI:10.1111/andr.13514. PMID:37674303. IF:4,500 (Q1/3D). Document type: Review.
  - Larriba S, Sánchez JF, Pluvinet R, López O, Bassas L, Sumoy L. Seminal extracellular vesicle sncRNA sequencing reveals altered miRNA/isomiR profiles as sperm retrieval biomarkers for azoospermia. *Andrology*. 2023; DOI:10.1111/andr.13461. PMID:37245055. IF:4,500 (Q1/3D). Document type: Article.
  - Larriba S, Vignes F, Bassas L. Using Small Non-Coding RNAs in Extracellular Vesicles of Semen as Biomarkers of Male Reproductive System Health: Opportunities and Challenges. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(6):5447. DOI:10.3390/ijms24065447. PMID:36982521. IF:5,600 (Q1/3D). Document type: Review.
  - Plata L, López O, Bassas L, Larriba S. Experimental validation of seminal miR-31-5p as biomarker for azoospermia and evaluation of the effect of preanalytical variables. *Andrology*. 2023; 11(4). DOI:10.1111/andr.13286. PMID:36057114. IF:4,500 (Q1/3D). Document type: Article.
  - Shah R, Agarwal A, Kavoussi P, Rambhatla A, Saleh R, Cannarella R, Harraz AM, Boitrelle F, Kuroda S, Hamoda T, Zini A, Ko E, Calik G, Toprak T, Kandil H, Gul M, Parekh N, Russo GI, Tadros N, Kadioglu A, Arafa M, Chung E, Rajmil O, Dimitriadis F, Malhotra V, Salvio G, Henkel R, Le TV, Sogutdelen E, Vij S, Alarbid A, Gudeloglu A, Tsujimura A, Calogero AE, El Meliegy A, Crafa A, Kalkanli A, Baser A, Hazir B, Giulioni C, Cho CL, Ho CCK, Salzano C, Zylbersztejn DS, Tien DMB, Pescatori E, Borges E, Serefoglu EC, Sais E, Huyghe E, Ceyhan E, Caroppo E, Castiglioni F, Bahar F, Gokalp F, Lombardo F, Gadda F, Duarsa GWK, Pinggera GM, Busetto GM, Balercia G, Cito G, Blecher G, Franco G, Liguori G, Elbardisi H, Keskin H, Lin H, Taniguchi H, Park HJ, Ziouziou I, de la Rosette J, Hotaling J, Ramsay J, Molina JMC, KL, Bocu K, Khalafalla K, Bowa K, Okada K, Nagao K, Chiba K, Hakim L, Makarounis K, Hehemann M, Pena MR, Falcone M, Bendayan M, Martinez M, Timpano M, Altan M, Fode M, Al MS, Gilani M, Soebadi MA, Gherabi N, Sofikitis N, Birowo P, Kothari P, Sindhvani P, Javed Q, Ambar RF, Kosgi R, Abou R, Adriansjah R, Condorelli RA, La Vignera S, Micic S, Kim SHK, Fukuhara S, Ahn ST, Mostafa T, Ong TA, Takeshima T, Amano T, Barrett T, Arslan U, Karthikeyan VS, Atmoko W, Yumura Y, Yuan YM, Kato Y, Jezek D, Cheng BKC, Hatzichristodoulou G, Dy J, Castane ER, El Al, Bakircioglu ME, Nguyen Q, Sarikaya S, Boeri L, Tan R, Moussa MA, El A, Alali H, Alhathal N, Osman Y, Perovic D, Sajadi H, Akhavizadegan H, Vucinic M, Kattan S, Kattan MS, Mogharabian N, Phuoc NHV, Ngoo KS, Alkandari MH, Alsuhaibani S, Sokolakis I, Babaei M, King MS, Diemer T, Gava MM, Henrique R, Silva R, Paul GM, Mierzwa TC, Glina S, Siddiqi K, Wu H, Wurzacher J, Farkouh A, Son H, Minhas S, Lee J, Magsanoc N, Capogrosso P, Albano GJ, Lewis S, Jayasena CN, Alvarez JG, Teo C, Smith RP, Chua JB, Jensen CFS, Parekattil S, Finelli R, Durairajanya-gam D, Karna KK, Ahmed A, Evenson D, Umemoto Y, Puigvert A, Ceker G, Colpi GM, Global F. Consensus and Diversity in the Management of Varicocele for Male Infertility: Results of a Global Practice Survey and Comparison with Guidelines and Recommendations. *World Journal of Mens Health*. 2023; 41(1):wjmh.220048. DOI:10.5534/wjmh.220048. PMID:35791302. IF:4,800 (Q1/2D). Document type: Article.
  - Wyrwoll MJ, van der Heijden GW, Krausz C, Aston KI, Kliesch S, McLachlan R, Ramos L, Conrad DF, O'Bryan MK, Veltman JA, Tüttelmann F. Improved phenotypic classification of male infertility to promote discovery of genetic causes. *Nature Reviews Urology*. 2023; DOI:10.1038/s41585-023-00816-0. PMID:37723288. IF:15,300 (Q1/1D). Document type: Article.

## Urology

### Group leader

Palou Redorta, Juan (F. Puigvert)

### Researchers

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 Ponce De Leon Roca, Javier (F. Puigvert)  
 Rodríguez Faba, Oscar (F. Puigvert)  
 Sanguedolce , Francesco (F. Puigvert)



### DESCRIPTION

The investigation urology group is dedicated to advancing our knowledge of urological diseases and disorders, with a focus on urological malignancies, functional urology, stone disease, pediatric urology, renal transplant, and reconstructive surgery. Our team of expert clinicians work together to conduct innovative studies and clinical trials to improve patient outcomes and develop new treatments. The majority of research topics are clinical, with a special interest in technological advancements, rare urological diseases, and biomarkers.

### MAIN LINES OF RESEARCH

- The Urology Clinical and Basic Research group has been an associated group of IR Santpau since its very beginning. The group carries out clinical translational research within the field of urinary tract diseases along different lines from urological cancer, functional urology, stone disease, pediatric urology, renal transplant, and reconstructive surgery.

Existing lines of research are:

- In the area of urological cancer, Dr. Breda is leading several projects mainly related to liquid biopsy in urothelial and prostate cancers, focal treatment of prostate cancer, methodology in enhancing lymph nodes in prostate and upper urinary tract disease, intraoperative detection of tumor grade with confocal endomicroscopy in order to facilitate clinical decisions and avoid unnecessary procedures, the role of systemic chemotherapy in upper urinary tract tumors and the role



## 5.1.6 Associated Groups

of PET-CT in renal masses and 3D reconstruction in order to facilitate complex renal surgeries.

- In testis cancer we are evolving to minimally invasive surgery with robotic retroperitoneal dissection in metastatic disease and improving the diagnosis using the sentinel node technique in penile cancer, and also reconstructive surgery after partial penectomy plus laparoscopic lymphadenectomy of the groin.
- Dr. Palou is leading mainly the projects in bladder cancer: there is a collaborative translational research line of predictive biomarkers in NMIBC progression with the Inflammatory Group and Malmö University. He is leading several studies with new drugs (durvalumab, sansalimab, vedotin enfortumab, etc). Bladder preservation in high grade tumors is a difficult decision and the possibility to detect those who will progress will allow earlier aggressive treatment. Another line of research is the robotic nerve sparing surgery in cystectomy and neobladder reconstruction in order to preserve sexual function after radical surgery. He is leading as well robotic retroperitoneal surgery in testis cancer and reconstructive surgery.
- In the pediatric urology unit, led by Dra. There are several topics under research related to long term followup in reconstructive surgery, sexual function in neurological diseases and fertility in patients after scrotal surgery (varicocele, orchidopexy). This includes the study of the usefulness of botuline toxine in hyperactive bladder in children, PH urine studies for the risk of infection in urinary tract anomalies, optimisation of irrigation fluids for the prevention of unnoticed perioperative hypothermia in children during RIRS and NLP and the Autologous fat graft with stem cells as a treatment for abdominal wall defects in patients with complex exstrophy epispadias.
- In the urolithiasis line chaired by Dr. Angerri, clinical and basic research is performed in the following topics: laser energy devices for stone destruction (holmium, thulium, super thulium) comparative outcomes and settings, collaboration with IIBSantPau General and Digestive Surgery Group for primary hyperparathyroidism, treatment and pH urine research for the management of cystinuria. In cystinuria, there exists extensive collaborative research with IDIBELL for its genetic study and an active participation in the National Registry of this Rare Disease. New study to use Artificial Intelligence in the recognition of stone composition during endoscopic surgery, using our stone library of more than 50.000 stones analyzed through infrared spectrophotometry.
- The functional urology Unit by Dr. Errando is evaluating the clinical results of different surgical techniques and devices in incontinence in both sexes such as paraurethral substance injections, laparoscopic colposacropexy technique, long term functional results of botox in males, functional results of the trans cavernous artificial urinary sphincter implantation in high risk patients, usefulness of probiotics in the prevention of recurrent urinary tract infections, acidification of urine pH for women with recurrent UTIs. A quality of life research collaboration with the Centre de Fisioteràpia de Barcelona RAP Barcelona (Abdomino-Pelvic Reeducation) associated to the UAB Vall d'Hebron, in clinical evaluation tools for patients with low urinary tract dysfunction has recently begun.
- Renal transplantation unit by Dr. Breda is investigating 3D reconstruction models to facilitate renal transplant for a better preservation of the kidney. The group is establishing robotic renal transplant all over Europe and undergoing analysis of the urogenital tumors in renal transplant patients to update and change daily practice.
- BPH surgery is one of the most common in urology and the group of Dr. Ponce de Leon is investigating the way to perform surgery with preservation of antegrade ejaculation with different methodologies (TURP, Rezum). The group also study the use of the Rezum system (intra-prostatic vaporization) in BPH, the quality of life of patients who had undergone urethroplasty due to urethral stenosis, the use of oral mucosa for urethroplasty. A recent national collaboration for an Urethroplasties Registry has recently begun. In reconstructive urethral surgery and BPH, Dr. Ponce de León is leading an international research prospective study on prostate inflammation to validate a clinical nomogram in patients with lower urinary symptoms, and a prospective



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multicenter study on buccal mucosa extraction effect on patients' quality of life.

- Dr. Gallioli leads the clinical coordination within the group. Mrs Vanessa Muñoz and the nurse Ana Palomino are the coordinators of individual clinical studies and trials. They are key pieces to continue with the ongoing studies of the department.

### SCIENTIFIC CHALLENGES

- To continue the national and international positions in order to increase the scientific networking of the department.
- Participate and evolve in the elaboration of European Guidelines.
- Continue in basic and clinical research of the different established areas.
- Continue and improve relations with industry (pharmaceutics, medical devices industries, and biotechnology companies) in order to be upfront in the development of new compounds and surgical techniques.

### ACTIVE GRANTS

- Bujons Tur, Ana. ERN eUROGEN registry Protocol (Red Europea Referente de Enfermedades Urogenitales), eUROGEN, European competitive project. Duration: 2022-2023.

### SCIENTIFIC PRODUCTION

- Afferi L, Longoni M, Moschini M, Gandaglia G, Morgans AK, Cathomas R, Mattei A, Breda A, Scarpa RM, Papalia R, de Nunzio C, Esperto F. Health-related quality of life in patients with metastatic hormone-sensitive prostate cancer treated with androgen receptor signaling inhibitors: the role of combination treatment therapy. *PROSTATE CANCER AND PROSTATIC DISEASES*. 2023; DOI:10.1038/s41391-023-00668-0. PMID:37055663. IF:4,800 (Q1/2D). Document type: Review.
- Algaba F, Nesi G. Brief history of the who blue books on urinary and male genital tumours. *Pathologica*. 2023; 115(1). DOI:10.32074/1591-951X-840. PMID:36852884. Document type: Editorial Material.
- Andras I, Pecoraro A, Piana A, Prudhomme T, Campi R, Hevia V, Boissier R, Crisan N, Breda

A, Territo A, en representacion del EAU G. Aims and limits to compare open vs. robotic assisted kidney transplantation. *Actas Urologicas Españolas*. 2023; 47(4). DOI:10.1016/j.acuro.2022.10.001. PMID:36372359. IF:1,100 (Q4/9D). Document type: Editorial Material.

- Andras I, Piana A, Verri P, Telecan T, Gallioli A, Prudhomme T, Hevia V, Baboudjian M, Boissier R, Crisan N, Campi R, Breda A, Territo A, European Assoc Urology E, Young Acad Urologists Y, Kidney Transplantation Working GRP. Systematic review of techniques and devices used to avoid warm ischemia time injury during kidney transplantation. *WORLD JOURNAL OF UROLOGY*. 2023; 41(4). DOI:10.1007/s00345-023-04328-9. PMID:36826486. IF:3,400 (Q2/3D). Document type: Review.
- Angerri O, Gracia S, Rousaud F, Kanashiro A, Emiliani E. Entering into 2.0 cystinuria management with a medical digital tool to monitor urine pH: A prospective, randomized study. *Actas Urologicas Españolas*. 2023; 47(9). DOI:10.1016/j.acuro.2023.02.004. IF:1,100 (Q4/9D). Document type: Article.
- Angerri O, Gracia S, Rousaud F, Kanashiro A, Emiliani E. Entering into 2.0 cystinuric management with a medical digital tool to monitor urine pH: a prospective, randomized study. *Actas Urologicas Españolas*. 2023; 47(9). DOI:10.1016/j.acuroe.2023.04.004. PMID:37086842. Document type: Article.
- Angerri, O., Boeykens, M., Taily, T. Mini Percutaneous Nephrolithotomy. In: Denstedt, J.D., Liatsikos, E.N. (eds) *Percutaneous Renal Surgery*. 2023; p.199-216. DOI:10.1007/978-3-031-40542-6\_13. Document type: Book Chapter.
- Angulo JC, Álvarez JL, Domínguez JL, Moyano JL, Sousa A, Fernández JM, Gómez F, Unda M, Carballido J, Carrero V, Fernández T, García de Jalón Á, Solsona E, Inman B, Palou J. Hyperthermic Mitomycin C in Intermediate-risk Non-muscle-invasive Bladder Cancer: Results of the HIVEC-1 Trial. *European Urology Oncology*. 2023; 6(1). DOI:10.1016/j.euo.2022.10.008. PMID:36435738. IF:8,200 (Q1/1D). Document type: Article.
- Artiles A, Dominguez A, Subiela JD, Boissier R, Campi R, Prudhomme T, Pecoraro A, Breda A, Burgos FJ, Territo A, Hevia V, EAU T. Kidney



## 5.1.6 Associated Groups

- Transplant Outcomes in Elderly Population: A Systematic Review and Meta-analysis. *European Urology Open Science*. 2023; 51DOI:10.1016/j.euros.2023.02.011. PMID:37006961. IF:2,500 (Q3/6D). Document type: Review.
- Asero V, Krajewski W, Pradere B, D'Andrea D, Moschini M, Soria F, Gallioli A, Basran S, Chung BI, Del Giudice F. Comment on: "Do perioperative blood transfusions impact oncological outcomes of robot-assisted radical cystectomy with intracorporeal urinary diversion? Results from a large multi-institutional registry". *Minerva Urology And Nephrology*. 2023; 75(2). DOI:10.23736/S2724-6051.23.05317-X. PMID:36999841. IF:4,900 (Q1/2D). Document type: Editorial Material.
  - Asero V, Scornajenghi CM, Carino D, Pandolfo SD, Krajewski W, Gallioli A, Basran S, Tresh A, Chung BI, Del Giudice F. Comment on: "Stage-dependent survival in patients treated with neoadjuvant chemotherapy and radical cystectomy". *Minerva Urology And Nephrology*. 2023; 75(5). DOI:10.23736/S2724-6051.23.05529-5. PMID:37530677. IF:4,900 (Q1/2D). Document type: Note.
  - Asero V, Scornajenghi CM, Krajewski W, Szydelko T, Malkiewicz B, Nowak L, Gallioli A, Basran S, Chung BI, del Giudice F, European Assoc Urol EAU Young A. Comment on: "Animal model assessment of a new design for a coated mitomycin-eluting biodegradable ureteral stent for intracavitary instillation as an adjuvant therapy in upper urothelial carcinoma". *Minerva Urology And Nephrology*. 2023; 75(3). DOI:10.23736/S2724-6051.23.05354-5. PMID:37221829. IF:4,900 (Q1/2D). Document type: Editorial Material.
  - Asimakopoulos AD, Kochergin M, Colalillo G, Fahmy O, Hassan F, Renninger M, Gallioli A, Gavrillov P, Gakis G. New Intravesical Agents for BCG-Unresponsive High-Risk Non-Muscle Invasive Bladder Cancer. *Bladder Cancer*. 2023; 9(3). DOI:10.3233/BLC-230043. IF:1,100 (Q4/9D). Document type: Review.
  - Aumatell J, Schwartzmann I, Bravo A, Subiela JD, Farré A, Moncada E, Martínez MJ, Palou J, Breda A, Roca JPD. Natural history of renal angiomyolipoma in a high-volume center: our experience during more than 15 years of follow up. *INTERNATIONAL UROLOGY AND NEPHROLOGY*. 2023; DOI:10.1007/s11255-023-03839-z. PMID:38085409. IF:2,000 (Q3/7D). Document type: Article.
  - Baboudjian M, Breda A, Roumeguere T, Uleri A, Roche JB, Touzani A, Lacetera V, Beauval JB, Diamand R, Simone G, Windisch O, Benamran D, Fourcade A, Fiard G, Durand C, Roumiguie M, Sanguedolce F, Oderda M, Barret E, Fromont G, Dariane C, Charvet AL, Gondran B, Bastide C, Lechevallier E, Palou J, Ruffion A, Van der Bergh RCN, Peltier A, Ploussard G. Expanding inclusion criteria for active surveillance in intermediate-risk prostate cancer: a machine learning approach. *WORLD JOURNAL OF UROLOGY*. 2023; 41(5). DOI:10.1007/s00345-023-04353-8. PMID:36920491. IF:3,400 (Q2/3D). Document type: Article.
  - Baboudjian M, Pradere B, Martin N, Gondran B, Angerri O, Boucheron T, Bastide C, Emiliani E, Misrai V, Breda A, Lechevallier E. Life Cycle Assessment of Reusable and Disposable Cystoscopes: A Path to Greener Urological Procedures. *European Urology Focus*. 2023; 9(4). DOI:10.1016/j.euf.2022.12.006. PMID:36543725. IF:5,400 (Q1/2D). Document type: Article.
  - Baboudjian M, Territo A, Gallioli A, Verri P, Aumatell J, Izquierdo P, Uleri A, Tedde A, Basile G, Gaya JM, Huguet J, Rodríguez O, Sanguedolce F, Algalba F, Palou J, Breda A. Long-Term Oncologic Outcomes of Endoscopic Management of High-Risk Upper Tract Urothelial Carcinoma: The Fundacio Puigvert's Experience. *JOURNAL OF ENDOUROLOGY*. 2023; 37(9). DOI:10.1089/end.2023.0092. PMID:37310884. IF:2,700 (Q2/5D). Document type: Article.
  - Basile G, de Angelis M, Leni R, Re C, Longoni M, Mari A, Soria F, Pradere B, Del Giudice F, Laukhina E, D'Andrea D, Mori K, Krajewski W, Albisinni S, Gallioli A, Breda A, Esperto F, Briganti A, Montorsi F, Moschini M, Carando R, European Assoc Urology A. Implications for diagnosis and treatment strategies in non-muscle invasive bladder cancer with variant histology: a systematic review. *Minerva Urology And Nephrology*. 2023; 75(3). DOI:10.23736/S2724-6051.23.05091-7. PMID:36946716. IF:4,900 (Q1/2D). Document type: Review.





## 5.1.6 Associated Groups

- Bedke J, Black PC, Szabados B, Guerrero F, Shariate SF, Xylinas E, Brinkmann J, Blake JA, Césari R, Redorta JP. Optimizing outcomes for high-risk, non-muscle-invasive bladder cancer: The evolving role of PD-(L)1 inhibition. *UROLOGIC ONCOLOGY-SEMINARS AND ORIGINAL INVESTIGATIONS*. 2023; 41(12). DOI:10.1016/j.urolonc.2023.10.004. PMID:37968169. IF:2,700 (Q2/5D). Document type: Review.
- Beijert IJ, Cheng L, Liedberg F, Plass K, Williamson SR, Gontero P, Ribal MJ, Babjuk M, Black PC, Kamat AM, Algaba F, Berman DM, Hartmann A, Masson A, Roupret M, López A, Samaratunga H, Shariat SF, Mostafid AH, Varma M, Shen S, Burgerf M, Tsuzuki T, Palouf J, Comperat EM, Sylvester RJ, van der Kwast TH, van BWG, Downes MR. International Opinions on Grading of Urothelial Carcinoma: A Survey Among European Association of Urology and International Society of Urological Pathology Members. *European Urology Open Science*. 2023; 52DOI:10.1016/j.euros.2023.03.019. PMID:37284047. IF:2,500 (Q3/6D). Document type: Article.
- Beijert IJ, Hentschel AE, Brundl J, Comperat EM, Plass K, Rodríguez O, Henríquez JDS, Henraquez V, de la Peña E, Alemany I, Turturica D, Pisano F, Soria F, Capoun O, Bauerova L, Pesl M, Bruins HM, Runneboom W, Herdegen S, Breyer J, Brisuda A, Calatrava A, Rubio J, Seles M, Mannweiler S, Bosschieter J, Kusuma VRM, Ashabere D, Huebner N, Cotte J, Mertens LS, Claps F, Masson A, Liedberg F, Cohen D, Lunelli L, Cussenot O, El Sheikh S, Volanis D, Cote JF, Roupret M, Haitel A, Shariat SF, Mostafid AH, Nieuwenhuijzen JA, Zigeuner R, Dominguez JL, Hacek J, Zlotta AR, Zigeuner M, Evert M, Hulsbergen CA, van der Heijden AG, Kiemeney L, Soukup V, Molinaro L, Gontero P, Llorente C, Algaba F, Palou J, N'Dow J, Ribal MJ, van der Kwast TH, Babjuk M, Sylvester RJ, van BWG. Prognosis of Primary Papillary Ta Grade 3 Bladder Cancer in the Non-muscle-invasive Spectrum. *European Urology Oncology*. 2023; 6(2). DOI:10.1016/j.euo.2023.01.004. PMID:36670042. IF:8,200 (Q1/1D). Document type: Article.
- Beijert IJ, Hentschel AE, Bründl J, Compérat EM, Plass K, Rodríguez O, Henríquez JDS, Hernández V, de la Peña E, Alemany I, Turturica D, Pisano F, Soria F, Capoun O, Bauerová L, Pesl M, Bruins HM, Runneboom W, Herdegen S, Breyer J, Brisuda A, Calatrava A, Rubio J, Seles M, Mannweiler S, Bosschieter J, Kusuma VRM, Ashabere D, Huebner N, Cotte J, Mertens LS, Claps F, Masson A, Liedberg F, Cohen D, Lunelli L, Cussenot O, El Sheikh S, Volanis D, Côté JF, Roupret M, Haitel A, Shariat SF, Mostafid AH, Nieuwenhuijzen JA, Zigeuner R, Dominguez JL, Hacek J, Zlotta AR, Burger M, Evert M, van de Kaa CA, van der Heijden AG, Kiemeney L, Soukup V, Molinaro L, Gontero P, Llorente C, Algaba F, Palou J, N'Dow J, Ribal MJ, van der Kwast TH, Babjuk M, Sylvester RJ, van BWG. Second TURB, restaging TURB or repeat TURB in primary T1 non-muscle invasive bladder cancer: impact on prognosis?. *INTERNATIONAL UROLOGY AND NEPHROLOGY*. 2023; DOI:10.1007/s11255-023-03867-9. PMID:37980689. IF:2,000 (Q3/7D). Document type: Article.
- Bertolo R, Pecoraro A, Carbonara U, Amparore D, Diana P, Muselaers S, Marchioni M, Mir MC, Antonelli A, Badani K, Breda A, Challacombe B, Kaouk J, Mottrie A, Porpiglia F, Porter J, Miner-vini A, Campi R, European Assoc Urol Young A. Resection Techniques During Robotic Partial Nephrectomy: A Systematic Review. *European Urology Open Science*. 2023; 52DOI:10.1016/j.euros.2023.03.008. PMID:37182118. IF:2,500 (Q3/6D). Document type: Review.
- Boissier R, Rodríguez O, Zakri RH, Hevia V, Budde K, Figueiredo A, García EL, Olsburgh J, Regele H, Yuan CY, Breda A. Evaluation of the Effectiveness of Interventions on Nephrolithiasis in Transplanted Kidney. *European Urology Focus*. 2023; 9(3). DOI:10.1016/j.euf.2022.11.019. PMID:36567234. IF:5,400 (Q1/2D). Document type: Review.
- Borque Á, Gaya JM, Esteban LM, Gómez J, García R, Agreda F, Gallioli A, Verri P, Ortiz FJ, Amir BF, Osman I, Gil P, Arrabal M, Gómez Á, Campos F, Guerrero F, Rubio J, on behalf of Grupo Cooperativo de Registro Nacional Cancer Pene (. Epidemiology, Diagnosis and Management of Penile Cancer: Results from the Spanish National Registry of Penile Cancer. *Cancers*. 2023; 15(3):616. DOI:10.3390/cancers15030616. PMID:36765574. IF:5,200 (Q2/3D). Document type: Article.
- Borràs J, Alonso C, Vives A, Palou J. Neisseria meningitidis and the increase of oral sex. A case



## 5.1.6 Associated Groups

- report. *Revista Internacional de Andrologia*. 2023; 21(1):100323. DOI:10.1016/j.androl.2021.02.010. PMID:36307367. IF:0,800 (Q4/10D). Document type: Article.
- Brassetti A, Anceschi U, Cozzi G, Chavarriaga J, Gavrilov P, Sopena JMG, Bove AM, Prata F, Ferriero M, Mastroianni R, Misuraca L, Tuderti G, Torregiani G, Covotta M, Camacho D, Musi G, Varela R, Breda A, De Cobelli O, Simone G. Combined Reporting of Surgical Quality and Cancer Control after Surgical Treatment for Penile Tumors with Inguinal Lymph Node Dissection: The Tetrafecta Achievement. *Current Oncology*. 2023; 30(2). DOI:10.3390/curroncol30020146. PMID:36826107. IF:2,600 (Q3/8D). Document type: Article.
  - Bravi CA, Rosiello G, Mazzone E, Minervini A, Mari A, Di F, Bensalah K, Peyronnet B, Khene Z-E, Schiavina R, Bianchi L, Mottrie A, De Nae- yer G, Antonelli A, Furlan M, Rha KH, Almujaalhem A, Derweesh I, Bradshaw A, Kaouk J, Sawczyn G, Bertolo R, Breda A, Montorsi F, Capitanio U, Larcher A, Junior ERUS/Young Academic Urologist Working Group on Robot S. The IRON Study: Investigation of Robot-assisted Versus Open Nephron-sparing Surgery. *European Urology Open Science*. 2023; 49DOI:10.1016/j.euros.2022.12.017. PMID:36874602. IF:2,500 (Q3/6D). Document type: Article.
  - Bravo A, Fontanet S, Skolarikos A, Gozen AS, Somani BK, Traxer O, Papatsoris A, AGUSTIN M, Keller EX, Pietropaolo A, Tonyali S, Taily T, Esperto F, Liatsikos E, Kanashiro AK, Angerri O, Emiliani E. Estimated Radiation Dose to the Lens During Endourologic Procedures: The Role of Lead- ed Glasses and the ALARA Protocol-An ESU/ ESUT-YAU Endourology Group Collaboration. *JOURNAL OF ENDOUROLOGY*. 2023; 37(8). DOI:10.1089/end.2023.0061. PMID:37337653. IF:2,700 (Q2/5D). Document type: Article.
  - Breda A, Gallioli A, Diana P, Fontana M, Territo A, Gaya JM, Rodríguez O, Huguet J, Piana A, Verri P, Baboudjian M, Aumatell J, Algaba F, Palou J. The DEpth of Endoscopic Perforation scale to assess intraoperative perforations during transurethral resection of bladder tumor: subgroup analysis of a randomized controlled trial. *WORLD JOURNAL OF UROLOGY*. 2023; 41(10). DOI:10.1007/ s00345-022-04052-w. PMID:35665840. IF:3,400 (Q2/3D). Document type: Article.
  - Buffi N, Paciotti M, Gallagher AG, Diana P, De Groote R, Lughezzani G, Gallioli A, Casale P, Palou J, Mottrie A, Breda A. European training in urology (ENTRY): quality-assured training for European urology residents. *BJU INTERNATIONAL*. 2023; 131(2). DOI:10.1111/bju.15928. PMID:36337002. IF:4,500 (Q1/3D). Document type: Letter.
  - Campi R, Pecoraro A, Vignolini G, Spatafora P, Sebastianelli A, Sessa F, Li V, Territo A, Decaes- tecker K, Breda A, Serni S, RAKT C, European Assoc Urology EAU Y, EAU Robotic Urology S. The First Entirely 3D-Printed Training Mo- del for Robot-assisted Kidney Transplantation: The RAKT Box. *European Urology Open Science*. 2023; 53DOI:10.1016/j.euros.2023.05.012. PMID:37304228. IF:2,500 (Q3/6D). Document type: Article.
  - Candela L, Keller EX, Pietropaolo A, Esperto F, Juliebø P, Emiliani E, De Coninck V, Taily T, Talso M, Tonyali S, Sener ET, Hameed BMZ, Tzelvels L, Mykoniatis I, Tsaturyan A, Salonia A, Ventimiglia E. New Technologies in Endourology and Laser Li- thotripsy: The Need for Evidence in Comprehen- sive Clinical Settings. *Journal of Clinical Medicine*. 2023; 12(17):5709. DOI:10.3390/jcm12175709. PMID:37685776. IF:3,900 (Q2/4D). Document type: Editorial Material.
  - Castellani D, Fong KY, Lim EJ, Chew B, Taily T, Emiliani E, Teoh JYC, Chai CA, Heng CT, Keat W, Tanidir Y, Ragoori D, Galosi AB, Singh A, Bin S, Traxer O, Somani BK, Gauhar V. Compari- son Between Holmium:YAG Laser with MOSES Technology vs Thulium Fiber Laser Lithotripsy in Retrograde Intrarenal Surgery for Kidney Stones in Adults: A Propensity Score-matched Analysis From the FLEXible Ureterscopy Out- comes Registry. *JOURNAL OF UROLOGY*. 2023; 210(2). DOI:10.1097/JU.0000000000003504. PMID:37126223. IF:6,600 (Q1/2D). Document type: Article.
  - Castellani D, Somani BK, Ferretti S, Gatti C, Sekerci CA, Madarriaga YQ, Fong KY, Cam- pobasso D, Ragoori D, Shrestha A, Vaddi CM, Bhatia TP, Sinha MM, Lim EJ, Teoh JY, Griffin S, Tur AB, Tanidir Y, Traxer O, Gauhar V. Role of



## 5.1.6 Associated Groups

- Preoperative Ureteral Stent on Outcomes of Retrograde Intra-Renal Surgery (RIRS) in Children. Results From a Comparative, Large, Multi-center Series. *UROLOGY*. 2023; 173DOI:10.1016/j.urology.2022.11.019. PMID:36460062. IF:2,100 (Q3/7D). Document type: Article.
- Castellani D, Traxer O, Ragoori D, Galosi AB, De Stefano V, Gadzhiev N, Tanidir Y, Inoue T, Emiliani E, Bin S, Lakmichi MA, Vaddi CM, Heng CT, Soebhali B, More S, Sridharan V, Gokce MI, Tursunkulov AN, Ganpule A, Pirola GM, Naselli A, Aydin C, Chillon FRD, Mendoza CS, Candela L, Chew B, Somani BK, Gauhar V. Improving Outcomes of Same-sitting Bilateral Flexible Ureteroscopy for Renal Stones in Real-world Practice-Lessons Learnt from Global Multicenter Experience of 1250 Patients. *European Urology Open Science*. 2023; 52DOI:10.1016/j.euros.2023.03.018. PMID:37284041. IF:2,500 (Q3/6D). Document type: Article.
  - Castellarnau S, Gaya JM, Espinosa J, Sierra P, Huguet J, Palou J, Hernando D, Sabaté S, Breda A. Clinical impact of the suspension of the ERAS protocol on patients undergoing radical cystectomy during the COVID-19 pandemic. *Actas Urológicas Españolas*. 2023; 47(6). DOI:10.1016/j.acuroe.2023.01.006. PMID:36842706. Document type: Article.
  - Castellarnau S, Gaya JM, Espinosa J, Sierra P, Huguet J, Palou J, Hernando D, Sabate S, Breda A. Clinical impact of the suspension of the ERAS protocol on patients undergoing radical cystectomy during the COVID-19 pandemic. *Actas Urológicas Españolas*. 2023; 47(6). DOI:10.1016/j.acuro.2023.01.005. PMID:36776227. IF:1,100 (Q4/9D). Document type: Article.
  - Chai C-A, Teoh Y-C, Taily T, Emiliani E, Inoue T, Tanidir Y, Gadzhiev N, Bin S, Ong WL, Shrestha A, Ragoori D, Lakmichi MA, Gorelov D, Soebhali B, Vaddi CM, Bhatia TP, Desai D, Durai P, Heng C-T, Chew B, Castellani D, Somani B, Traxer O, Gauhar V, TOWER G. Influence of pre-stenting on RIRS outcomes. Inferences from patients of the Global Multicentre Flexible Ureteroscopy Outcome Registry (FLEXOR). *Minerva Urology And Nephrology*. 2023; 75(4). DOI:10.23736/S2724-6051.23.05239-4. PMID:37293816. IF:4,900 (Q1/2D). Document type: Article.
  - Checcucci E, Verri P, Amparore D, Cacciama-ni GE, Fiori C, Breda A, Porpiglia F. Generative Pre-training Transformer Chat (ChatGPT) in the scientific community: the train has left the station. *Minerva Urology And Nephrology*. 2023; 75(2). DOI:10.23736/S2724-6051.23.05326-0. PMID:36883768. IF:4,900 (Q1/2D). Document type: Editorial Material.
  - Checcucci E, Verri P, Amparore D, Cacciama-ni GE, Rivas JG, Autorino R, Motttrie A, Breda A, Porpiglia F. The future of robotic surgery in urology: from augmented reality to the advent of metaverse. *Therapeutic Advances in Urology*. 2023; 15:17562872231151853. DOI:10.1177/17562872231151853. PMID:36744045. IF:2,000 (Q3/7D). Document type: Letter.
  - Chew BH, Jung HU, Emiliani E, Miller LE, Miller AL, Bhojani N. Complication Risk of Endourological Procedures: The Role of Intrarenal Pressure. *UROLOGY*. 2023; 181DOI:10.1016/j.urology.2023.08.011. PMID:37673408. IF:2,100 (Q3/7D). Document type: Editorial Material.
  - Crocerossa F, Autorino R, Derweesh I, Carbonara U, Cantiello F, Damiano R, Rubio J, Roupret M, Breda A, Volpe A, Mir MC, European Section of Urologic U. Management of renal cell carcinoma in transplant kidney: a systematic review and meta-analysis. *Minerva Urology And Nephrology*. 2023; 75(1). DOI:10.23736/S2724-6051.22.04881-9. PMID:36094386. IF:4,900 (Q1/2D). Document type: Article.
  - Croghan SM, Somani BK, Considine SW, Breen K, McGuire BB, Manecksha RP, Gauhar V, Hameed BZ, O'Meara S, Emiliani E, Aufrán AM, Agarwal D, Sener TE, O'Brien FJ, Streeper NM, Seitz C, Davis NF. Perceptions and Practice Patterns of Urologists Relating to Intrarenal Pressure During Ureteroscopy: Findings from a Global Cross-Sectional Analysis. *JOURNAL OF ENDOUROLOGY*. 2023; 37(11). DOI:10.1089/end.2023.0346. PMID:37725588. IF:2,700 (Q2/5D). Document type: Article.
  - de Leon JP, Salas D, Calderon J, Montlleo M, Palou J. Analysis of prognostic factors of failure in perineal urethrostomy. *WORLD JOURNAL OF UROLOGY*. 2023; 41(4). DOI:10.1007/s00345-



## 5.1.6 Associated Groups

- 023-04343-w. PMID:36932283. IF:3,400 (Q2/3D). Document type: Article.
- Del Giudice F, Asero V, Bologna E, Scornajenghi CM, Carino D, Dolci V, Viscuso P, Salciccchia S, Sciarra A, D'Andrea D, Pradere B, Moschini M, Mari A, Albisinni S, Krajewski W, Szydelko T, Malkiewicz B, Nowak L, Laukhtina E, Gallioli A, Mertens LS, Marcq G, Cimadamore A, Afferi L, Soria F, Mori K, Tully KH, Pichler R, Ferro M, Tataru OS, Autorino R, Crivellaro S, Crocetto F, Busetto GM, Basran S, Eisenberg ML, Chung BI, De Berardinis E. Efficacy of Different Bacillus of Calmette-Guerin (BCG) Strains on Recurrence Rates among Intermediate/High-Risk Non-Muscle Invasive Bladder Cancers (NMIBCs): Single-Arm Study Systematic Review, Cumulative and Network Meta-Analysis. *Cancers*. 2023; 15(7):1937. DOI:10.3390/cancers15071937. PMID:37046598. IF:5,200 (Q2/3D). Document type: Review.
  - Del Giudice F, D'Andrea D, Pradere B, Berndl F, Pallauf M, Flammia RS, Philipp D, Moschini M, Mari A, Albisinni S, Krajewski W, Laukhtina E, Gallioli A, Mertens LS, Marcq G, Cimadamore A, Afferi L, Gontero P, Shariat SF, Chung BI, Soria F. Surgical checklist adherence across urology expertise levels impacts transurethral resection of bladder tumour quality indicators. *BJU INTERNATIONAL*. 2023; 131(6). DOI:10.1111/bju.15920. PMID:36251366. IF:4,500 (Q1/3D). Document type: Article.
  - Del Giudice F, Kim W, Li S, DE Berardinis E, Sciarra A, Salciccchia S, Ferro M, Autorino R, Pandolfo SD, Crocetto F, Galfano A, Dell'oglio P, Cacciamani GE, Pradere B, Laukhtina E, D'Andrea D, Belladelli F, Krajewski W, Mari A, Minervini A, Gallioli A, Amparore D, Checcucci E, Fiori C, Porpiglia F, Morgantini L, Crivellaro S, Chung BI. Management of the incidental adrenal mass, continued surveillance versus surgical excision: analysis of US claims data on contemporary socio-demographic predictors and perioperative outcomes. *Minerva Urology And Nephrology*. 2023; 75(1). DOI:10.23736/S2724-6051.22.05073-X. PMID:36197701. IF:4,900 (Q1/2D). Document type: Article.
  - Diamand R, D'Hondt F, Mjaess G, Jabbour T, Dell'Oglio P, Larcher A, Moschini M, Quackels T, Peltier A, Assenmacher G, Wiklund P, Breda A, Turri F, De Groote R, Motttrie A, Roumeguere T, Albisinni S, ERUS Educ Working GRP, Junior ERUS EAU YAU Robot S, EAU YAU Urothelial C. Teaching robotic cystectomy: prospective pilot clinical validation of the ERUS training curriculum. *BJU INTERNATIONAL*. 2023; 132(1). DOI:10.1111/bju.15993. PMID:36815233. IF:4,500 (Q1/3D). Document type: Article.
  - Diana P, Baboudjian M, Gallioli A, Territo A, Fontanet S, Izquierdo P, Uleri A, Verri P, Rodríguez Ó, Gaya JM, Sanguedolce F, Palou J, Breda A. Implementing a Checklist for Transurethral Resection of Bladder Tumor to Standardize Outcome Reporting: When High-quality Resection Could Influence Oncological Outcomes. *European Urology Open Science*. 2023; 48DOI:10.1016/j.euros.2022.09.025. PMID:36588772. IF:2,500 (Q3/6D). Document type: Letter.
  - Diana P, Baboudjian M, Saita A, Uleri A, Gallioli A, Casale P, Buffi N, Pradere B, Misrai V, Gondran B, Boissier R, Schwartzmann I, Breda A, del Dago PJ. Same-day discharge for endoscopic enucleation of the prostate: a systematic review and meta-analysis. *WORLD JOURNAL OF UROLOGY*. 2023; 41(8). DOI:10.1007/s00345-023-04471-3. PMID:37395755. IF:3,400 (Q2/3D). Document type: Review.
  - Diana P, Gallioli A, Fontana M, Territo A, Bravo A, Piana A, Baboudjian M, Gavrillov P, Rodríguez O, Gaya JM, Algaba F, Palou J, Breda A. Energy source comparison in en-bloc resection of bladder tumors: subanalysis of a single-center prospective randomized study. *WORLD JOURNAL OF UROLOGY*. 2023; 41(10). DOI:10.1007/s00345-022-04042-y. PMID:35639159. IF:3,400 (Q2/3D). Document type: Article.
  - Echeverria P, Reed F, Gatti JM, Braga LH, Cherian A, García L, Metcalfe P, Ruiz J, Bortagaray JI, Martin O, Leclair MD, Bujons A, de Badiola F, Coleman R, Webb NR, Corbetta JP, Moldes JM, Mushtaq I, López P-J. Latitudes and attitudes: A multinational study of laparoscopic pyeloplasty in children. *Journal of Pediatric Urology*. 2023; 19(1):86.e1-86.e6. DOI:10.1016/j.jpuro.2022.10.005. PMID:36336623. IF:2,000 (Q3/6D). Document type: Article.
  - Emiliani E, Kanashiro A, Angerri O. Lasers for stone lithotripsy: advantages/disadvantages



## 5.1.6 Associated Groups

- of each laser source. *CURRENT OPINION IN UROLOGY*. 2023; 33(4). DOI:10.1097/MOU.0000000000001092. PMID:36927702. IF:2,500 (Q3/6D). Document type: Review.
- Emiliani E, Kanashiro AK, Balana J, Fontanet S, Aumatell J, Calderon J, Iregui J, Sánchez A, Sánchez F, Millan F, Angerri O. Use of Moses 2.0 with extended frequency and optimized Moses vs. high-power laser in MiniPCNL: a randomized controlled trial. *Urolithiasis*. 2023; 51(1):75. DOI:10.1007/s00240-023-01443-5. PMID:37074477. IF:3,100 (Q2/4D). Document type: Article.
  - Emiliani E, Sanz I, Somani B, Tailly T, Castellani D, Traxer O, Yuen J, Chew B, Ong Lay Keat W, Chai CA, Bin S, Shrestha A, Soehabali B, Angerri O, Gauhar V, en representación R. Does gender influence retrograde intrarenal surgery (RIRS) outcomes? Data from the Flexible Ureteroscopy Outcomes Registry (FLEXOR). *Actas Urológicas Españolas*. 2023; 47(9). DOI:10.1016/j.acuroe.2023.06.008. PMID:37369300. Document type: Article.
  - Emiliani E, Sanz I, Somani B, Tailly T, Castellani D, Traxer O, Yuen J, Hall B, Ong Lay Keat W, Chai CA, Hamri B, Shrestha A, Soehabali B, Angerri O, Gauhar V, en representación R. Does gender influence retrograde intrarenal surgery (RIRS) outcomes? Data from the Flexible Ureteroscopy Outcomes Registry (FLEXOR). *Actas Urológicas Españolas*. 2023; 47(9). DOI:10.1016/j.acuro.2023.04.002. IF:1,100 (Q4/9D). Document type: Article.
  - Emiliani E, Territo A, Calderón JF, Meneghetti I, Subiela JD, Basile G, Angerri O, Palou J, Breda A. Assessment of intrarenal temperature dynamics when using holmium and thulium: YAG lasers in an ex vivo porcine kidney model. *Actas Urológicas Españolas*. 2023; 47(3). DOI:10.1016/j.acuro.2022.05.006. PMID:37013354. IF:1,100 (Q4/9D). Document type: Article.
  - Esperto F, Pietropaolo A, Emiliani E, DE Coninck V, Tailly T, Keller EX, Talso M, Tonyali S, Sener ET, Zeesha BM, Tzelves L, Ventimiglia E, Juliebø P, Faiella E, Mykoniatis I, Tsaturyan A, Scarpa RM, YAU Urolithiasis and Endourology Working G. Unveiling the impact of stone disease: enhancing quality of life through comprehensive care. *Minerva Urology And Nephrology*. 2023; 75(5). DOI:10.23736/S2724-6051.23.05537-4. PMID:37728501. IF:4,900 (Q1/2D). Document type: Editorial Material.
  - Esperto F, Pietropaolo A, Emiliani E, de Coninck V, Tailly T, Keller EX, Talso M, Tonyali S, Sener ET, Zeesha BM, Tzelves L, Ventimiglia E, Juliebø P, Faiella E, Mykoniatis I, Tsaturyan A, Scarpa RM, YAU Urolithiasis and Endourology Working G. Quality of life of patients with stone disease: timing, planning, strategies, and prevention of a systemic pathology. *Minerva Urology And Nephrology*. 2023; 75(4). DOI:10.23736/S2724-6051.23.05435-6. PMID:37314814. IF:4,900 (Q1/2D). Document type: Editorial Material.
  - Fallara G, DI F, Bravi CA, DE Groote R, Piramide F, Turri F, Andras I, Moschovas M, Larcher A, Breda A, Dell'Oglio P, Junior ERUS Young Acad U. A systematic review and meta-analysis of robot-assisted vs. open radical cystectomy: where do we stand and future perspective. *Minerva Urology And Nephrology*. 2023; 75(2). DOI:10.23736/S2724-6051.23.05065-6. PMID:36999835. IF:4,900 (Q1/2D). Document type: Review.
  - Farinha R, Breda A, Porter J, Motttrie A, Van B, Vander J, Mottaran A, Gallagher AG, the RAPN G. International Expert Consensus on Metric-based Characterization of Robot-assisted Partial Nephrectomy. *European Urology Focus*. 2023; 9(2). DOI:10.1016/j.euf.2022.09.017. PMID:36229343. IF:5,400 (Q1/2D). Document type: Article.
  - Farinha R, Breda A, Porter J, Motttrie A, Van B, Vander J, Mottaran A, Gallagher AG. Objective assessment of intraoperative skills for robot-assisted partial nephrectomy (RAPN). *Journal of Robotic Surgery*. 2023; 17(4). DOI:10.1007/s11701-023-01521-1. PMID:36689078. IF:2,300 (Q2/5D). Document type: Article.
  - Fontanet S, Basile G, Baboudjian M, Gallioli A, Huguet J, Territo A, Parada R, Gavrilov P, Aumatell J, Sanz I, Bravo A, Verri P, Uleri A, Gaya JM, Palou J, Breda A. Robot-assisted vs. open radical cystectomy: Systematic review and meta-analysis of randomized controlled trials. *Actas Urológicas Españolas*. 2023; 47(5). DOI:10.1016/j.acuro.



## 5.1.6 Associated Groups

- ro.2022.11.003. PMID:36737037. IF:1,100 (Q4/9D). Document type: Review.
- Fontanet S, Farré A, Angerri O, Kanashiro A, Suquilandia E, Bollo J, Gallego M, Sánchez FM, Millán F, Palou J, Bonnín D, Emiliani E. Bowel Perforation after Extracorporeal Wave Lithotripsy: A Review of the Literature. *Journal of Clinical Medicine*. 2023; 12(3):1052. DOI:10.3390/jcm12031052. PMID:36769699. IF:3,900 (Q2/4D). Document type: Note.
  - Fontanet S, Gallioli A, Baboudjian M, Huguet J, Territo A, Gaya JM, Gavrilov P, Izquierdo P, Verri P, Algaba F, Palou J, Breda A. Topical instillation of BCG immunotherapy for biopsy-proven primary upper urinary tract carcinoma in situ: A single institution series and systematic review. *UROLOGIC ONCOLOGY-SEMINARS AND ORIGINAL INVESTIGATIONS*. 2023; 41(6). DOI:10.1016/j.urolonc.2022.11.001. PMID:36526527. IF:2,700 (Q2/5D). Document type: Review.
  - Fontanet S, Huguet J, Gaya JM, Territo A, Gallioli A, Aumatell J, Algaba F, Palou J, Breda A. Indications and histology of 489 orchiectomies analyzed by patient age. *Actas Urológicas Españolas*. 2023; 47(7). DOI:10.1016/j.acuro.2022.10.004. IF:1,100 (Q4/9D). Document type: Article.
  - Fontanet S, Huguet J, Gaya JM, Territo A, Gallioli A, Aumatell J, Algaba F, Palou J, Breda A. Indications and histology of 489 orchiectomies analyzed by patient age. *Actas Urológicas Españolas*. 2023; 47(7). DOI:10.1016/j.acuroe.2022.11.004. PMID:36427799. Document type: Article.
  - Gallioli A, Baboudjian M, Diana P, Moschini M, Xylinas E, Del Giudice F, Laukhtina E, Soria F, Mari A, Subiela JD, Rouy M, Territo A, Basile G, Palou J, Pradere B, Breda A; EAU Young Academic Urologists Urothelial Cancer Working Group. Perioperative and oncological outcomes of distal ureter management during nephroureterectomy for upper urinary tract urothelial carcinoma: a systematic review and meta-analysis. *Minerva Urol Nephrol*. 2023; 75(6):672-682. DOI: 10.23736/S2724-6051.23.05448-4. PMID: 38126282. IF:4,900 (Q1/2D). Document type: Review.
  - Gallioli A, Basile G, Territo A, Breda A. New technologies for nephron-sparing surgery in upper urinary tract cancers. *CURRENT OPINION IN UROLOGY*. 2023; 33(6). DOI:10.1097/MOU.0000000000001120. PMID:37594365. IF:2,500 (Q3/6D). Document type: Article.
  - Gallioli A, Basile G, Territo A, Verri P, Gaya JM, Sanguedolce F, Aumatell J, Izquierdo P, Uleri A, Diana P, Huguet J, Algaba F, Palou J, Breda A. The importance of second-look ureteroscopy implementation in the conservative management of upper tract urothelial carcinoma. *WORLD JOURNAL OF UROLOGY*. 2023; 41(10). DOI:10.1007/s00345-023-04577-8. PMID:37668716. IF:3,400 (Q2/3D). Document type: Article.
  - Gallioli A, Uleri A, Gaya JM, Territo A, Aumatell J, Verri P, Basile G, Fontanet S, Tedde A, Diana P, Suquilandia E, Algaba F, Palou J, Breda A. Initial experience of robot-assisted partial nephrectomy with Hugo (TM) RAS system: implications for surgical setting. *WORLD JOURNAL OF UROLOGY*. 2023; 41(4). DOI:10.1007/s00345-023-04336-9. PMID:36847815. IF:3,400 (Q2/3D). Document type: Article.
  - Gauhar V, Chai CA, Chew BH, Singh A, Castellani D, Taily T, Emiliani E, Keat W, Ragoori D, Lakmichi MA, Teoh JYC, Traxer O, Somani BK. RIRS with disposable or reusable scopes: does it make a difference? Results from the multicenter FLEXOR study. *Therapeutic Advances in Urology*. 2023; 15:17562872231158072. DOI:10.1177/17562872231158072. PMID:36923302. IF:2,000 (Q3/7D). Document type: Article.
  - Gauhar V, Chew BH, Traxer O, Taily T, Emiliani E, Inoue T, Tiong HC, Chai CA, Lakmichi MA, Tani-dir Y, Hamri SB, Desai D, Biligere S, Shrestha A, Soebhali B, Keat W, Mohan VC, Bhatia TP, Singh A, Saleem M, Gorelov D, Gadzhiev N, Pietropaolo A, Galosi AB, Ragoori D, Teoh JYC, Somani BK, Castellani D. Indications, preferences, global practice patterns and outcomes in retrograde intrarenal surgery (RIRS) for renal stones in adults: results from a multicenter database of 6669 patients of the global FLEXible ureteroscopy Outcomes Registry (FLEXOR). *WORLD JOURNAL OF UROLOGY*. 2023; 41(2). DOI:10.1007/s00345-022-04257-z. PMID:36536170. IF:3,400 (Q2/3D). Document type: Article.



## 5.1.6 Associated Groups

- Gaya JM, Basile G, Gavrillov P, Gallioli A, Territo A, Robalino J, Hernandez P, Sánchez R, Bravo A, Algaba F, Huguet J, Sanguedolce F, Palou J, Rosales A, Breda A. Simultaneous Bilateral Video-Endoscopic Inguinal Lymphadenectomy for Penile Carcinoma: Surgical Setting, Feasibility, Safety, and Preliminary Oncological Outcomes. *Journal of Clinical Medicine*. 2023; 12(23):7272. DOI:10.3390/jcm12237272. PMID:38068324. IF:3,900 (Q2/4D). Document type: Article.
- Gaya JM, Territo A, Basile G, Gallioli A, Martinez C, Turco M, Baboudjian M, Verri P, Tedde A, Uleri A, Meneghetti I, Huguet J, Rosales A, Sanguedolce F, Rodríguez O, Palou J, Breda A. Optimizing decision-making process of benign uretero-enteric anastomotic stricture treatment after radical cystectomy. *WORLD JOURNAL OF UROLOGY*. 2023; 41(3). DOI:10.1007/s00345-023-04298-y. PMID:36725730. IF:3,400 (Q2/3D). Document type: Article.
- Gaya JM, Territo A, Woldu S, Schwartzmann I, Verri P, González L, Cózar JM, Miñana B, Medina RA, de la Rosa F, Lozano F, Ribal MJ, Hernández C, Castiñeiras JJ, Requena MJ, Moreno J, Caraballido JA, Baena V, Breda A, Palou J. Incidental diagnosis of bladder cancer in a national observational study in Spain. *Actas Urológicas Españolas*. 2023; 47(5). DOI:10.1016/j.acuro.2022.09.002. PMID:36443223. IF:1,100 (Q4/9D). Document type: Article.
- Gaya JM, Uleri A, Sanz I, Basile G, Verri P, Hernandez P, Territo A, Faba OR, Gallioli A, Breda A, Palou J. Robot-assisted radical cystectomy and ileal conduit with HugoTM RAS system: feasibility, setting and perioperative outcomes. *Int Braz J Urol*. 2023; 49(6):787-788. DOI: 10.1590/S1677-5538.IBJU.2023.0349. PMID: 37624661. IF:3,700 (Q1/3D). Document type: Editorial Material.
- Giulioni C, Brocca C, Gauhar V, Somani BK, Chew BH, Traxer O, Emiliani E, Innoue T, Sarica K, Gadzhiev N, Tanidir Y, Teoh JY-C, Galosi AB, Castellani D. Does age impact outcomes of retrograde intrarenal surgery in the elderly? Results from 366 patients from the FLEXible ureteroscopy outcomes registry (FLEXOR). *AGING CLINICAL AND EXPERIMENTAL RESEARCH*. 2023; 35(11). DOI:10.1007/s40520-023-02545-1. PMID:37682489. IF:4,000 (Q2/5D). Document type: Article.
- Giulioni C, Castellani D, Somani BK, Chew B, Taily T, Keat W, Teoh JY, Emiliani E, Chai CA, Galosi AB, Ragoori D, Tanidir Y, Hamri SB, Gadzhiev N, Traxer O, Gauhar V. The efficacy of retrograde intra-renal surgery (RIRS) for lower pole stones: results from 2946 patients. *WORLD JOURNAL OF UROLOGY*. 2023; 41(5). DOI:10.1007/s00345-023-04363-6. PMID:36930255. IF:3,400 (Q2/3D). Document type: Article.
- Grobet E, Lenfant L, Mir C, Giannarini G, Alcaraz A, Albersen M, Breda A, Briganti A, Rouprêt M, Seisen T, EAU Section of Oncological Urology (ESOU) B. A Systematic Review of Oncological Outcomes Associated with Bladder-sparing Strategies in Patients Achieving Complete Clinical Response to Initial Systemic Treatment for Localized Muscle-invasive Bladder Cancer. *European Urology Oncology*. 2023; 6(3). DOI:10.1016/j.euo.2023.02.008. PMID:36906510. IF:8,200 (Q1/1D). Document type: Review.
- Grossmann NC, Soria F, Juvet T, Potretzke AM, Djaladat H, Ghoreifi A, Kikuchi E, Mari A, Khene ZE, Fujita K, Raman JD, Breda A, Fontana M, Sfakianos JP, Pfail JL, Laukhtina E, Rajwa P, Pallauf M, Poyet C, Cacciamani GE, van T, Boormans JL, Antonelli A, Jamil M, Abdollah F, Ploussard G, Heidenreich A, Storz E, Daneshmand S, Boorjian SA, Roupret M, Rink M, Shariat SF, Pradere B. Comparing Oncological and Perioperative Outcomes of Open versus Laparoscopic versus Robotic Radical Nephroureterectomy for the Treatment of Upper Tract Urothelial Carcinoma: A Multi-center, Multinational, Propensity Score-Matched Analysis. *Cancers*. 2023; 15(5):1409. DOI:10.3390/cancers15051409. PMID:36900201. IF:5,200 (Q2/3D). Document type: Article.
- Guven S, Colecchia M, Oltulu P, Bonfante G, Enikeev D, Esen H, Herrmann T, Lusuardi L, Micali S, Somani B, Skolarikos A, Breda A, Liatsikos E, Redorta JP, Gozen AS. How do endoscopic bladder tumor resection techniques affect pathology practice? EAU Section of Uro-Technology (ESUT) and Uropathology (ESUP) survey. *WORLD JOURNAL OF UROLOGY*. 2023; 41(10). DOI:10.1007/s00345-022-04022-2. PMID:35567624. IF:3,400 (Q2/3D). Document type: Article.
- Henderickx M, Hendriks N, Baard J, Wiseman OJ, Scotland KB, Somani BK, Sener TE, Emiliani E,



## 5.1.6 Associated Groups

- Dragos LB, Villa L, Talso M, Bin S, Proietti S, Doizi S, Traxer O, Chew BH, Eisner BH, Monga M, Hsi RS, Stern KL, Leavitt DA, Rivera M, Wollin DA, Borofsky M, Canvasser NE, Ingimarsson JP, El Tayeb MM, Bhojani N, Gadzhiev N, Taily T, Durutovic O, Nagele U, Skolarikos A, Schout B, Beerlage HP, Pelger RCM, Kamphuis GM. The Uniform grading tool for flexible ureterorenoscopes (TULIP-tool): a Delphi consensus project on standardised evaluation of flexible ureterorenoscopes. *BJU INTERNATIONAL*. 2023; 131(4). DOI:10.1111/bju.15916. PMID:36208033. IF:4,500 (Q1/3D). Document type: Article.
- Houenstein HA, Jing Z, Elsayed AS, Ramahi YO, Stöckle M, Wijburg C, Hosseini A, Wiklund P, Kim E, Kaouk J, Dasgupta P, Khan MS, Wagner AA, Syed JR, Peabody JO, Badani K, Richstone L, Mottrie A, Maatman TJ, Balbay D, Redorta JP, Rha KH, Gaboardi F, Rouprêt M, Aboumohamed A, Hussein AA, Guru KA. Analysis of Complications After Robot-Assisted Radical Cystectomy Between 2002-2021. *UROLOGY*. 2023; 171DOI:10.1016/j.urology.2022.08.049. PMID:36241062. IF:2,100 (Q3/7D). Document type: Article.
  - Huguet J, Rodríguez O, Gaya JM, Palou J, Breda A. An aid to a better understanding of the definitions of bacillus Calmette Guerin failure provided by the European Urology Association. *Actas Urológicas Españolas*. 2023; 47(7). DOI:10.1016/j.acuro.2023.01.003. IF:1,100 (Q4/9D). Document type: Editorial Material.
  - Juliebo P, Emiliani E, Sierra A, Esperto F, Ventimiglia E, Pietropaolo A, Tzelvels L, Beisland C, Somani BK. Patient Perspectives on Kidney Stone Surgery: A Content Analysis of Instagram Posts by Patients Versus Surgeons. *European Urology Open Science*. 2023; 58DOI:10.1016/j.euros.2023.10.009. PMID:38152483. IF:2,500 (Q3/6D). Document type: Article.
  - Kamat AM, Apolo AB, Babjuk M, Bivalacqua TJ, Black PC, Buckley R, Campbell MT, Compérat E, Efsthathiou JA, Grivas P, Gupta S, Kurtz NJ, Lamm D, Lerner SP, Li R, McConkey DJ, Palou J, Powles T, Psutka SP, Shore N, Steinberg GD, Sylvester R, Witjes JA, Galsky MD. Definitions, End Points, and Clinical Trial Designs for Bladder Cancer: Recommendations From the Society for Immunotherapy of Cancer and the International Bladder Cancer Group. *JOURNAL OF CLINICAL ONCOLOGY*. 2023; 41(35):JCO2300307. DOI:10.1200/JCO.23.00307. PMID:37793077. IF:45,300 (Q1/1D). Document type: Article.
  - Katayama S, Pradere B, Grossman NC, Potretzke AM, Boorjian SA, Ghoreifi A, Daneshmand S, Djavidat H, Sfakianos JP, Mari A, Khene ZE, D'Andrea D, Hayakawa N, Breda A, Fontana M, Fujita K, Antonelli A, van T, Steinbach C, Mori K, Laukhtina E, Roupert M, Margulis V, Karakiewicz PI, Araki M, Compérat E, Nasu Y, Shariat SF. Biological and prognostic implications of biopsy upgrading for high-grade upper tract urothelial carcinoma at nephroureterectomy. *INTERNATIONAL JOURNAL OF UROLOGY*. 2023; 30(1). DOI:10.1111/iju.15061. PMID:36349904. IF:2,600 (Q3/6D). Document type: Article.
  - Korkes F, Timoteo F, Baccaglini W, Glina F, Faba OR, Redorta JP, Glina S. Postoperative Mortality Rate after Radical Cystectomy: A Systematic Review of Epidemiologic Series. *UROLOGIA INTERNATIONALIS*. 2023; 107(1). DOI:10.1159/000524578. PMID:36382647. IF:1,600 (Q4/9D). Document type: Review.
  - Larcher A, Cei F, Belladelli F, Rosiello G, Andrea C, Fallara G, Basile G, Lucianò R, Karakiewicz P, Mottrie A, Breda A, Briganti A, Salonia A, Bertini R, Montorsi F, Capitanio U, Junior ERUS/Young Academic Urologists Working Group on Robotic S. The Learning Curve for Radical Nephrectomy for Kidney Cancer: Implications for Surgical Training. *European Urology Open Science*. 2023; 49DOI:10.1016/j.euros.2022.12.007. PMID:36874599. IF:2,500 (Q3/6D). Document type: Letter.
  - Lonati C, Soria F, Pradere B, D'Andrea D, Laukhtina E, Mertens LS, Albisinni S, Krajewski W, Afferi L, Del Giudice F, Gallioli A, Moschini M, Urothelial Carcinoma Working GRP, European Assoc Urol Y. Comment on: "Accuracy of the European Association of Urology (EAU) NMIBC 2021 scoring model in predicting progression in a large cohort of HG T1 NMIBC patients treated with BCG". *Minerva Urology And Nephrology*. 2023; 75(3). DOI:10.23736/S2724-6051.23.05337-5. PMID:37221831. IF:4,900 (Q1/2D). Document type: Editorial Material.





## 5.1.6 Associated Groups

- López A, González P, Sanz J, Prieto JD, Trias I, Luque RJ, Semidey ME, Maroto P, Algaba F. Practical aspects of PD-L1 assessment in the treatment of urothelial carcinoma: Consensus of the uropathology group of the SEAP. *Revista Española De Patología*. 2023; 56(4). DOI:10.1016/j.patol.2023.05.001. PMID:37879823. Document type: Review.
- Marra G, Soria F, Peretti F, Oderda M, Dariane C, Timsit MO, Branchereau J, Hedli O, Mesnard B, Tilki D, Olsburgh J, Kulkarni M, Kasivisvanathan V, Lebacle C, Rodríguez O, Breda A, Soeterik T, Gandaglia G, Todeschini P, Biancone L, Gontero P. Prostate Cancer in Renal Transplant Recipients: Results from a Large Contemporary Cohort. *Cancers*. 2023; 15(1):189. DOI:10.3390/cancers15010189. PMID:36612184. IF:5,200 (Q2/3D). Document type: Article.
- Mayayo C, Prat E, Vecino M, González L, Gràcia S, San Miguel L, Lopera N, Arias A, Artuch R, de Heredia ML, Torrecilla C, Rousaud F, Angerri O, Errasti E, Nunes V. Exploring the Contribution of the Transporter AGT1/rBAT in Cystinuria Progression: Insights from Mouse Models and a Retrospective Cohort Study. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(24):17140. DOI:10.3390/ijms242417140. PMID:38138969. IF:5,600 (Q1/3D). Document type: Article.
- Moschovas MC, Bravi CA, Dell'Oglio P, Turri F, de Groot R, Liakos N, Wenzel M, Würnschimmel C, Di Maida F, Piramide F, Andras I, Breda A, Mottrie A, Patel V, Larcher A. Outcomes of Salvage Robotic-assisted Radical Prostatectomy in the last decade: systematic review and perspectives of referral centers. *Int Braz J Urol*. 2023; 49(6):677-687. DOI: 10.1590/S1677-5538.IBJU.2023.0467. PMID: 37903005. IF:3,700 (Q1/3D). Document type: Review.
- Pallauf M, D'Andrea D, König F, Laukhtina E, Yanagisawa T, Rouprêt M, Daneshmand S, Djaladat H, Ghoreifi A, Soria F, Fujita K, Boorjian SA, Potretzke AM, Mari A, Roumiguié M, Antonelli A, Bianchi A, Khene Z-E, Sfakianos JP, Jamil M, Boormans JL, Raman JD, Grossmann NC, Breda A, Heidenreich A, Del Giudice F, Singla N, Shariat SF, Pradere B. Diagnostic Accuracy of Clinical Lymph Node Staging for Upper Tract Urothelial Cancer Patients: A Multi-center, Retrospective, Observational Study. *JOURNAL OF UROLOGY*. 2023; 209(3). DOI:10.1097/JU.0000000000003085. PMID:36475808. IF:6,600 (Q1/2D). Document type: Article.
- Pérez JH, Faba OR, Gaya JM, Palou J, Breda A. An aid to a better understanding of the definitions of BCG failure provided by the European Urology Association. *Actas Urológicas Españolas*. 2023; 47(7). DOI:10.1016/j.acuroe.2023.01.008. PMID:36842705. Document type: Editorial Material.
- Piana A, Pecoraro A, Sidoti F, Checcucci E, Dönmez MI, Prudhomme T, Marco BB, Abad AL, Campi R, Boissier R, Di M, Porpiglia F, Breda A, Territo A, EAU Young Academic Urologists Y. Robot-Assisted Radical Prostatectomy in Renal Transplant Recipients: A Systematic Review. *Journal of Clinical Medicine*. 2023; 12(21):6754. DOI:10.3390/jcm12216754. PMID:37959223. IF:3,900 (Q2/4D). Document type: Review.
- Piana A, Prudhomme T, Boissier R, Hevia V, Alba S, Breda A, Territo A, EAU Young Academic Urologist (YAU) Working Group on Kidney Transplantation -. Comment on: "Outcomes of kidney transplantation from uncontrolled donors after circulatory death vs. expanded-criteria or standard-criteria donors after brain death at an Italian Academic Center: a prospective observational study". *Minerva Urology And Nephrology*. 2023; 75(4). DOI:10.23736/S2724-6051.23.05431-9. PMID:37530664. IF:4,900 (Q1/2D). Document type: Note.
- Pietropaolo A, Geraghty R, Griffin S, Skolarikos A, Seitz C, Bujons A, Sriprasad S, Subramonian S, Smith D, Contreras P, Bernardo N, Esperto F, Emiliani E, De Coninck V, Taily T, Keller EX, Talso M, Tonyali S, Sener ET, Hameed BMZ, Tzelvels L, Ventimiglia E, Juliebø P, Mykoniatis I, Tsaturyan A, Bres E, Somani BK, YAU Urolithiasis endourology Working G. Worldwide trends of practice and intervention in paediatric endourology: comparison of European versus Non-European responses. *Central European Journal Of Urology*. 2023; 76(3). DOI:10.5173/ceju.2023.79. Document type: Article.
- Piszczek R, Krajewski W, Subiela JD, Del Giudice F, Nowak L, Chorbinska J, Moschini M, Masson A,



## 5.1.6 Associated Groups

- Bebane S, Cimadamore A, Grobet E, Rouprêt M, D'Andrea D, Mastroianni R, Gutierrez B, Gomez J, Mori K, Soria F, Laukhtina E, Mari A, Albisinni S, Gallioi A, Mertens LS, Pichler R, Marcq G, Laszkiewicz J, Halon A, Carrion DM, Akand M, Pradere B, Shariat SF, Palou J, Babjuk M, Burgos J, Malkiewicz B, Szydelko T, European Association of Urology EAU . Prognosis of patients with T1 low-grade urothelial bladder cancer treated with bacillus Calmette-Guérin immunotherapy. *Minerva Urology And Nephrology*. 2023; 75(5). DOI:10.23736/S2724-6051.23.05418-6. PMID:37728495. IF:4,900 (Q1/2D). Document type: Article.
- Prudhomme T, Boissier R, Hevia V, Campi R, Pecoraro A, Breda A, Territo A, the EAU Young Academic Urologist (YAU) group of Kidney Transplant -. Native nephrectomy and arterial embolization of native kidney in autosomal dominant polycystic kidney disease patients: indications, timing and postoperative outcomes. *Minerva Urology And Nephrology*. 2023; 75(1). DOI:10.23736/S2724-6051.22.04972-2. PMID:36094388. IF:4,900 (Q1/2D). Document type: Review.
  - Reed F, Recabal X, Echeverria P, Braga LH, Cherian A, Gatti JM, García L, Perez S, de Badiola F, Bujons A, Moldes JM, Mushtaq I, López PJ. Are weight or age limits for pediatric laparoscopic pyeloplasty? Results of a multicentric study. *WORLD JOURNAL OF UROLOGY*. 2023; 41(6). DOI:10.1007/s00345-023-04359-2. PMID:36947174. IF:3,400 (Q2/3D). Document type: Article.
  - Rich J, Tillu N, Grauer R, Busby D, Auer R, Breda A, Buse S, D'Hondt F, Falagario UG, Hosseini A, Mehrazin R, Minervini A, Mottrie A, Sfakianos J, Palou J, Wijburg C, Wiklund NP, John H. Robotic-Assisted Repair of Ureteroenteric Strictures after Cystectomy with Urinary Diversion: Technique Description and Outcomes from the ERUS Scientific Working Group. *JOURNAL OF ENDOUROLOGY*. 2023; 37(11). DOI:10.1089/end.2023.0204. PMID:37694596. IF:2,700 (Q2/5D). Document type: Article.
  - Rivas JG, Belenchon IR, Li N, Somani B, Esteban EA, Cacciamani G, Checcucci E, Puliatti S, Tarkin M, Kowalewski KF, Rodler S, Veccia A, Palou J, Liatsikos E, European SCH, EAU Young Acad U. A new era and future of education: the impact of pandemic on online learning-a study from the European School of Urology. *Central European Journal Of Urology*. 2023; 76(3). DOI:10.5173/ceju.2023.059. PMID:38045782. Document type: Article.
  - Rojo EG, Traxer O, Arzayus DMV, Castellani D, Ferreti S, Gatti C, Bujons A, Quiroz Y, Teoh JYC, Ragoori D, Bhatia TP, Vaddi CM, Shrestha A, Lim EJ, Sinha MM, Griffin S, Pietropaolo A, Fong KY, Tanidir Y, Somani BK, Gauhar V. Comparison of Low-Power vs High-Power Holmium Lasers in Pediatric Retrograde Intrarenal Surgery Outcomes. *JOURNAL OF ENDOUROLOGY*. 2023; 37(5). DOI:10.1089/end.2022.0778. PMID:36860192. IF:2,700 (Q2/5D). Document type: Article.
  - Salkowski M, Checcucci E, Chow AK, Rogers CC, Adbollah F, Liatsikos E, Dasgupta P, Guimaraes GC, Rassweiler J, Mottrie A, Breda A, Crivellaro S, Kaouk J, Porpiglia F, Autorino R. New multiport robotic surgical systems: a comprehensive literature review of clinical outcomes in urology. *Therapeutic Advances in Urology*. 2023; 15:17562872231177781. DOI:10.1177/17562872231177781. PMID:37325289. IF:2,000 (Q3/7D). Document type: Review.
  - Sanz I, Angerri O, Baboudjain M, Kanashiro A, Gracia S, Millan F, Sánchez F, Somani B, Galan JA, Barghouthy Y, Emiliani E. Role, Cost, and Availability of Urinary pH Monitoring for Kidney Stone Disease-A Systematic Review of the Literature. *Current Urology Reports*. 2023; 24(8). DOI:10.1007/s11934-023-01166-5. PMID:37314611. IF:2,600 (Q3/6D). Document type: Review.
  - Sanz I, Huguet J, Bravo A, Robalino J, Rodríguez Ó, Territo Á, Gaya JM, Palou J, Breda A. Sequential Treatment With Bacillus Calmette-Guérin (BCG) and Mitomycin C Administered With Electromotive Drug Administration (EMDA) in Patients With High-Risk Nonmuscle Invasive Bladder Cancer After BCG Failure. *Clinical Genitourinary Cancer*. 2023; 21(4):e286-e290. DOI:10.1016/j.clgc.2023.03.002. PMID:37076337. IF:3,200 (Q2/4D). Document type: Article.
  - Sener TE, Tanidir Y, Ketenci S, Kutukoglu U, Dorucu D, Cayir H, Pietropaolo A, Emiliani E, Somani B. Radiation exposure during different percuta-



## 5.1.6 Associated Groups

- neous renal puncture techniques: A YAU endourology & urolithiasis. *Investigative and Clinical Urology*. 2023; 64(5). DOI:10.4111/icu.20220395. PMID:37668203. IF:2,300 (Q3/7D). Document type: Article.
- Sinha MM, Pietropaolo A, Madarriaga YQ, de Knecht EL, Tur AB, Griffin S, Somani BK. Comparison and Evaluation of Outcomes of Ureterscopy and Stone Laser Fragmentation in Extremes of Age Groups (<= 10 Years and >= 80 Years of Age): A Retrospective Comparative Analysis of over 15 Years from 2 Tertiary European Centres. *Journal of Clinical Medicine*. 2023; 12(4):1671. DOI:10.3390/jcm12041671. PMID:36836206. IF:3,900 (Q2/4D). Document type: Article.
  - Soeterik TFW, van den Bergh RCN, van HHE, Kelder H, Peretti F, Dariane C, Timsit M-O, Branche-reau J, Mesnard B, Tilki D, Olsburgh J, Kulkarni M, Kasivisvanathan V, Breda A, Biancone L, Gontero P, Gandaglia G, Marra G, Hedli O, Lebacle C, Irani J, Rodríguez O, Todeschini P, Thibault C, Gaya JM, Lamanna G, Secchi A, on behalf of the Young Academic Urologists Prostate Cancer Working Party (. Active surveillance in renal transplant patients with prostate cancer: a multicentre analysis. *WORLD JOURNAL OF UROLOGY*. 2023; 41(3). DOI:10.1007/s00345-023-04294-2. PMID:36710292. IF:3,400 (Q2/3D). Document type: Article.
  - Subiela JD, González DA, Huguet J, Aumatell J, Rodríguez O, Krajewski W, Feliu AH, Mínguez C, Plaza JL, Artiles A, Gajate P, Jiménez MÁ, Burgos J, Breda A, Palou J. Oncological and Renal Function Outcomes in Patients Who Underwent Simultaneous Radical Cystectomy and Nephroureterectomy for Synchronous or Metachronous Panurothelial Carcinoma. *UROLOGY*. 2023; 172DOI:10.1016/j.urology.2022.08.064. PMID:36436672. IF:2,100 (Q3/7D). Document type: Article.
  - Subiela JD, Rodríguez Ó, Aumatell J, Gonzalez DA, Rosales A, Huguet J, Krajewski W, Algaba F, López D, Brasero J, Sánchez Á, Jiménez MÁ, Burgos FJ, Breda A, Palou J. Long-term Recurrence and Progression Patterns in a Contemporary Series of Patients with Carcinoma In Situ of the Bladder With or Without Associated Ta/T1 Disease Treated with Bacillus Calmette-Guérin: Implications for Risk-adapted Follow-up. *European Urology Focus*. 2023; 9(2). DOI:10.1016/j.euf.2022.09.007. PMID:36163105. IF:5,400 (Q1/2D). Document type: Article.
  - Teoh JYC, D'Andrea D, Gallioli A, Yanagisawa T, MacLennan S, Nicoletti R, Fai NC, Maffei D, Hurle R, Lusuuardi L, Malavaud B, Miki J, Kramer M, Mostafid H, Enikeev D, Babjuk M, Breda A, Shariat S, Gontero P, Herrmann T. En bloc resection of bladder tumour: the rebirth of past through reminiscence. *WORLD JOURNAL OF UROLOGY*. 2023; 41(10). DOI:10.1007/s00345-023-04547-0. PMID:37584691. IF:3,400 (Q2/3D). Document type: Article.
  - Territo A, Baboudjian M, Diana P, Gallioli A, Verri P, Uleri A, Basile G, Tedde A, Gaya JM, Huguet J, Rodríguez O, Sanguedolce F, Gomez IS, Molina RS, Palou J, Breda A. To drain or not to drain in uro-oncological robotic surgery? A systematic review and meta-analysis. *Minerva Urology And Nephrology*. 2023; 75(2). DOI:10.23736/S2724-6051.22.05160-6. PMID:36722161. IF:4,900 (Q1/2D). Document type: Review.
  - Territo A, Bajet AS, Mesnard B, Campi R, Pecoraro A, Hevia V, Piana A, Doumerc N, Breda A, Boissier R, Prudhomme T. Open versus robotic-assisted kidney transplantation: A systematic review by the European Association of Urology (EAU) - Young Academic Urologists (YAU) Kidney Transplant Working Group. *Actas Urologicas Españolas*. 2023; 47(8). DOI:10.1016/j.acuroe.2023.03.003. PMID:36965855. Document type: Review.
  - Territo A, Bajet AS, Mesnard B, Campi R, Pecoraro A, Hevia V, Piana A, Doumerc N, Breda A, Boissier R, Prudhomme T. Open versus robotic-assisted kidney transplantation: A systematic review by the European Association of Urology (EAU) - Young Academic Urologists (YAU) Kidney Transplant Working Group. *Actas Urologicas Españolas*. 2023; 47(8). DOI:10.1016/j.acuro.2023.01.008. IF:1,100 (Q4/9D). Document type: Review.
  - Territo A, Bravo A, Andras I, Campi R, Pecoraro A, Hevia V, Prudhomme T, Baboudjian M, Gallioli A, Verri P, Charbonnier M, Boissier R, Breda A. Effectiveness of endourological management of ureteral stenosis in kidney transplant patients: EAU-YAU kidney transplantation working group



## 5.1.6 Associated Groups

- collaboration. *WORLD JOURNAL OF UROLOGY*. 2023; 41(7). DOI:10.1007/s00345-023-04455-3. PMID:37340277. IF:3,400 (Q2/3D). Document type: Article.
- Territo A, Fontanet S, Meneghetti I, Gallioli A, Sanguedolce F, Rodríguez O, Gaya JM, Palou J, Huguet J, Breda A. Management of primary upper urinary tract carcinoma in situ diagnosed by ureteroscopic biopsy: Is bacillus Calmette-Guerin an alternative to nephroureterectomy?. *Actas Urologicas Españolas*. 2023; 47(4). DOI:10.1016/j.acuro.2022.10.002. PMID:36379260. IF:1,100 (Q4/9D). Document type: Article.
  - Territo A, Selvi I, Malcok A, Boissier R, Campi R, Prudhomme T, Pecoraro A, Piana A, López A, Marco BB, Breda A, Dönmez MI. Graft survival and postoperative complications following orthotopic renal transplantation. *CLINICAL TRANSPLANTATION*. 2023; DOI:10.1111/ctr.15220. PMID:38078675. IF:2,100 (Q2/5D). Document type: Review.
  - Territo A, Uleri A, Gallioli A, Gaya JM, Verri P, Basile G, Farré A, Bravo A, Tedde A, Faba ÓR, Palou J, Breda A. Robot-assisted oncologic pelvic surgery with Hugo™ robot-assisted surgery system: A single-center experience. *Asian Journal Of Urology*. 2023; 10(4). DOI:10.1016/j.ajur.2023.05.003. PMID:38024434. Document type: Article.
  - Territo A, Bañuelos B, Breda A, Gómez J, Dönmez MI. What would be the ideal pathway for a young urologist interested in kidney transplantation?. *Actas Urologicas Españolas*. 2023; 47(10). DOI:10.1016/j.acuro.2023.02.001. PMID:37094628. IF:1,100 (Q4/9D). Document type: Editorial Material.
  - Tonyali S, Haberal HB, Esperto F, Hamid Z, Tzelvels L, Pietropaolo A, Emiliani E. The Prime Time for Flexible Ureteroscopy for Large Renal Stones Is Coming: Is Percutaneous Nephrolithotomy No Longer Needed?. *Urology Research And Practice*. 2023; 49(5). DOI:10.5152/tud.2023.23142. Document type: Review.
  - Tonyali S, Pietropaolo A, Emiliani E, Ortac M, Von MF, Turan S, Glienke M, Hamid Z, Taily T. Factors associated with ureteral strictures following ureteroscopy for impacted ureteral stones? A multicenter study by EAU-YAU endourology and urolithiasis working party. *Actas Urologicas Españolas*. 2023; 47(10). DOI:10.1016/j.acuro.2023.04.005. PMID:37086846. Document type: Article.
  - Tonyali S, Pietropaolo A, Emiliani E, Ortac M, von MF, Turan S, Glienke M, Hamid Z, Taily T. Factors associated with ureteral strictures following ureteroscopy for impacted ureteral stones. A multi-center study by EAU-YAU endourology and urolithiasis working party. *Actas Urologicas Españolas*. 2023; 47(10). DOI:10.1016/j.acuro.2023.03.005. IF:1,100 (Q4/9D). Document type: Article.
  - Tonyali S, Yilmaz M, Tzelvels L, Emiliani E, De Coninck V, Keller EX, Miernik A. Predictors of Ureteral Strictures after Retrograde Ureteroscopic Treatment of Impacted Ureteral Stones: A Systematic Literature Review. *Journal of Clinical Medicine*. 2023; 12(10):3603. DOI:10.3390/jcm12103603. PMID:37240709. IF:3,900 (Q2/4D). Document type: Review.
  - Trias I, Saco A, Marimon L, del Campo R, Manzotti C, Ordi O, del Pino M, Perez FM, Vega N, Alos S, Martinez A, Rodríguez L, Reig O, Jares P, Teixido C, Ajami T, Corral JM, Algaba F, Ribal MJ, Ribera I, Rakislova N. P53 in Penile Squamous Cell Carcinoma: A Pattern-Based Immunohistochemical Framework with Molecular Correlation. *Cancers*. 2023; 15(10):2719. DOI:10.3390/cancers15102719. PMID:37345055. IF:5,200 (Q2/3D). Document type: Article.
  - Tyson MD, Morris D, Palou J, Rodríguez O, Mir MC, Dickstein RJ, Guerrero F, Scarpato KR, Hafron JM, Messing EM, Cutie CJ, Maffeo JC, Raybold B, Chau A, Stromberg KA, Keegan KA. Reply by Authors. *JOURNAL OF UROLOGY*. 2023; 209(5). DOI:10.1097/JU.0000000000003195.02. PMID:37026638. IF:6,600 (Q1/2D). Document type: Note.
  - Tyson MD, Morris D, Palou J, Rodríguez O, Mir MC, Dickstein RJ, Guerrero F, Scarpato KR, Hafron JM, Messing EM, Cutie CJ, Maffeo JC, Raybold B, Chau A, Stromberg KA, Keegan KA. Safety, Tolerability, and Preliminary Efficacy of TAR-200 in Patients with Muscle-invasive Bladder Cancer Who Refused or Were Unfit for Curative-intent Therapy: A Phase 1 Study. *JOURNAL OF UROLOGY*. 2023; 209(5). DOI:10.1097/



## 5.1.6 Associated Groups

- JU.00000000000003195. PMID:37026631. IF:6,600 (Q1/2D). Document type: Article.
- Uleri A, Baboudjian M, Gallioli A, Territo A, Gaya JM, Sanz I, Robalino J, Casadevall M, Diana P, Verri P, Basile G, Rodríguez O, Rosales A, Palou J, Breda A. A new machine-learning model to predict long-term renal function impairment after minimally invasive partial nephrectomy: the Fundació Puigvert predictive model. *WORLD JOURNAL OF UROLOGY*. 2023; DOI:10.1007/s00345-023-04593-8. PMID:37714966. IF:3,400 (Q2/3D). Document type: Article.
  - Uleri A, Baboudjian M, Tedde A, Gallioli A, Long T, Palou J, Basile G, Gaya JM, Lughezzani G, Rajwa P, Pradere B, Roupert M, Briganti A, Ploussard G, Breda A. Is There an Impact of Transperineal Versus Transrectal Magnetic Resonance Imaging-targeted Biopsy in Clinically Significant Prostate Cancer Detection Rate? A Systematic Review and Meta-analysis. *European Urology Oncology*. 2023; 6(6). DOI:10.1016/j.euo.2023.08.001. PMID:37634971. IF:8,200 (Q1/1D). Document type: Article.
  - Uleri A, Baboudjian M, Tedde A, Rajwa P, Pradere B, Gallioli A, Breda A, Ploussard G. The association between beta-blockers use and prostate cancer mortality: A mini systematic review and meta-analysis. *PROSTATE*. 2023; 84(1). DOI:10.1002/pros.24623. PMID:37710384. IF:2,800 (Q2/5D). Document type: Review.
  - van CGJI, Caris C, Grimm M-O, Colombel M, Muilwijk T, Martínez L, Babjuk MM, Türkeri LN, Palou J, Patel A, Bjartell AS, Witjes WPJ, van der Heijden AG, Kiemeny LALM. Quality of Life in Patients with High-grade Non-muscle-invasive Bladder Cancer Undergoing Standard Versus Reduced Frequency of Bacillus Calmette-Guérin Instillations: The EAU-RF NIMBUS Trial. *European Urology Open Science*. 2023; 56DOI:10.1016/j.euros.2023.08.004. PMID:37822514. IF:2,500 (Q3/6D). Document type: Article.
  - Veneziano D, Basile G, Cignoli D, Cozzupoli P, Sgrò E, Gomez J, Dourado A, Okhunov Z, Somani B, Territo A, Cacciamani G, Breda A. Preliminary evaluation of infrared imaging for real-time graft reperfusion assessment during kidney transplant: an ESUT-YAUWP project. *Minerva Urology And Nephrology*. 2023; 75(1). DOI:10.23736/S2724-6051.22.05119-9. PMID:36282547. IF:4,900 (Q1/2D). Document type: Article.
  - Verri P, Baboudjian M, Diana P, Gallioli A, Territo A, Gaya JM, Huguet J, Rodríguez O, Palou J, Breda A. Reduced- vs full-dose BCG in bladder cancer: a systematic review and meta-analysis. *Actas Urologicas Españolas*. 2023; 47(1). DOI:10.1016/j.acuro.2022.06.001. PMID:37078844. IF:1,100 (Q4/9D). Document type: Article.
  - Zakri RH, Hevia V, Bossier R, Rodríguez O, García EL, Budde K, Breda A, Olsburgh J, Figueiredo A. Benefits and Harms of Benign Prostatic Obstruction Treatments in Renal Transplanted Patients. *European Urology Focus*. 2023; 9(6). DOI:10.1016/j.euf.2023.05.001. PMID:37596113. IF:5,400 (Q1/2D). Document type: Review.

## Reproductive Health

### Group leader

Calaf Alsina, Joaquim (UAB)

### Researchers

Coma Barbara, Marina (FGS)

Estadella Tarriel, Josep Ramon (FGS)

Guinot Gasull, Misericordia (FGS)

Mayordomo Bofill, Isabet (FGS)

Muro Blanc, Patricia (FGS)

Perello Capo, Josep (FGS)



### DESCRIPTION

Gender health is determined by hormonal regulation of the reproductive system, affecting any organ with hormonal receptors.

Thus, its disturbances, either by excess, defect, or dysregulation, also have systemic effects. The group aims to identify the consequences of these abnormalities and the best treatment alternatives.

Moreover, menstruating persons periodically face a bleeding event that is not always healthy and friendly. Consequently, measures to modify its profile towards a milder impact on quality of life are welcome.

Our purpose is also to generate tools to identify abnormal patterns and alternatives to surgery to minimize its impact on health.

### MAIN LINES OF RESEARCH

- Identification of menstrual abnormalities in the population.
- Effects of environment on menstrual characteristics.
- The medical approach to organic causes of heavy menstrual bleeding.
- Menstrual pattern with the different contraceptive alternatives.
- Premature ovarian insufficiency its effects, and prevention.

### SCIENTIFIC CHALLENGES

- Validate and widespread a simple, sensitive, and reproducible test to identify heavy menstrual bleeding and its response to treatment.



## 5.1.6 Associated Groups

- Test efficient evidence-based approaches to minimize the effect of adnexectomy in Brca mutation carriers.
- Identify the best contraceptive alternatives for sufferers of chronic menstrual disturbances.

## SCIENTIFIC PRODUCTION

- Calaf J, Cano A, Guañabens N, Palacios S, Cance-lo MJ, Castelo C, Larrainzar R, Neyro JL, Nogues X, Diez A. Sequential management of postme-nopausal health and osteoporosis: An update. *MATURITAS*. 2023; 177:107846. DOI:10.1016/j.maturitas.2023.107846. PMID:37738717. IF:4,900 (Q1/2D). Document type: Review.
- Estadella J, Perelló J, Muñoz R. Update on the possibilities of hormonal medical treatment for heavy menstrual bleeding. *Clinica E Investigacion En Ginecologia Y Obstetricia*. 2023; 50(1):100819. DOI:10.1016/j.gine.2022.100819. Document type: Review.
- Perelló J, Estadella J, Gich I, Bailón M, Llorba E, Calaf J. Bleeding profile and safety of a levonorgestrel 13.5 mg intrauterine device versus Nova T copper 380 mm(2) intrauterine device: Results of a 3-year, single-center, randomized phase 4 study. *CONTRACEPTION*. 2023; 127:110127. DOI:10.1016/j.contraception.2023.110127. PMID:37487868. IF:2,900 (Q2/5D). Document type: Article.
- Perelló J, Quílez JC, Gutiérrez J, Lobo P, Parra I, Cristóbal I, Andeyro M, Herrero M, Rius J, Calaf J. Use of Contraceptive Methods Among Women in the General Population and Female Gynecologists in Spain: the ELEGIAN Survey. *WOMENS HEALTH REPORTS*. 2023; 4(1)DOI:10.1089/whr.2023.0048. PMID:37818182. Document type: Article.
- Perelló J, Quílez JC, Lobo P, Andeyro M, Cristóbal I, Gutiérrez J, Herrero M, Parra I, Estadella J, Rius J, Calaf J. Prevalence and impact of heavy menstrual bleeding in Spain: Results of a national survey. *Clinica E Investigacion En Ginecologia Y Obstetricia*. 2023; 50(3):100877. DOI:10.1016/j.gine.2023.100877. Document type: Article.
- Perello J, Rius J, Andeyro M, Calaf J. Sensitivity to Change of the SAMANTA Questionnaire, a Heavy Menstrual Bleeding Diagnostic Tool, After 1 Year of Hormonal Treatment. *JOURNAL OF WOMENS HEALTH*. 2023; 32(2)DOI:10.1089/jwh.2022.0155. PMID:36576860. IF:3,500 (Q1/2D). Document type: Article.
- Quílez JC, Perelló J, Parra I, Andeyro M, Cristóbal I, Gutiérrez J, Herrero M, Lobo P, Rius J. Desarrollo de una herramienta de evaluación objetiva de la habilidad técnica en la inserción de dispositivos intrauterinos liberadores de levonorgestrel con sistema de inserción Evoinserter®. *Progresos De Obstetricia Y Ginecologia*. 2023; 66(3) Document type: Article.
- Sanger N, Menabrito M, Sardo AD, Estadella J, Verguts J. Fertility preservation counselling for women with endometriosis: a European online survey. *ARCHIVES OF GYNECOLOGY AND OBSTETRICS*. 2023; 307(1)DOI:10.1007/s00404-022-06616-y. PMID:35829767. IF:2,600 (Q3/6D). Document type: Article.
- Silva AL, Catherino WH, Estrade JP, Koga K, Singh SS, Vannuccini S, Yang X, Lahav A, Caetano C, Calaf J. The HOPE study: evaluating the impact of an online educational resource for heavy menstrual bleeding on the patient-physician dynamic. *WOMEN & HEALTH*. 2023; 63(5)DOI:10.1080/03630242.2023.2220806. PMID:37291687. IF:1,600 (Q2/5D). Document type: Article.
- von S, Bauerfeind A, Becker K, Franke C, Fruzzetti F, Calaf J, Keck C, Heinemann K. NOMAC-E2 shows a better contraceptive effectiveness than LNG combined oral contraceptives in women under 25: real-world PRO-E2 study. *GYNECOLOGICAL ENDOCRINOLOGY*. 2023; 39(1):2162036. DOI:10.1080/09513590.2022.2162036. PMID:36617423. IF:2,000 (Q3/8D). Document type: Article.

## Radiation Oncology

### Group leader

Sancho Pardo, Gemma (FGS)

### Researchers

Balart Serra, Josep (FGS)

Farre Bernado, Nuria (FGS)

Isern Verdum, Josep (FGS)

Julia Sanahuja, Joan Carles (FGS)

Majercakova, Katarina (FGS)

Mera Errasti, Maria Arantzazu (FGS)

Montezuma Niño, Laura Constanza (FGS)

Rojas Cordero, Jady Vivian (FGS)

Soto Cambres, Ana Maria (FGS)

Vila Capel, Antoni (FGS)

### Research Technicians

Cifuentes Antolinez, Patricia (IR)



### DESCRIPTION

Our research is primarily clinical, focusing on changes in fractionation, incorporation of techniques for respiratory motion control, molecular imaging-based planning, and combination with new systemic treatments, both treatment of the primary tumor and oligometastases.

We collaborate with different groups to identify predictors of response and toxicity to radiotherapy in combination with systemic antineoplastic treatments, including immunotherapy.

During 2023 we started the development of a total body irradiation model with VMAT and SBRT (Stereotactic Body Radiation Therapy) in rats.

### MAIN LINES OF RESEARCH

- We participate in a European project for the development of a predictive model for lung cancer patients, using omics-based variables that integrate established clinical factors with others derived from big data analysis and advanced imaging features, to create digital human avatars. Núria Farré, Núria Jornet (Medical Physics).
- Total Body Irradiation and SBRT in rats using modern Medical devices. Josep Balart, Saba Rabi-Mitre, Gemma Sancho, Núria Jornet (Medical Physics), Guillermo Gómez de Segura (TER), Sónia Bermejo (TER).
- Predictive factors of response to radiotherapy in head and neck tumors. Laura Montezuma, Xavier León (ENT department).
- Irradiation of large-volume sarcomas with lattice technique. Katarina Majercakova, Josep Isern.



## 5.1.6 Associated Groups

- SBRT (stereotactic body RT) in primary tumors (lung, pancreas, prostate) and ablative treatment of metastases in oligometastatic patients, with planning based on metabolic imaging, applying techniques for respiratory motion control such as image-guided RT (IGRT) or surface-guided RT (SGRT). Gemma Sancho, Núria Farré, Josep Balart, Josep Isern.
- Development and training of a self-segmentation programme for the definition of organs at risk and irradiation volumes. Joan Carles Julià, Pedro Gallego (Medical Physics).
- Clinical impact of the use of respiratory movement control techniques in radiotherapy for breast cancer: Eugènia Otero (MIR-3), Gemma Sancho, Núria Jornet (Medical Physics).
- Impact on clinical outcomes of peer-review sessions incorporated into clinical practice. Jady Rojas, Gemma Sancho, Núria Jornet (Medical Physics).
- Adaptation of radiotherapy schedules in geriatric oncology. Arantxa Mera, Gemma Sancho.
- Surface-guided radiotherapy with respiratory motion control techniques in SBRT. Josep Balart, Núria Farré, Sónia Bermejo, Cristina Ansón (Medical Physics).

## SCIENTIFIC CHALLENGES

- Use of clinical devices to perform experimental irradiation in rats.
- Use of AI to identify predictors of response and toxicity to radiotherapy in lung and prostate cancer.
- Clinical impact of ablative radiotherapy of oligometastases.
- Surface-guided radiotherapy with respiratory motion control techniques in SBRT. Josep Balart, Núria Farré, Sónia Bermejo, Cristina Ansón (Medical Physics).
- Incorporate Deep-learning auto segmentation in clinical practice.

## ACTIVE GRANTS

- Farre Bernado, Nuria. CANCER MULTI-OMICS AVATARS FOR INTEGRATED PRECISION MEDICINE. EraPerMed Farre. Unión Europea (GenCat

FUNDING - Acciones complementarias). Duration: 2023-2025. 198.202,00 €.

## SCIENTIFIC CHALLENGES

- Bonet M, Gonzalez D, Baquedano JE, García E, Altabas M, Casas F, Feltes N, Ferrer F, Foro P, Fuentes R, Galdeano M, Gomez D, Henriquez I, Jove J, Lozano J, Maldonado X, Mases J, Membrive I, Paredes S, Rosello A, Sancho G, Mira M. Management of high-risk and post-operative non-metastatic prostate cancer in Catalonia: an expert Delphi consensus. *Clinical & Translational Oncology*. 2023; 25(4). DOI:10.1007/s12094-022-03005-4. PMID:36436177. IF:3,400 (Q3/6D). Document type: Article.
- León X, Farré N, Montezuma L, Holgado A, Vázquez R, Neumann E, Quer M. Results of radiotherapy in oropharyngeal carcinomas. *Acta Otorrinolaringologica Española*. 2023; 74(3). DOI:10.1016/j.otorri.2022.04.002. PMID:37149134. Document type: Article.
- Lococo F, Boldrini L, Diepriye CD, Evangelista J, Nero C, Flamini S, Minucci A, De Paolis E, Vita E, Césarío A, Annunziata S, Calcagni ML, Chiappetta M, Cancellieri A, Larici AR, Cicchetti G, Troost E, Róza Á, Farré N, Ozturk E, Van D, Leoncini F, Urbani A, Trisolini R, Bria E, Giordano A, Rindi G, Sala E, Tortora G, Valentini V, Boccia S, Margaritora S, Scambia G. Lung cancer multi-omics digital human avatars for integrating precision medicine into clinical practice: the LANTERN study. *BMC CANCER*. 2023; 23(1):540. DOI:10.1186/s12885-023-10997-x. PMID:37312079. IF:3,800 (Q2/5D). Document type: Article.
- Moreno P, Gamboa O, Gonzalez C, Romero A, Serra JB, Diaz GD, Malaver G, Boulefour W, Magne N. hTERT and IGF-1R Proteins Expression in Response to Treatment in Patients with HPV Alpha 9-Positive Cervical Cancer. *RADIATION RESEARCH*. 2023; 199(5). DOI:10.1667/RADE-22-00121.1. PMID:36888727. IF:3,400 (Q2/4D). Document type: Article.
- Oladeru OT, Dunn SA, Li J, Coles CE, Yamauchi C, Chang JS, Cheng SHC, Kaidar O, Meattini I, Ramiah D, Kirby A, Hijal T, Marta GN, Poortmans P, Isern J, Zissiadis Y, Offersen BV, Refaat T, Elsayad K, Hijazi H, Dengina N, Belkacemi Y, Luo FD, Lu S, Griffin C, Collins M, Ryan P, Larios D, Warren LE,



## 5.1.6 Associated Groups

Punglia RS, Wong JS, Spiegel DY, Jagsi R, Taghian A, Bellon JR, Ho AY. Looking Back: International Practice Patterns in Breast Radiation Oncology From a Case-Based Survey Across 54 Countries During the First Surge of the COVID-19 Pandemic. *Jco Global Oncology*. 2023; 9:e2300010. DOI:10.1200/GO.23.00010. PMID:37471670. Document type: Article.

- Pérez-Fidalgo JA, Ortega E, Ponce J, Redondo A, Sevilla I, Valverde C, Isern Verdum J, de Alava E, Galera López M, Marquina G, Sebio A. Uterine sarcomas: clinical practice guidelines for diagnosis, treatment, and follow-up, by Spanish group for research on sarcomas (GEIS). *Ther Adv Med Oncol*. 2023; 15:17588359231157645. DOI: 10.1177/17588359231157645. PMID: 37007636. IF:4,900 (Q3/4D). Document type: Review.
- Redondo S, García I, Vila A, Esquirol A, Portos JM, Novelli S, Saavedra S, Moreno C, Garrido A, Arguello M, Onate G, López J, Caballero AC, Miqueleiz S, Briones J, Sierra J, Sancho G, Martino R. Sequence matters: Total body irradiation (TBI)-based myeloablative conditioning with post-transplant cyclophosphamide may reduce the early nonrelapse mortality compared with pretransplant cyclophosphamide plus TBI. *EUROPEAN JOURNAL OF HAEMATOLOGY*. 2023; 111(1). DOI:10.1111/ejh.13978. PMID:37058419. IF:3,100 (Q3/6D). Document type: Article.

## Locomotor System

### Group leader

Crusi Sererols, Xavier (FGS)

### Researchers

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Cuartero Archs, Jordi (FGS)

De Caso Rodríguez, Julio (FGS)

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Gonzalez Rodríguez, Jose Carlos (FGS)

Gracia Alegria, Isidre (FGS)

Lamas Gomez, Claudia Maria (FGS)

Nadal Castells, Maria Josefa (FGS)

Peiro Ibañez, Ana (FGS)

Perez Romera, Ana Belen (FGS)

Velazquez Fragoso, Juan Jose (FGS)

## DESCRIPTION

We try to develop a deep and exhaustive scientific work to improve the understanding of the pathologies affecting the foot and the ankle in terms of etiology, diagnosis, and treatment, not only orthopedic conditions but also traumatic injuries.

## MAIN LINES OF RESEARCH

- Floating toe.
- Morton's neuroma.
- Achilles tendinopathy.
- Patient-related outcomes measures.
- Posterior malleolus fractures.

## DOCTORAL THESES DEFENDED

- Ramírez Bermejo, Eduard. Valoración de la utilidad de la cirugía reconstructiva de lesiones osteocondrales de la rodilla mediante trasplante de aloinjerto osteocondral fresco. 19/04/2023. Universitat Autònoma de Barcelona. Supervisors: Gelber Ghertner, Pablo Eduardo. <http://hdl.handle.net/10803/690604>.

## SCIENTIFIC PRODUCTION

- Bascuñana H, de Miguel C, Gil L, Monguet JM, Trejo Á. Consensus measurement of innovation in physical medicine and rehabilitation. *Rehabilitacion*. 2023; 57(1):100725. DOI:10.1016/j.rh.2022.01.002. PMID:35523615. Document type: Article.
- Casanovas A, Sebio R, Ciendones M, Cuartero J, Estanyol B, Padrós J, García B, Barnadas A, Masia J. Prehabilitation in Patients With Breast Cancer Receiving Neoadjuvant Therapy to Minimize Musculoskeletal Postoperative Complications and Enhance Recovery (PREOPTimize): A Protocol for a Randomized Controlled Trial. *PHYSICAL THERAPY*. 2023; 103(9):pzad062. DOI:10.1093/ptj/pzad062. PMID:37318267. IF:3,200 (Q1/3D). Document type: Article.
- Chesser TJ, Moran C, Willett K, Bouillon B, Sturm J, Flohé S, Ruchholtz S, Dijkink S, Schipper IB, Rubio JC, Chana F, de Caso J, Guerado E. Development of trauma systems in Europe-reports from England, Germany, the Netherlands, and Spain. *Ota International : The Open Access Journal Of Orthopaedic Trauma*. 2023; 2(Suppl



## 5.1.6 Associated Groups

- 1):e019. DOI:10.1097/OI9.0000000000000019. PMID:37675253. Document type: Article.
- Fa M, Almenara M, Mata JM, Gich I, Llauger J, Lamas C. Retrospective interobserver agreement on diagnoses of 4th and 5th carpometacarpal fracture-dislocation and hamate fracture in plain X-ray - Is CT essential after ulnar carpometacarpal pain?. SKELETAL RADIOLOGY. 2023; 52(12). DOI:10.1007/s00256-023-04366-9. PMID:37227483. IF:2,100 (Q3/6D). Document type: Article.
  - Fumagalli C, Orellana R, Ferre M, Gonzalez A, Catusas L, Vazquez T, Sebío A, López A, Llauger J, Peiro A, Antonescu CR. Expanding the molecular landscape of undifferentiated sarcomas of bone with a novel *EWSR1-SSX3* gene fusion. GENES CHROMOSOMES & CANCER. 2023; 63(1). DOI:10.1002/gcc.23215. PMID:38050902. IF:3,700 (Q2/4D). Document type: Article.
  - Lamas C, Morro R, Da A, Llusà M. Anatomic and Biomechanical Study of the Forearm Interosseous Membrane, Distal Oblique Bundle, and Triangular Fibrocartilage Complex: Role in Galeazzi Fracture Dislocation. Journal Of Hand Surgery Global Online. 2023; 5(6). DOI:10.1016/j.jhsg.2023.06.003. PMID: 38106930. Document type: Article.
  - Noguera L, Vila G, De Caso J, Da Ponte A, Perez AB, Velazquez JJ. Influence on Therapeutic Decision-Making of Supine and Standing Radiographs after Traumatic Thoracolumbar Fracture in the Elderly. Journal of Neurological Surgery Part A-Central European Neurosurgery. 2023; 84(3). DOI:10.1055/s-0042-1753514. PMID:36100237. IF:1,000 (Q4/9D). Document type: Article.
  - Perelli S, Gelber PE, Morales R, Ronco S, Torres R, Espregueira J, Monllau JC. Isolated lateral extra-articular tenodesis in ACL-deficient knees: in vivo knee kinematics and clinical outcomes. KNEE SURGERY SPORTS TRAUMATOLOGY ARTHROSCOPY. 2023; 31(8). DOI:10.1007/s00167-023-07344-9. PMID:36810948. IF:3,800 (Q1/2D). Document type: Article.
  - Renom M, Galán I, Vidal X, Aldevert M, Curto G, Feliu P, García I, Gonzalo L, Sibera X, Anglada E, Meza R, García M, Najas V, Mongay N, Arévalo MJ, Vidal Á, Tintoré M, Bascuñana H, Montalban X, Terré R, Sastre J. Validation of the Spanish version of DYSpHagia in Multiple Sclerosis questionnaire (DYMUS). Multiple Sclerosis and Related Disorders. 2023; 74:104724. DOI:10.1016/j.msard.2023.104724. PMID:37086636. IF:4,000 (Q2/4D). Document type: Article.
  - Renom M, Najas V, Ramirez E, Nadal MJ, Pintor A, Bascuñana H. Holistic semi-presential evaluation of oropharyngeal dysphagia with the framework of International Classification of Functioning, Disability and Health: Optimizing evaluation to improve rehabilitation treatment. Rehabilitacion. 2023; 57(1):100735. DOI:10.1016/j.rh.2022.03.001. PMID:35570031. Document type: Article.
  - Toro Á, Arenas J, Carrera I, Lamas C. Is ultrasound superior to fluoroscopy in distal radius volar fixation?. Hand Surgery & Rehabilitation. 2023; 42(6). DOI:10.1016/j.hansur.2023.07.010. PMID:37499797. IF:1,100 (Q4/9D). Document type: Article.

## Pain and Neurosciences

### Group leader

Revuelta Rizo, Miren Eli (FGS)

Catala Puigbo, Elena (FGS) until 2023/11/09

### Researchers

Catala Puigbo, Elena (FGS)

Diaz Jover, Ruben (FGS)

Ferrandiz Mach, Marta (FGS)

Genove Cortada, Maria Merce (FGS)

Heredia Carques, Cristina (FGS)

Melo Cruz, Martha Cristina (FGS)

Muñoz Hernandez, Isabel (FGS)

Piñeiro Reboló, Maria Angeles (FGS)

Roses Alvarez, Laia (FGS)

Santeularia Verges, Maria Teresa (FGS)

Sarmiento Luque, Teresa Eugenia (FGS)



### DESCRIPTION

Our lines of research are basically of a clinical nature and are directed to possible treatments to relieve pain. Our goal is multidimensional patient management, which includes addressing the biological, psychological and social spheres through pharmacological treatment, and interventional therapies.

Pain and women, identifying different factors that influence the woman and increase the pain.

Comorbidities that alter the perception of pain.

We also had a line of study with brain imaging, with a completed theses, but we are not currently following it.

Neuromodulation, covering the electrical and chemical fields: neurostimulation and intrathecal drug delivery system (IDDS).

### MAIN LINES OF RESEARCH

- Neuromodulation in Catalonia. Creation of a database of patients undergoing neurostimulation and intrathecal drug infusion: Miren Revuelta Rizo, Mercè Genové Cortada, Marta Ferrándiz Mach, Rubén Diaz Jover, Teresa Sarmiento Luque, Isabel Muñoz Hernández, Laia Rosés Alvarez.
- Identify the best profile of patients (their psychopathological characteristics) before the implementation of neuromodulation techniques: Teresa Sarmiento Luque, Miren Revuelta Rizo, Marta Ferrándiz Mach, Mercè Genové Cortada, Rubén Diaz Jover.
- The effect of pulsed radiofrequency on chronic omalgia pain: Rubén Diaz Jover.
- The effect of radiofrequency (pulsed and con-



### 5.1.6 Associated Groups

- ventional) on chronic articular pain: Ruben Diaz, Jover, Martha Melo Cruz, Alejandro Rodríguez Vergara, Cristina Heredia Carqués.
- The effect (analgesic & side effects) of spinal Ziconotide in patients with refractory chronic pain: Marta Ferrándiz Mach, Mercè Genové Cortada.
  - Factors that can influence postoperative pain: Teresa Santeularia Vergés, Cristina Heredia Carques, Isabel Muñoz Hernández.
  - Treatment Guidelines for Acute intrahospital Pain: Teresa Santeularia Vergés, Cristina Heredia Carques, Mercè Genové Cortada, Isabel Muñoz Hernández.
  - Characterising the profile according to gender when patients reach our pain clinic: Teresa Santeularia Vergès, Martha Melo Cruz, Elena Català Puigbò.
  - Development of a new comorbidity index associated with chronic pain: Teresa Santeularia Vergès
  - Neuropathic pain. His clinic and physical examination in a non- neurological pain unit: Martha Melo Cruz, Cristina Heredia Carques.
  - New drugs in Neuropathic Pain. Focus in postherpetic neuralgia. Mercè Genové Cortada, Martha Melo Cruz, Isabel Muñoz Hernández, Laia Rosés Alvarez, Rubén Diaz Jover, Cristina Heredia Carqués, Miren Revuelta Rizo, Elena Català Puigbò.
  - Quality of care in pain clinics using the iso 9001 – 2015 methodology (international organisation for standardisation). The audit is carried out every year: Elena Català Puigbò.
  - Persistent pain and impact on quality of life in COVID-19 patients who have required critical care: Martha Melo, Isabel Muñoz, Elena Català.
- Unify and make our databases compatible to create profiles and clusters of patients with chronic pain.
  - Improve hospital prescription of postoperative pain analgesic guidelines to preserve patient safety.
  - Determine whether the intensity of chronic neuropathic pain assessed by the patient is correlated with the patient's psychopathology, essentially anxiety, depression and catastrophizing.
  - Determine the profile of patients who would benefit from treatment with major systemic opioids in relation to night rest and establish the recommendable opioid.
  - Establish the recommended opioid dose to start a treatment and how to remove them.

### SCIENTIFIC CHALLENGES

- Establish the possible differences in brain area involvement between acute and chronic pain.
- Enhance neuromodulation (electrical and chemical) at the hospital level to be a regional reference centre.
- Determine the extent of chronic pain according to the involvement of different brain areas and if these alterations can improve with the relief of pain.

### ACTIVE GRANTS

- Diaz Jover, Ruben. Eficacia del abordaje del nervio supraescapular mediante la administración de corticoides versus radiofrecuencia pulsada en el dolor crónico de hombro. Ensayo clínico Aleatorizado doble ciego. IIBSP-COR-2017-98. EudraCT 2017-004612-19. Duration: 2018-2023.

### SCIENTIFIC PRODUCTION

- Labandeyra H, Heredia C, Campoy JC, Váldez LF, Prats A, Sala X. Clavipectoral fascia plane block spread: an anatomical study. REGIONAL ANESTHESIA AND PAIN MEDICINE. 2023; :rapm-2023-104785. DOI:10.1136/rapm-2023-104785. PMID:37699731. IF:5,100 (Q1/3D). Document type: Article.
- Popova E, Paniagua P, Álvarez J, Vives M, González A, García Á, Rivas M, Hermenegildo G, Diaz R, Azparren G, Barceló M, Moustafa A-H, Aguilar R, Ordonez J, Alonso P. The Relevance of Implementing the Systematic Screening of Perioperative Myocardial Injury in Noncardiac Surgery Patients. Journal of Clinical Medicine. 2023; 12(16):5371. DOI:10.3390/jcm12165371. PMID:37629413. IF:3,900 (Q2/4D). Document type: Article.

## 5.1.6 Associated Groups

## Nursing Care

### Group leader

Mas Dalmau, Gemma (FGS)

### Researchers

Alonso Rodríguez, Lara (FGS)  
 Armora Verdu, Miriam (FGS)  
 Balaguer Sancho, Judith (FGS)  
 Berga Congost, Gemma (FGS)  
 Buil Manzanares, Neus (FGS)  
 Cebria Morales, Maria Queralta (FGS)  
 Cordoba Sánchez, David (FGS)  
 De Andrés Muñoz, Sandra (FGS)  
 De Francisco Profumo, Seyla (FGS)  
 Diez García, Cecilia (FGS)  
 Fernández Sánchez, Susana Pasion (FGS)  
 García Barrachina, Marina (FGS)  
 Iserte Rodríguez, Judith (FGS)  
 Marquez López, Adrian (F.Puigvert)  
 Mateos Davila, Almudena (FGS)  
 Navarro Colom, Marta (FGS)  
 Palomeque Artuñedo, Amaya (FGS)  
 Parrilla Rios, Ismael (FGS)  
 Pujol Serra, Maria Teresa (FGS)  
 Ricart Basagaña, Maria Teresa (FGS)  
 Roca Sarsanedas, Jaume (FGS)  
 Romero Pastor, Monica (FGS)  
 Sastre Rus, Meritxell (FGS)  
 Sist Viaplana, Xenia (FGS)  
 Torralbas Ortega, Jordi (FGS)  
 Valverde Bernal, Jonatan (FGS)  
 Villalobos Abello, Alba (FGS)



### DESCRIPTION

The group is made up of nurses from both clinical practice, Hospital de la Santa Creu i Sant Pau and Puigvert Foundation, and teaching, Sant Pau Nursing School University (joined the Universitat Autònoma de Barcelona). The main areas of research are: the assessment of complex care interventions, innovation, and qualitative research.

### MAIN LINES OF RESEARCH

- Impact of complex care interventions.
- Patient experience and health outcomes.
- Evaluation of promotion and prevention interventions.
- Digital Health and technological innovation.
- Teaching research and innovation.
- Qualitative research.

### SCIENTIFIC CHALLENGES

- Strengthen implemented research lines and disseminate the results of active projects.
- Explore the impact of nursing care for patients, strategies for care improvement, and the application of results in cure models.
- Improve the development and understanding of qualitative research in the context of the health sciences and disseminate qualitative methods and analyses of text and discourse as tools in health science research.
- Create the synergies necessary to consolidate the group's activities



## 5.1.6 Associated Groups

## ACTIVE GRANTS

- Balaguer Sancho, Judith. Evaluación de un programa de Terapia Asistida con Animales, en personas con enfermedad mental, para la promoción de conductas de salud Mental Positiva. PR-527/2021. Fundació Infermeria i Societat. Duration: 2022-2024. 825,00 €.

## DOCTORAL THESES DEFENDED

- Mateos Dávila, Maria Almudena. Anticoagulación con citrato diluido y concentrado en la terapia depurativa renal continua. 22/11/2023. Universitat de Barcelona. Supervisors: Betbesé Roig, Antoni Jordi; Guix Comellas, Eva Maria; Tortosa i Moreno, Avelina. <http://hdl.handle.net/10803/689562>.
- Mas Dalmau, Gemma. La prescripció antibiòtica diferida en infeccions respiratòries a l'atenció primària: assaig clínic, anàlisi cost-efectivitat i estudi qualitatiu. 12/12/2023. Universitat Autònoma de Barcelona. Supervisors: Alonso Coello, Pablo; Cruz Gómez, Irene; Bonfill Cosp, Xavier.
- Romero Pastor, Mónica. El alta a planta del paciente crítico: vivencias de supervivientes de la UCI de un hospital de tercer nivel. 27/10/2023. Universitat Rovira i Virgili. Supervisors: Romaní Alfonso, José Oriol; Rubio Rico, Maria Lourdes. <http://hdl.handle.net/10803/689419>.

## SCIENTIFIC PRODUCTION

- Buil, Neus; Sillero Sillero, Amalia; Galbany-Estragués, Paola. M<sup>a</sup> Teresa Castells Mas: enfermera pionera en la gestión de los quirófanos del Hospital de la Santa Creu i Sant Pau de Barcelona. *Temperamentvm*. 2023; 19: e14510. DOI: 10.58807/temperamentvm20236083. Document type: Article.
- Buil, Neus; Sillero Sillero, Amalia; Lorenzo Vaquerizo, Lauriana María; Galbany-Estragués, Paola. M<sup>a</sup> Rosa Garín Solé: pionera de la enfermería perfusionista en el Hospital de la Santa Creu i Sant Pau de Barcelona. *Temperamentvm*. 2023; 19: e14472. DOI: 10.58807/temperamentvm20236084. Document type: Article.
- Congost GB, Momblan M, Bernal JV, López AM, Gabalda JR, García J, Brugaletta S. Association of sex and age and delay predictors on the time of primary angioplasty activation for myocardial

infarction patients in an emergency department. *HEART & LUNG*. 2023; 58. DOI:10.1016/j.hrtlng.2022.10.014. PMID:36335910. IF:2,800 (Q1/2D). Document type: Article.

- Dávila AM, PS, JM, NF, Comellas E. The catheter as a fundamental element in renal cleansing therapies. *Revista Rol De Enfermeria*. 2023; 46(1). Document type: Article.
- Díez C, Gich I, Bolibar I. Effectiveness of Nurse-led Preoperative Assessment for Anesthesia: A Prospective Cohort Study. *Journal of PeriAnesthesia Nursing*. 2023; 38(4). DOI:10.1016/j.jopan.2022.10.007. PMID:36635121. IF:1,700 (Q3/7D). Document type: Article.
- Gracia R, Portella MJ, Puntí J, Pujals E, Torralbas J, Llorens M, Pamias M, Fradera M, Montalvo I, Palao DJ. COVID-19 Pandemic Has Changed the Psychiatric Profile of Adolescents Attempting Suicide: A Cross-Sectional Comparison. *International Journal of Environmental Research and Public Health*. 2023; 20(4):2952. DOI:10.3390/ijerph20042952. PMID:36833651. IF:4,614 (Q1/3D). Document type: Article.
- Llorens M, Barba M, Torralbas J, Nadal R, Armario A, Gagliano H, Urraca L, Pujol S, Montalvo I, Gracia R, Polo D, Gonzalez L, Matali JL, Palao D, Pamias M, Labad J. Relationship between hair cortisol concentrations and cognitive functioning in adolescents with ADHD. *European Journal of Psychotraumatology*. 2023; 14(2):2281752. DOI:10.1080/20008066.2023.2281752. PMID:38154075. IF:5,000 (Q1/2D). Document type: Article.
- Mas G, Pequeño S, de la Poza M, Borrell E, Besa M, Alsina M, Cuixart L, Liroz M, Calderón C, Martí J, Cruz I, Alonso P. Perceptions and attitudes regarding delayed antibiotic prescription for respiratory tract infections: a qualitative study. *Bmc Primary Care*. 2023; 24(1):204. DOI:10.1186/s12875-023-02123-4. PMID:37794330. Document type: Article.
- Mas G, Pérez MJ, Alonso P, Gorrotxategi P, Argüelles E, Espinazo O, Valls T, Gonzalo ME, Cortés MP, Menéndez T, Vázquez ME, Pérez AI, Muñoz L, Villanueva C, Little P, de la Poza M, Carles M, DAP G. A trial-based cost-effectiveness analysis of antibiotic prescription strategies for non-compli-





## 5.1.6 Associated Groups

- cated respiratory tract infections in children. *BMC Pediatrics*. 2023; 23(1):497. DOI:10.1186/s12887-023-04235-3. PMID:37784098. IF:2,400 (Q2/5D). Document type: Article.
- Mateos A, Roig A, Rodríguez J, Guix EM. Change in prefilter pressure as a key determinant in the decision to return blood in continuous renal replacement therapy: An observational study. *Nursing in Critical Care*. 2023; DOI:10.1111/nicc.12933. PMID:37277948. IF:3,000 (Q1/2D). Document type: Article.
  - Mateos A, Roig A, Rodríguez J, Guix EM. Comparison of diluted vs concentrated regional citrate anticoagulation in continuous renal replacement therapy: A quasi-experimental study. *Nursing in Critical Care*. 2023; DOI:10.1111/nicc.12991. PMID:37897131. IF:3,000 (Q1/2D). Document type: Article.
  - Pascual D, Calero E, Escribano P, García A, Lazaro M, López M, Montero JM, Palau P, Recio A, Rueda J, Velazquez MT, Andrea R, Avanzas P, Berga G, Boraita A, Calvo D, Campuzano R, Delgado V, Dos L, Doblas JJG, Mazon P, Pascual D, Sanchis J, de la Torre JM, Vivas D, Ferreira JL, Trabajao GRP, Com S. Comments on the 2022 ESC/ERS guidelines for the diagnosis and treatment of pulmonary hypertension. *REVISTA ESPAÑOLA DE CARDIOLOGIA*. 2023; 76(5). DOI:10.1016/j.recesp.2022.10.015. PMID:36379365. IF:5,900 (Q1/3D). Document type: Editorial Material.
  - Sanz MT, Sastre M, Monistrol O, Criado MP, Valles V, Escobar MA. Humanization of care in acute psychiatric hospitalization units: A scoping review. *Journal of Psychiatric and Mental Health Nursing*. 2023; 30(2). DOI:10.1111/jpm.12858. PMID:35822294. IF:2,700 (Q1/2D). Document type: Review.
  - SEC Working Group for the 2022 ESC guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death and SEC Guidelines Committee. Comments on the 2022 ESC guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death. *Rev Esp Cardiol (Engl Ed)*. 2023; 76(6):402-408. DOI: 10.1016/j.rec.2022.11.008. PMID: 36539184. IF:5,900 (Q1/3D). Document type: Editorial Material.
  - SEC Working Group for the 2022 ESC guidelines on cardio-oncology and SEC Guidelines Committee. Comments on the 2022 ESC guidelines on cardio-oncology. *Rev Esp Cardiol (Engl Ed)*. 2023; 76(6):409-416. DOI: 10.1016/j.rec.2022.12.004. PMID: 36539188. IF:5,900 (Q1/3D). Document type: Editorial Material.
  - SEC Working Group on the 2022 ESC guidelines on cardiovascular assessment and management of patients undergoing noncardiac surgery and SEC Guidelines Committee. Comments on the ESC 2022 guidelines on cardiovascular assessment and management of patients undergoing noncardiac surgery. *Rev Esp Cardiol (Engl Ed)*. 2023; 76(5):287-293. DOI: 10.1016/j.rec.2022.10.010. PMID: 36379368. IF:5,900 (Q1/3D). Document type: Journal Article.
  - Sillero AS, Marganon RA, Poisa MG, Buil N, Padrosa E, Calderon EI, Marques E, Van de Walle CA. Moral Breakdowns and Ethical Dilemmas of Perioperative Nurses during COVID-19: COREQ-Compliant Study. *Healthcare*. 2023; 11(13):1937. DOI:10.3390/healthcare11131937. PMID:37444771. IF:2,800 (Q2/5D). Document type: Article.
  - Tinoco JM, Puig M, Lluch MT, Roldan J, Moreno MC, Moreno A, Balaguer J, Agüera Z, Sánchez MA, Hidalgo MÁ. Effectiveness of the Online “Dialogue Circles” Nursing Intervention to Increase Positive Mental Health and Reduce the Burden of Caregivers of Patients with Complex Chronic Conditions. *Randomized Clinical Trial. International Journal of Environmental Research and Public Health*. 2023; 20(1):644. DOI:10.3390/ijerph20010644. PMID:36612964. IF:4,614 (Q1/3D). Document type: Article.
  - Torralbas J, Roca J, Coelho R, Orozko Z, Sanromà M, Valls V. Affectivity, sexuality, and autism spectrum disorder: qualitative analysis of the experiences of autistic young adults and their families. *BMC Psychiatry*. 2023; 23(1):858. DOI:10.1186/s12888-023-05380-w. PMID:37978476. IF:4,400 (Q2/4D). Document type: Article.
  - Torralbas J, Valls V, Roca J, Sastre M, Campoy C, Sala D, Sánchez M. Affectivity and Sexuality in Adolescents with Autism Spectrum Disorder from the Perspective of Education and Healthcare Professionals: A Qualitative Study. *International*



## 5.1.6 Associated Groups

Journal of Environmental Research and Public Health. 2023; 20(3):2497. DOI:10.3390/ijer-ph20032497. PMID:36767863. IF:4,614 (Q1/3D). Document type: Article.

- Torralbas-Ortega J. Rol enfermero en el trastorno del espectro autista. *Enferm Salud Mental*. 2023; 23:15-19. DOI: 10.5538/2385-703X.2023.23.15. Document type: Article.
- Valverde J, Martínez F, Berga G, Martínez J, Asmarats L, Moreno C. Impact of a PROgram of Cardiovascular nursE interventionS in a VALVular haEmodynamic Unit (PROCESS-VALVE) on Quality Indicators: A Quasi-Experimental Ambispective Study. *International Journal of General Medicine*. 2023; 16. DOI:10.2147/IJGM.S412369. PMID:37750105. IF:2,300 (Q3/6D). Document type: Article.
- Zabaleta E, Santesmases R, Martín R, Romero À, Zamora JJ, Urpí AM, Gonzalez M, Lumillo I, Sastre M, Jodar L, Hernández E. Research on missed nursing care during the COVID-19 pandemic: A scoping review. *Worldviews on Evidence-Based Nursing*. 2023; 20(6). DOI:10.1111/wvn.12682. PMID:37743584. IF:4,300 (Q1/1D). Document type: Review.

## Cardiac Surgery

### Group leader

Ginel Iglesias, Antonino (FGS)

### Researchers

Casellas Casanovas, Sandra (FGS)

Irabien Ortiz, Angela (FGS)

Montiel Serrano, Jose (FGS)

Rosello Diez, Elena (FGS)

Tauron Ferrer, Manel (FGS)



### MAIN LINES OF RESEARCH

- Off-pump coronary artery bypass grafting surgery.
- Mitral repair surgery.
- Aorta pathology: aortic root surgery, aortic arch surgery (hybrid techniques).
- Follow-up of sutureless aortic valve prosthesis: Perceval S.
- Follow-up of surgical checklist implementation.
- Risk scores.
- Cardiac protection: Del Nido cardioplegia.
- Mini-invasive techniques: mini-sternotomy, mini-thoracotomy, MIDCABG surgery.
- Total arterial graft revascularization.
- New valvular transcatheter prosthesis: TAVI transaxillary approach (Portico), TAVI transapical approach (Accurate).
- Aortic valve repair.

### SCIENTIFIC CHALLENGES

- Consolidation as a research group in different cardiac surgery-related fields, specific sutureless valve prosthesis, radial artery in myocardial revascularization, Different TAVI approach.
- Participation in the assessment and validation of new products employed in cardiac surgery: haemostatics, sutures.
- Collaboration with different national and international research teams involved in our lines of study: epicardial fat study (Endocrinology), calcium channels in auricular myocytes (ICCV).



## 5.1.6 Associated Groups

## SCIENTIFIC PRODUCTION

- Ballester C, Alonso J, Cañes L, Vázquez P, Puertas L, Fernández A, Taurón M, Rodríguez A, López N, Rodríguez C, Martínez J. Lysyl oxidase-dependent extracellular matrix crosslinking modulates calcification in atherosclerosis and aortic valve disease. *BIOMEDICINE & PHARMACOTHERAPY*. 2023; 167:115469. DOI:10.1016/j.biopha.2023.115469. PMID:37729730. IF:7,500 (Q1/1D). Document type: Article.
- Corominas L, Tauron M, Molina M, Tabilo JF, Leta R, Ginel A. Isolated congenital mitral leaflet perforation in a young adult: A case report. *Cirugia Cardiovascular*. 2023; 30(1)DOI:10.1016/j.circv.2022.06.010. Document type: Article.
- Godoy H, Jimenez V, Tarifa C, Ginel A, Dos JL, Bentzen BH, Hove L, Ciruela F. Increased Density of Endogenous Adenosine A(2A) Receptors in Atrial Fibrillation: From Cellular and Porcine Models to Human Patients. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(4):3668. DOI:10.3390/ijms24043668. PMID:36835078. IF:5,600 (Q1/3D). Document type: Article.
- Jimenez V, Casabella S, Llach A, Gich I, Casellas S, Ciruela F, Chen SRW, Guerra JM, Ginel A, Benitez R, Cinca J, Tarifa C, Hove L. Beta-blocker treatment of patients with atrial fibrillation attenuates spontaneous calcium release-induced electrical activity. *BIOMEDICINE & PHARMACOTHERAPY*. 2023; 158:114169. DOI:10.1016/j.biopha.2022.114169. PMID:36592495. IF:7,500 (Q1/1D). Document type: Article.
- Rodríguez A, Tello C, Vergara AC, Fernández C, Moustafa AH, Pinilla CA, Ginel A, Barros AJ, Dilme JF. Case Report: Kommerell's diverticulum and left aberrant subclavian artery stenosis hybrid treatment with branched aortic stent-graft. *Frontiers in Cardiovascular Medicine*. 2023; 10:1309839. DOI:10.3389/fcvm.2023.1309839. PMID:38155991. IF:3,600 (Q2/5D). Document type: Article.
- Rufa M, Ursulescu A, Baumann P, Ferrer MT. A prospective, international, bicentric study to evaluate PremiCron suture material for cardiac valve surgery - PREMIVALVE a cohort study. *Annals Of Medicine And Surgery*. 2023; 85(4)DOI:10.1097/MS9.0000000000000442. PMID:37113912. Document type: Article.
- Tarifa C, Jimenez V, Franco R, Montiel J, Guerra J, Ciruela F, Hove L. Expression and Impact of Adenosine A(3) Receptors on Calcium Homeostasis in Human Right Atrium. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(5):4404. DOI:10.3390/ijms24054404. PMID:36901835. IF:5,600 (Q1/3D). Document type: Article.
- Tarifa C, Vallmitjana A, Jiménez V, Marchena M, Llach A, Herraiz A, Godoy H, Nolla C, Ginel A, Viñolas X, Montiel J, Ciruela F, Echebarria B, Benítez R, Cinca J, Hove L. Spatial Distribution of Calcium Sparks Determines Their Ability to Induce Afterdepolarizations in Human Atrial Myocytes. *Jacc-Basic To Translational Science*. 2023; 8(1) DOI:10.1016/j.jacbts.2022.07.013. PMID:36777175. IF:9,700 (Q1/1D). Document type: Article.

## 5.1.6 Associated Groups

## HIV and AIDS

### Group leader

Domingo Pedrol, Pere (FGS)

### Researchers

Cereijo Tellez, Ruben (IR)

Quesada López, Tania Paloma (IR)

### Research Technicians

Herrera Bachs, Silvia (IR)

Millan Revilla, Lucia (IR)

Muñoz Rodríguez, Jessica (IR)



## MAIN LINES OF RESEARCH

- Medical care projects.
- Study of pathogenic mechanisms altering body fat distribution.
- Study of metabolic disorders associated with antiretroviral treatment.
- Body composition changes.
- New antiretroviral drugs.
- Cardiovascular risk associated with antiretroviral treatment.
- Comorbid conditions associated with HIV-1 infection.
- Pharmacogenetics (toxicokinetics).
- Bacterial meningitis.
- Coronavirus infectious disease-19 and complications thereof.

## SCIENTIFIC PRODUCTION

- Berenguer J, Jarrín I, Bellón JM, Díez C, Jiménez MA, Roca C, González J, Dalmau D, Olalla J, Herrero C, Villarroya F, Domingo P, Resino S. Obesity-Related Single-Nucleotide Polymorphisms and Weight Gain following First-Line Antiretroviral Therapy. *CLINICAL INFECTIOUS DISEASES*. 2023; 76(6)DOI:10.1093/cid/ciac880. PMID:36345912. IF:11,800 (Q1/1D). Document type: Article.
- Bruguera A, Nomah D, Moreno S, Diaz Y, Aceiton J, Reyes J, Ambrosioni J, Llibre JM, Falco V, Imaz A, Fanjul F, Navarro G, Pere D, Leon E, Mera A, Miro JM, Casabona J, PISCIS GRP. Cohort Profile:



## 5.1.6 Associated Groups

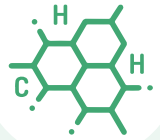
- PISCIS, a population-based cohort of people living with HIV in Catalonia and Balearic Islands. *INTERNATIONAL JOURNAL OF EPIDEMIOLOGY*. 2023; 52(4):e241-e252. DOI:10.1093/ije/dyad083. PMID:37403345. IF:7,700 (Q1/1D). Document type: Article.
- Castella M, Blasco A, Peyrou M, Gavalda A, Villarroya J, Quesada T, Lorente L, Sancho J, Szymczak F, Piron A, Rodríguez S, Carobbio S, Goday A, Domingo P, Vidal A, Giralt M, Eizirik DL, Villarroya F, Cereijo R. Adipose tissue plasticity in pheochromocytoma patients suggests a role of the splicing machinery in human adipose browning. *iScience*. 2023; 26(6):106847. DOI:10.1016/j.isci.2023.106847. PMID:37250773. IF:5,800 (Q1/3D). Document type: Article.
  - Díaz M, Casano P, Quesada T, López A, de Zegher F, Villarroya F, Ibáñez L. Circulating exosomes decrease in size and increase in number between birth and age 7: relations to fetal growth and liver fat. *Frontiers in Endocrinology*. 2023; 14:1257768. DOI:10.3389/fendo.2023.1257768. PMID:38027180. IF:5,200 (Q1/3D). Document type: Article.
  - Diaz M, Mestres A, Lerin C, Cereijo R, López A, de Zegher F, Villarroya F, Ibanez L. Circulating progranulin in human infants: relation to prenatal growth and early postnatal nutrition. *PEDIATRIC RESEARCH*. 2023; 94(3)DOI:10.1038/s41390-023-02595-1. PMID:37031297. IF:3,600 (Q1/2D). Document type: Article.
  - García C, Navarro A, López A, Quesada T, de Zegher F, Ibanez L, Villarroya F. Meteorin-like levels are associated with active brown adipose tissue in early infancy. *Frontiers in Endocrinology*. 2023; 14:1136245. DOI:10.3389/fendo.2023.1136245. PMID:36936161. IF:5,200 (Q1/3D). Document type: Article.
  - González A, Assoumou L, Moyle G, Waters L, Johnson M, Domingo P, Fox J, Stellbrink HJ, Guaraldi G, Masiá M, Gompels M, De Wit S, Florence E, Esser S, Raffi F, Behrens G, Pozniak A, Gatell JM, Martínez E, NEAT Study Group 022. Long-term effects on subclinical cardiovascular disease of switching from boosted protease inhibitors to dolutegravir. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*. 2023; 78(9)DOI:10.1093/jac/dkad247. PMID:37539492. IF:5,200 (Q1/3D). Document type: Article.
  - Martín R, Pericas C, Bruguera A, Rosell G, Martínez E, Díaz Y, Alonso L, Nomah DK, Blanco JL, Domingo P, Alvarez P, Linares MS, Laborda CV, Mera A, Isbert SC, Johansen IS, Miró JM, Casabona J, Llibre JM, PISCIS GRP. Mpox: Clinical Outcomes and Impact of Vaccination in People with and without HIV: A Population-Wide Study. *Microorganisms*. 2023; 11(11):2701. DOI:10.3390/microorganisms11112701. PMID:38004713. IF:4,500 (Q2/4D). Document type: Article.
  - Martín R, Vazquez MC, Burgos J, Bruguera A, Reyes J, Moreno S, Aceitón J, Díaz Y, Domingo P, Saumoy M, Knobel H, Dalmau D, Borjabad B, Johansen IS, Miro JM, Casabona J, Llibre JM, PISCIS G. Cardiovascular events in delayed presentation of HIV: the prospective PISCIS cohort study. *Frontiers in Medicine*. 2023; 10:1182359. DOI:10.3389/fmed.2023.1182359. PMID:37415770. IF:3,900 (Q2/4D). Document type: Article.
  - Palacio J, Moreno S, Díaz Y, Aceitón J, Bruguera A, Nomah DK, Llibre JM, Knobel H, Chivite I, Miro JM, Domingo P, Suanzes P, Fanjul F, Navarro G, Macorigh L, Mera A, Casabona J, Imaz A, Reyes J, ISCIS GRP. Who is lost to follow-up in HIV care? Assessment of care retention over time and the impact of COVID-19. Longitudinal analysis of the PISCIS cohort. *HIV MEDICINE*. 2023; 24(9) DOI:10.1111/hiv.13486. PMID:36990962. IF:3,000 (Q3/7D). Document type: Article.
  - Pomar V, Benito N, Duch P, Colome M, Rivera A, Domingo P. Acute Bacterial Meningitis in Healthy Adult Patients: A Prospective Cohort Study. *Journal of Clinical Medicine*. 2023; 12(11):3624. DOI:10.3390/jcm12113624. PMID:37297818. IF:3,900 (Q2/4D). Document type: Article.
  - Santos JR, Casadellà M, Noguera M, Micán R, Domingo P, Antela A, Portilla J, Sanz J, Montero M, Navarro J, Masiá M, Valcarce N, Ocampo A, Pérez L, García C, Vivancos MJ, Imaz A, Iribarren JA, Hernández J, Villar J, Barrufet P, Paredes R, INSTINCT GRP. Effectiveness and safety of integrase strand transfer inhibitors in Spain: a prospective real-world study. *Frontiers in Cellular and Infection Microbiology*. 2023;



## 5.1.6 Associated Groups

- 13:1187999. DOI:10.3389/fcimb.2023.1187999. PMID:37434782. IF:5,700 (Q1/3D). Document type: Article.
- Santos JR, Domingo P, Portilla J, Gutiérrez F, Imaz A, Vilchez H, Curran A, Valcarce N, Paye-ras A, Bernal E, Montero M, Yzusqui M, Clotet B, Videla S, Moltó J, Paredes R, Study 2DGRP. A Randomized Trial of Dolutegravir Plus Darunavir/ Cobicistat as a Switch Strategy in HIV-1-Infected Patients With Resistance to at Least 2 Antiretro-viral Classes. *Open Forum Infectious Diseases*. 2023; 10(11):ofad542. DOI:10.1093/ofid/ofad542. PMID:38023553. IF:4,200 (Q2/4D). Document type: Article.
  - Scévola S, Niubó J, Domingo P, Verdejo G, Curran A, Diaz V, Peñafiel J, Tiraboschi J, Morenilla S, García B, Soriano I, Podzamczar D, Imaz A. Decay of HIV RNA in Seminal Plasma and Rectal Fluid in Treatment-Naive Adults Starting Antiretro-viral Therapy With Dolutegravir Plus Lamivudine or Bictegravir/Emtricitabine/Tenofovir Alafe-namide. *JOURNAL OF INFECTIOUS DISEA-SSES*. 2023; 228(7)DOI:10.1093/infdis/jiad304. PMID:37526315. IF:6,400 (Q1/2D). Document type: Article.
  - Sempere A, Assoumou L, Gonzalez A, Waters L, Rusconi S, Domingo P, Gompels M, de Wit S, Raffi F, Stephan C, Masia M, Rockstroh J, Katl-ma C, Behrens GMN, Moyle G, Johnson M, Fox J, Stellbrink HJ, Guaraldi G, Florence E, Esser S, Gatell J, Pozniak A, Martinez E, NEAT 022GRP. Incidence of Hypertension and Blood Pressure Changes in Persons With Human Immunodeficiency Virus (HIV) at High Risk for Cardiovascular Disease Switching From Boosted Protease Inhi-bitors to Dolutegravir: A Post-hoc Analysis of the 96-week Randomised NEAT-022 Trial. *CLINICAL INFECTIOUS DISEASES*. 2023; 77(7)DOI:10.1093/cid/ciad297. PMID:37207617. IF:11,800 (Q1/1D). Document type: Article.
  - Waters L, Assoumou L, Gonzalez A, Rusconi S, Domingo P, Gompels M, de Wit S, Raffi F, Stephan C, Masia M, Rockstroh J, Katlama C, Be-hrens GMN, Moyle G, Johnson M, Fox J, Stellbrink HJ, Guaraldi G, Florence E, Esser S, Gatell JM, Pozniak A, Martinez E, NEAT 022GRP. Limited Weight Impact After Switching From Boosted Protease Inhibitors to Dolutegravir in Persons With Human Immunodeficiency Virus With High Cardiovascular Risk: A Post Hoc Analysis of the 96-Week NEAT-022 Randomized Trial. *CLINICAL INFECTIOUS DISEASES*. 2023; 76(5)DOI:10.1093/cid/ciac827. PMID:36259527. IF:11,800 (Q1/1D). Document type: Article.

## 5.2 Transversal programmes



### 5.2.1 ADVANCED THERAPIES

Immunotherapy, gene and cell therapy, target drug delivery with nanoparticles, synthetic lethality or drug repurposing are examples of research on advanced therapies that can be applied to several oncological, cardiovascular, or neurological diseases among others. Research shows this programme will lead to new treatments and therapeutic strategies to improve patients' lives.



### 5.2.2 GENOMIC MEDICINE AND RARE DISEASES

Technological and bioinformatics advances in the field of genomics led to a strong impact not only on the diagnosis of rare genetic diseases but also on determining risk factors, prognosis, and treatment of a growing number of highly prevalent pathologies. In this program we face the era of personalized precision medicine and address the challenge of diagnosing genetic disorders sooner and better.



### 5.2.3 BIOMARKERS, PROGNOSTIC, AND DIAGNOSTIC

Research on disease biomarkers is essential in high-complexity medical care as it allows for adjusting the diagnosis and predicting the prognosis and drug response. Biomarkers are also essential for the proper follow-up of clinical trials with new drugs. The research done in this program will help define what is the best journey for our patients, from diagnosis and clinical follow-up to treatment.



### 5.2.4 BETTER HEALTH CARE

We are an Institute with healthcare professionals linked to all medical specialties and nursing. The translational research of this program aims to respond to the clinical challenges of patients in the form of healthcare improvements. This is evident in improvements in diagnosis, medical, or surgical procedures or care circuits always focused on the benefit of the patients.



## 5.2 Transversal programmes



### 5.2.5 WOMEN'S HEALTH AND GENDER

Biomedical research has demonstrated the importance of sex, gender, and intersectionality in health, well-being and disease progression to the extent that it is now difficult to justify healthcare and research without a gender perspective. In this program we support the integration of a sex/gender perspective into research content to fill existing knowledge gaps, increase the reproducibility of studies by making them bias-free, contribute to minimizing delays in diagnosis and unexpected adverse effects, and increase equity and social justice. In addition, we promote research on women's health and women's diseases to contribute to the impact of our research on personalized medicine.



### 5.2.6 COVID-19 RESEARCH

The outbreak of the SARS-CoV-2 virus and the consequent pandemic has driven much research projects on COVID-19, including the effects on pregnancy and childbirth, the genetic or individual factors that determine its severity, the physiological mechanisms of infection and immune response, or clinical trials with new drugs. This program adds knowledge for a common goal: understanding to fight the disease.

# Core Facilities and Scientific Services

## Javier Crespo

Coordinator



### Functions

- Facilitate access to high-level techniques and technologies that may not be available to individual groups.
- Provide services at a reduced cost and optimize human and material resources.
- Support researchers with optimized workflows and methods.
- Offer technical and methodological guidance and support.

## 6.1 GENOMICS AND TRANSCRIPTOMICS

### Sandra Camino

Coordinator

Staff

Sónia Alcolea



The Genomics and Transcriptomics platform is a core facility focused on giving advice, offering specific services in genomics and transcriptomics techniques, and making specific equipment available to researchers and to the scientific community.

The unit offers a quality service guaranteed for the ISO 9001:2015 certification.

#### Services

- Quantitation and quality control of nucleic acid samples (Qubit 3.0, Nanodrop 2000, and Bioanalyzer 2100).
- Sample processing for Single-Cell Analysis (Gene expression, Immune profiling, ATAC-seq).
- Sample processing for Microarrays studies (Gene expression and miRNA profiles, Cytogenetics).
- Real-time PCR projects (Gene expression, miRNA detection, allelic discrimination, CNV, absolute quantification).
- Digital PCR (rare or low target detection, mosaicism detection, CNV, allelic discrimination (>5%), Absolute quantification).
- Next-Generation Sequencing: exome sequencing, targeted RNA or DNA sequencing (Ampli-Seq technology), small RNA seq, de novo seq, ChiP-Seq, 16S rRNA sequencing, etc.).
- Sanger Sequencing: DNA sequencing, mutation and polymorphism analysis, DNA methylation studies, microorganisms identification.

- Fragment analysis: cell line authentication, copy number (MLPA), LOH, genotyping studies, microsatellites instability, DNA repeat expansion studies, etc.
- Omics Data analysis.
- Some of the equipment used to carry out these techniques can be accessible for researchers after specific user training.

#### Equipment

- Chromium iX (10x Genomics). Single-Cell Analysis.
- QuantStudio Absolute Q (Thermo Fisher Sci.). Digital PCR.
- SeqStudio 8 Flex capillary electrophoresis sequencer (ThermoFisher Sci).

## 6.2 FLOW CYTOMETRY

### Marta Soler

Coordinator

Staff

Lia Ros



The flow cytometry platform provides users with the latest generation equipment for cytometric analysis and separation of cell populations, with specifically trained staff to support users in experimental design, data acquisition, and analysis of results. The flow cytometry platform is certified by ISO 9001:2015, and offers sample analysis, from staining to delivery of results, as well as the possibility of fine-tuning new techniques at the request of both internal and external users.

#### Services

- Conventional cytometry:
  - Characterization of cell populations by multi-color immunophenotyping.
  - Essays of cell viability and proliferation in animal and bacterial cells.
  - Essays of cell cycle and apoptosis.
  - Gene expression (analysis of fluorescent proteins) and quantification of transfection efficiency.
  - Magnetic column cell enrichment for the detection of minority populations.
- Cell sorting:
  - Up to 4 cell subpopulations can be obtained simultaneously in a biosafety cabin.
  - Automated magnetic cell separation of up to two populations.

- Cell dissociation:
  - Independent and fully automatized dissociation of up to 8 samples simultaneously.
  - Dissociation of tissue and cells for single cells or molecular downstream applications.
  - 8 individual heating units for 37°C incubations.
- High Throughput Screening (HTS)/Luminex technology:
  - Analysis of gene expression and immunophenotype profiles, detection of DNA, RNA, and protein in a single plaque.
  - Possibility to include up to 50 analytes in the same plaque.

#### Equipment

- MACSQuant 16 (Miltenyi Biotec). 3 lasers: 14 fluorescence parameters. Specialized in nanocytometry.
- MAGPIX (Luminex). Analysis of up to 50 analytes per plaque.
- AutoMACS Pro (Miltenyi Biotec) inside class II biosafety cabinet. Automated magnetic separation.

## 6.3 CONFOCAL MICROSCOPY

### Esther Peña

Coordinator

Staff

J. Oriol Juan



The confocal microscopy platform advises on experimental design, and equipment selection according to needs, and facilitates the acquisition of high-resolution three-dimensional images, allowing detailed analysis of biological samples with high subcellular precision.

#### Services

- Consultation on study preparation and/or approach.
- Training.
- Immunofluorescence of 2 to 5 fluorochromes.
- Reconstruction of 3D and 4D images.
- Colocalization studies.
- Inter and intra-interactions.
- Conventional fluorescence or bright-field microscopy in live cells, fixed cells, and tissues.
- Time-lapse.
- Anatomopathological studies of different tissues, stained by immunohistochemistry (frozen or paraffin) and quantification of images.

#### Equipment

- Leica SP5 AOBS multispectral confocal with high-speed and high-resolution scanning system, FLIM/FCS modules, and time-lapse incubation system.

- Zeiss AXIOVERT 200M inverted fluorescence microscope with temperature and CO<sub>2</sub> control, with an incubation chamber allowing work with live cells in both fluorescence and bright-field. Equipped with fluorescence filters: DAPI, FITC, Rhodamine. Equipped with polarizers enabling the capture of polarized light images.
- Olympus BX51 fluorescence microscope with double head. Equipped with fluorescence filters: DAPI, FITC, TRITC, TXRED, FAR RED.

## 6.4 BIOBANK AND IMMUNOHISTOCHEMISTRY

### Elena Serrano

Coordinator (until May 2023)

### Javier Crespo

### Ester Peña

Coordinator (from June 2023)

Staff

Iris Rodríguez, Josep Moreno, Oriol Juan,  
María Angels Velasco

The Biobank is a support platform for biomedical research whose main function is the processing of biological samples according to quality criteria. The objective of the Biobank IIB Sant Pau is to increase the accessibility of human biological samples to applicant researchers so that they can use them in their research projects, as long as they meet the ethical and legal requirements required by current legislation.

#### Services

- Management of requests for biological material for research purposes.
- Ethical-legal advice on the creation of new collections.
- Scientific-technical advice on the treatment of biological samples.
- Processing of human biological samples: peripheral blood, bone marrow, urine, frozen tissue, etc.
- Conservation and custody of human biological samples.
- Cryopreservation of viable cells.
- Management of sample collections and associated data.
- Nucleic acid extraction from different types of biological samples.



#### Equipment

- 15 Ultra Low freezers -80°C NUAIRE NU-9668E with double-emergency system alarm. 24h monitoring.
- Liquid nitrogen tank CHART MVE 1211 with automatic filling.
- Vapor nitrogen tank CBS V-5000 EHAB with automatic filling.

## 6.5 PROTEOMICS

### Maisa García

Coordinator



The Proteomic Unit will work as a link between IR's researchers and the specialized facilities in other institutions as CRG proteomic Unit.

#### Services

- Give support in the experimental design.
- Do the sample preparation in house prior LC-MS/MS analysis, adapted to the researchers needs.
- Perform analysis and interpretation of the data obtained by LC-MS/MS and/or in silico analysis for result confirmation.



## 6.6 RADIOACTIVITY UNIT

### Javier Crespo

Coordinator

Staff

Josep Moreno



The Radioactivity Unit provides groups with specific research laboratories in which to work with radioactive isotopes in liquid form. These areas are fully equipped and adapted for the handling of radioactive material and apply optimum measures for the safety and radioprotection of staff and the environment.

#### Services

- In vitro labeling of proteins, lipoproteins, and liposomes.
- Cellular proliferation and toxicity.
- Nucleic acid labeling.
- Immunoassay techniques.
- Determination of enzymatic activities using radiolabeled substrates.
- Analysis and separation of labeled molecules.
- Cellular cholesterol efflux.
- In vivo metabolism.

#### Equipment

- Portable radiation and environmental contamination detectors.
- 2 chemical safety cabinets for gas extraction.
- 1 vertical laminar air flow cabinet for cell cultures.

## 6.7 CELLULAR CULTURE

### Estefania Segalés

Coordinator

Staff

Margarita Domingo



The service consists of different laboratories (BSL1 and BSL2) where users can work with primary cultures obtained from human and experimental animal tissues, continuous cell lines, and Level I and II Genetically Modified Organisms (GMOs) using the necessary equipment in aseptic conditions. All the facilities and equipment are subject to the ISO 9001:2015.

#### Services

- Biosafety cabinets and equipment in auto service mode.
- Biosafety cabinets and equipment for experiments with cytostatic products.
- Biosafety cabinets and equipment for radioactive experiments.
- Hypoxystation.
- Periodic mycoplasma detection.
- Sterilization procedures.

#### Equipment

- Hypoxystation.
- Radioactive installation.

## 6.8 ANIMAL EXPERIMENTAL SERVICE (SEA)

### Laura Casaní

Coordinator

### Sergi Florit

Manager of Animal Research Facilities

Staff

Fanny Cevallos, Angel Juncosa,  
Lorena Masiá, Eleonor Masiá

The service consists of different laboratories (BSL1 and BSL2) where users can work with primary cultures obtained from human and experimental animal tissues, continuous cell lines, and Level I and II Genetically Modified Organisms (GMOs) using the necessary equipment in aseptic conditions. All the facilities and equipment are subject to the ISO 9001:2015.

### Services

- Officially registered (B9900067; REGA ES080190036528), ISO 9001:2015 certified and, fulfills the current legislation on laboratory research animals: European Directive 2010/63/EU, Spanish RO 53/2013, Catalan Decree 214/1997 and, use of transgenic animals (A/ES/08/I-14 & A/ES/08/21).
- The SEA is committed to help scientists to follow the principles of the '3Rs': replacing animal research with non-animal alternatives; using the least number of animals needed to get meaningful results and getting more information from those animals that are used; and refining experiments to minimize harm and discomfort to the animals.
- The SEA adheres to the transparency agreement in animal experimentation, promoted by the Confederation of Scientific Societies of Spain (COSCE).



- Care and maintenance of experimental animals (rats, mice, rabbits, and swine).
- Maintenance of genetically defined animal colonies (rats and mice): crossing, weaning, and sexing on demand.
- Daily review of the health and welfare of housed animals.
- Advice and specialized support to researchers in the design, writing, and realization of the experimental procedures and techniques that involve the use of animals.
- Advice on analgesia and anesthesia protocols for different experimental procedures and animal species.
- Management of global animal health and hygienic and sanitary conditions of the facilities, and equipment.
- Daily control and automated record-keeping of the environmental conditions in the facilities.
- Biological waste management.

### Equipment

- Support facilities include ultra-high echography machine for mice (VevoF2), 2 IVIS Spectrum (CT), 4 laparoscopic towers (Medtronic), X-Ray equipment (OEC-Elite GE), large animal echography system (Affiniti Philips).

## 6.9 GENERAL LABORATORY FACILITIES

### Maribel Baldellou

Coordinator



The purpose of this core facility is to provide and maintain the basic equipment requirements and fulfill the needs of adapted spaces for the internal use of researchers and their teams.

It consists of almost 600 square meters and 300 units of equipment available to all users upon request or reservation.

#### Services and equipment

- Planning and coordination of preventive maintenance, validations, and control of all the units in IR Sant Pau (common or exclusive to a group or core facility):
  - Gas and biosecurity cabinets.
  - Sterilization units.
  - Security cabinets.
- Space distribution and maintenance for deep freezers and cryopreservation rooms (12), cool chambers at 4°C or at -20°C (8).
- Maintenance and control of general laboratory equipment available to all internal users:
  - Water treatment equipment: 21 units.
  - Security cabinets: 22 units.
  - Cleaning and sterilization: 11 units.
  - Gas and biosecurity cabinets: 28 units.
- Maintenance and control of basic laboratory instruments available to IR users, grouped as follows:
  - Centrifuges, from desktop to ultracentrifuges.
  - Precision scales.
  - PH-meters.
  - Stoves, thermic baths, thermic blocs.
  - Ultrasound bath.
  - Electrophoresis equipment.
  - Spectrophotometers.
  - Chromatographs.
  - Optic microscopes.
  - Other more specialized equipment.
- It also provides logistic support and problem-resolution advice to researchers and their teams.

## 6.10 CLEAN ROOM

### Matilde Parreño

Coordinator

Staff

Rosa Antón



The IR Sant Pau Clean Room is accredited to develop advanced therapies at IR Sant Pau. The Research Institute of the Hospital de la Santa Creu i Sant Pau – IR Sant Pau, in collaboration with the Banc de Sang i Teixits de Catalunya, obtained the certificate of compliance with the Standards of Correct Manufacture of Advanced Therapy Medicines from the Spanish Agency of Medicines and Medical Devices (AEMPS) from the Ministry of Health, a certificate that allows the production and quality control of cellular medicines type CAR-T.

#### Service

- The objective of the clean room platform is the development and manufacture of advanced therapy drugs. All operations are carried out under the correct manufacturing standard (GMP).

#### Equipment

- BSL-2 cabinets.
- Inverted microscope.
- TC automated cell counter.
- Refrigerated centrifuge.
- 2 ClinicsMacs Prodigy

# Research Support and Management

## 7.1. CLINICAL RESEARCH AREA

**Rosa M. Antonijoan**

Coordinator



### 7.1.1 CENTRE FOR DRUG RESEARCH (CIM)

Research Staff

**Jimena Coimbra, Pol Molina,  
Montserrat Punes, Francesca Filippi**

Nursing Staff

**Maite Garrido, David Martínez, Maribel  
Martínez, Marta Castillo, Isabel Sánchez**

Study Coordinator

**Montserrat Ruiz, Angela Fraga**

Data Management

**M<sup>a</sup> Ángeles Funes, Ana Gomis,  
Esteve Mercader**

Administrative Support

**Pura Martínez**

The Centre for Drug Research (CIM) began its activities in 1983, in collaboration with the Clinical Pharmacology Department of the HSCSP and the Pharmacology and Therapeutics Department of the Autonomous University of Barcelona (UAB).

#### Functions

The CIM conducts clinical trials with drugs and clinical research in two areas:

Research as a business unit

- Phase I clinical trials (of no therapeutic interest for participants) in special populations and healthy volunteers (bioequivalence, tolerability, pharmacokinetics and pharmacodynamics, first administration in humans).
- Collaboration with HSCSP researchers in conducting phase II, III, and IV clinical trials.



- Research in neuropsychopharmacology
- Evaluation of the effects of psychotropic drugs and other substances active in the central nervous system on the sleep-wake cycle: Studies of effects during wakefulness (behavioral safety).
- Studies of effects during wakefulness (behavioral safety).
- Studies of effects on sleep quality and architecture.
- Facilities.
- To carry out these functions two different areas are distinguished:

Care area (4 sections):

- Admissions, with 24 beds (in four modules) that allow 100% continuous visual control and two beds for polysomnography studies.
- Outpatient area, with four single rooms equipped for medical, physical, and neuropsychological and psychomotor performance testing.
- Rest and services area: showers, toilets, kitchen, dining room, leisure room.
- Restricted area for drug storage and the processing and storage of biological samples.

Data management and processing area:

- Five computerized offices to carry out non-experimental clinical trial activities.
- Monitors' area (1 room).
- Temporary documentation archive (1 room).

## 7.1.2 AGDAC

### Enrique Peña García

Manager

### Cintia Abril García

Coordinator

Staff

Elisenda Brunet, Sara Mora

#### Functions

- Manage and supervise all documentation associated with active clinical trials in the experimental phase and destruction of documentation for terminated clinical trials located in the external archive.
- Store the supplies until the end of the studies, when they are destroyed or recycled.
- Oversee and manage documentation of completed trials for the Centre for Drug Research (CIM).
- Maintain and update the clinical workstation database and manage clinical studies.
- Manage restricted access by clinical trial monitors to the clinical workstation.
- Supervise data processing and management.
- Coordinate researchers and monitors; draw up agendas for meetings and study monitoring.
- Provide logistical support to the cold area and the clinical materials store associated with clinical trials in the experimental phase.
- Ship biological samples to central laboratory services.





### 7.1.3 CLINICAL RESEARCH AND CLINICAL TRIALS UNIT (UICEC)

## Alejandra Espinosa

Coordinator

## Rosa M<sup>a</sup> Antonijoan

Responsible

Staff

**Yaira Mathison, Laura Serra, Sara de Jesus, Jennifer Delgado, Irina Parvanyan**

### Functions

The Central Clinical Research and Clinical Trials Unit (UICEC Sant Pau) provides comprehensive support to researchers in the development of independent research projects (not sponsored by the pharmaceutical industry) on the methodological, regulatory, administrative, economic, and practical aspects, subject to compliance with the ethical, good clinical practice and legislation.

UICEC Sant Pau is part of the Spanish Clinical Research Network (SCReN), a functional organization network to support the conduction of multi-center clinical trials and participates in the SCReN Platform (Spanish Clinical Research Network ISCIII).

Knowledge management

- One-stop information for independent research group projects.
- Comprehensive assessment and project coordination.
- Point of communication between researchers and technical units.



- Pharmacovigilance activities for trials including drugs or medical devices.
- Knowledge management:
  - Study of dimensionality and feasibility of projects.
  - Identification of each project's needs.
  - Advice on the preparation of documentation: protocol, annexes, monitoring report, final report.
  - Advice on the submission of documentation to Spanish Agency for Medicines and Medical Devices (AEMPS), Clinical Research Ethics Committee (CEIC), Autonomous Communities (CCAA) and other relevant authorities.
  - Advice on project registration in public databases.
  - Identification of spinoff projects.
  - Advice on the presentation of research results.

Methodological and statistical support unit

- Advice on study design.
- Data entry.
- Data processing.
- Development of statistical reports.



### 7.1.3 CLINICAL RESEARCH AND CLINICAL TRIALS UNIT (UICEC)

- Electronic CRFs validation and management.
- Documentation and reports.

Documentation, archiving, monitoring, and follow-up unit

- Support in document creation: EudraCT form and annexes / application forms / evaluation forms follow form.
- Support in the processing of initial applications, clarifications and amendments: AEMPS, CEIC, other health authorities regarding clinical trials, and other post-authorization studies.
- Comprehensive monitoring of clinical trials and observational studies.
- Management of initial, follow-up and final reports.
- Development and file custody promoter (Master File), file preparation investigator.
- Other communications to CEIC, autonomous communities and competent authorities.

Unit of management and financial management

- Management of clinical trials contracts with participating centers.
- Management of collaboration agreements with laboratories / companies for funding.
- Management of clinical trial-related contracts (CRO's, E-CRDs, statistics, etc.). Management of clinical trial-related client and supplier invoices.
- Management of clinical trial insurance policies.
- Preparation of financial reports for the submission of studies to ethics committees.
- Management of payment of fees to the competent authorities.

## 7.2 RESEARCH AND INNOVATION MANAGEMENT AREA

### Míriam Ors

Coordinator



### 7.2.1 TECHNOLOGY TRANSFER AND INNOVATION UNIT (UTI)

### Míriam Ors

Coordinator

Staff

Jana Iscla, Natalia Ichaso, Alba Arroyes  
Marta Tort (April-October 2023)  
Dani Benitez (until February 2023)



#### Functions

- It aims to create and foster an innovative ecosystem at IR Sant Pau to promote and cultivate innovative ideas. One of the key initiatives in this endeavor is the establishment of the INNOPAU incubator.
- It works to identify opportunities, and evaluates and valorises them to ensure their effective transfer to market or implementation in the SNS. The unit provides support in defining and managing the IP and market strategy, considering essential factors like regulatory compliance and stakeholder engagement.
- Offers support in the creation of spin-offs and fosters entrepreneurship.
- Supports searching for funding for technology development projects and encourages public-private collaboration.
- Promote the visibility of the IR Sant Pau in the R&D&I national and international ecosystems.

## 7.2.2 NATIONAL PROJECTS UNIT

**Fabiola Fernández**

Coordinator

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Staff

Eva José, Eva de la Vara, Amanda García

Marta Lorente, Eva García

Eva Vicente (until October 2023)

Cristina Manjón (from November 2023)

**Functions**

## Pre-Award

- Research and dissemination of calls for proposals.
- Advise and support researchers for the submission of applications (review of IP, equipment and budget).
- Registration of applications submitted.
- Follow-up of applications submitted up to the resolutions.
- Reports indicators of the activity of the Unit.

## Post-Award

- Activation of the aid granted from the moment it is granted until its completion in the management application.

- Economic follow-up (economic-scientific reports, validation spent and advice to the researcher).
- Negotiations with the funding agencies: registration and cancellation of equipment, copy of contracts, starting canvas, requests for extensions.
- Response to requests from funding agencies.
- Internal and external audits of projects.
- Meetings for the creation and management of projects.
- Interaction with different cross-cutting areas to implement the provisions of the calls for proposal.

### 7.2.3 INTERNATIONAL PROJECTS UNIT

## Noemí Carranza

Coordinator

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Staff

Declan de la Fuente, Regina Rubira,  
Cristina Vizcaíno



### Functions

The IPU was created in 2021 with the aim of managing competitive international projects since the creation, application, justification and monitoring phase.

The objectives of the IPU are the following:

- Improve the proactive search for opportunities that can become funded proposals.
  - This objective implies contacting other European organizations, searching for companies, consortia formation, searching the necessary resources to carry out the project, supporting groups in the proposal preparation, communication, encouraging group participation and leading some proposals.
- Support in proposal preparation for HE calls.
- Contribution to the internationalization of the IR Sant Pau to increase its reputation and visibility.
  - This objective implies promoting international collaborations, creating and participating in European and international networks.
- Communication and dissemination of international projects.
- Strengthen the role of the Communication Unit to increase the dissemination and communication of results. Include internationalization in the communication plan, web content and promotion of social networks.
- Promote a cultural change accompanied by a specific training plan.
- Train and offer advice to the institute's research community to participate more actively in the environment of competitive grants and European and international networks.
- Provide a good system for data collection and exploitation of indicators, scientific activity and project management.

## 7.2.4 INTERNATIONAL RELATIONS UNIT

### Laia Cendrós

Coordinator

#### Functions

The International Relations Unit supports strategically and operationally to define and develop internationalisation at IR Sant Pau. The unit aims at promoting scientific excellence through collaborative research and innovation, and by sharing infrastructures and knowledge at international level. It helps build relationships with European and international institutions and organisations, and promotes and nurtures IR Sant Pau global positioning and reputation and European and international networks.

The unit main goals are:

- To strengthen international strategic alliances.
- To promote scientific exchange and collaboration at international level.
- To improve IR Sant Pau international presence, reputation and visibility.
- To attract scientific activity, talent and opportunities to IR Sant Pau.

The new International Relations Unit was created in November 2023 and collaborates and coordinates with several units at IR Sant Pau, thus fostering and facilitating the participation of IR Sant Pau researchers in the European and global scene.



## 7.2.5 KNOWLEDGE MANAGEMENT UNIT

### Montse Campmany

Coordinator

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Staff

Cati Pérez, Neus Milán



#### Functions

- Ensure the accurate collection of information on institutional scientific activity and calculate monitoring indicators.
- Respond to requests for information from official bodies and the institution regarding scientific activity.
- Advise researchers on bibliometrics and publishing in scientific journals.
- Promote open science, specially in open access and research data management.

## 7.2.6 QUALITY ASSURANCE UNIT (QA)

### Marta Mitjà Ventura

Coordinator

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Staff

Agostina Robledo, Jordina Pasqual



#### Functions

- Establish mechanisms to assess Quality and Best Scientific Practices, promoting continuous improvement and excellence goals.
- Assessment for designing and implementation of new Quality / R+D+i standards.
- Follow-up of the Integrated Quality Management System, including the establishment of improvement policies, under the following standards:
  - Good Manufacturing Practices of Advanced Therapy Medicinal Products.
  - Good Clinical Practices.
  - ISO 9001, Quality Management System.
  - UNE 166002, R+D+i Management System.
- Perform internal audits (Advanced Therapy Medicinal Production Process / Clinical Trials / Scientific and Technical Services / Suppliers).
- Coordinate, oversee and follow up of the external Inspections (Public Administration / Clinical Trial Promoters / Certification Entities).
- Coordinate the Quality Committees.



## 7.2.7 RESPONSIBLE RESEARCH AND INNOVATION UNIT (RRI)

### Maria Rosa Ballester

Coordinator



#### Functions

- Incorporate RRI principles into the governance of the institution and foster RRI at all stages of any research project.
- Promote and encourage integrity in research, by means of the creation of CIR (Integrity Committee for Research).
- Support to researchers in how to integrate the gender perspective in teams and in all phases of the project content.
- Promote, design or implement specific tools, activities, and methodologies (round table and co-creation sessions) to help researchers to improve their research proposals involving the society.
- To develop the institution's impact strategy and promote the culture of impact by supporting researchers in the definition of impact narratives in their field of research and contributing to maximize the social impact of the health research carried out at the institution.

## 7.2.8 SCIENTIFIC SECRETARIAT

### M<sup>a</sup> José Bartolomé

Coordinator



#### Functions

The scientific secretariat is an essential support to the scientific director and a liaison with the scientific community.

This unit responds proactively to needs and advises researchers on internal procedures and policies.

In addition, it assists the Scientific Director in the management and organization of various activities, including:

- Coordination of internal scientific committee.
- Support to the Directors of the Strategic Scientific Areas.
- Providing overall administrative support to strategic institutional projects, such as the Joint Scientific Project, the integration project, etc.
- Participate in evaluations and accreditations.
- Planning and organization of meetings, conferences and initiatives to promote scientific exchange, foster excellence and enhance collaboration between the different research groups and any other actions that scientific direction implementing.

## 7.3 ADMINISTRATION MANAGEMENT AREA

### Jaume Bacardit

Managing Director



### 7.3.1 FINANCE UNIT

### Laura San Martín

Coordinator

Staff

Accounting, Treasury, and Invoicing

**Alfred Sánchez (new addition in 2023)**

**Ana Badenes**

**Anna Espallargas**

**Ester Andrés**

**Esther Monferrer**

**Héctor Sánchez**

**Meritxell Criado**

**Nuria García**

**Nuria Vanaclocha**

**Sandra Parera**

**Soraya Gonzalez**

Sales

**Grace Careaga**

**Lorena Bustamante**

**Sara García**

Management Control

**Laura Pino**



### Functions

- Carrying out financial and accounting management for the HSCiSP Research Institute: account management, treasury, and tax matters.
- Designing, administering, and controlling budget-related issues.
- Managing and controlling financial and material resources.
- Complying with obligations imposed by official bodies and ensuring compliance with current tax and financial regulations along with the management policies of the HSCiSP Research Institute.
- Providing support to researchers and research groups in various areas: invoicing, purchasing, project monitoring and control, and general administration.

### 7.3.2 LEGAL ADVICE AND PUBLIC PROCUREMENT UNIT

## Sílvia Ribas

Coordinator



Staff

Lourdes Gaig, Uxue Moreno, Maria Rull,  
Berta Colomer



### Functions

- **Legal Counsel and Resolution of Legal Matters:** The Legal Advice and Public Procurement Unit of the IR Sant Pau is responsible for providing comprehensive support to the institute across all its domains, ensuring strict adherence to established legal frameworks. This involves:
  - Offering preemptive legal counsel.
  - Resolving legal matters across various branches of law including civil, commercial, administrative, labor, and criminal compliance, alongside transparency regulations.
- **Compliance with General Data Protection Regulation (GDPR):** The Unit oversees compliance with the GDPR by:
  - Ensuring the proper handling of data, both internally and externally.
  - Validating the functions of the data protection officer.
- **Management of Public Procurement Procedures:** The legal unit manages the corresponding procedures of public procurement to secure necessary works, services, and supplies for the foundation, in accordance with:
  - Protocols and regulations outlined in the Public Sector Contracts Act.
- **Coordination of Compliance Committee:** Finally, the Legal Unit performs the coordination functions of the Criminal Compliance Committee to ensure that the Institute complies with laws, regulations, and ethical standards. This involves:
  - Implementing and overseeing internal policies and procedures to prevent illegal, fraudulent, or unethical activities.
  - Promoting a culture of integrity and accountability among staff regarding relevant regulations.
  - Conducting regular audits to ensure compliance.

### 7.3.3 HUMAN RESOURCES UNIT

## Ruth Acosta

Coordinator

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Staff

Gisèle Domenech, Mireia Ventura,  
Mónica Velasco, Inés Pérez

### Functions

- Manage all processes related to human resources.
- Provide support and services to employees and research groups in all issues related to the employee life cycle (recruiting, contracting, personnel administration, payroll, training & development, teaching).
- Labour relations.
- Develop and implement policies and procedures meeting organizational objectives.
- Health and Safety.



### 7.3.4 EXECUTIVE SECRETARIAT

## Eva Sanfeliu

Coordinator

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Staff

Carina Mussuto



### Functions

- Provide high-level administrative support and assistance to both management/director and administrative personnel as well as research staff.
- Maintenance of executive's agendas and plan meetings, appointments, or conferences.
- Contact point on any requirements from our trustees or stakeholders.
- Prioritise requests, IR Sant Pau representative signatures of agreements, clinical trials, fundraising, etc.
- Corporate email management.
- Manage all travel-related matters for both internal and assigned personnel, being the unique reference point for managing travels to congresses, meetings, etc... including the application for funding of travels.
- Handle all matters related to students, (PhD, master, etc...) managing all the information through platforms that Universities provide for this purpose and, among others, the renewal agreements with national or international universities and/or institutions.

### 7.3.5 INFORMATION SYSTEMS UNIT

## Adrià Aceituno

Coordinator

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Staff

David Sanfeliu, David Sánchez



### Functions

- Infrastructure Management:
  - The IT department is responsible for managing and maintaining the organization's technology infrastructure. This includes servers, networks, hardware, and other essential components. Ensuring the availability, reliability, and performance of the IT infrastructure is crucial for supporting business operations.
- User Support and Helpdesk Services:
  - Providing support to end-users is a significant responsibility. This involves addressing technical issues, troubleshooting problems, and offering assistance with software applications and hardware. An effective IT department typically includes a helpdesk or support team to respond to user inquiries and resolve issues promptly.
- Data Security and Information Management:
  - Safeguarding the organization's data and information is a critical role of the IT department. This includes implementing security measures to protect against cyber threats, managing access controls, and ensuring data backups and recovery processes are in place. IT professionals are also responsible for staying informed about the latest security trends and implementing best practices to mitigate risks.
- Strategic Planning and Technology Adoption:
  - The IT department plays a key role in aligning technology with the overall business strategy. This involves strategic planning to determine the organization's technology needs, evaluating and adopting new technologies that can enhance efficiency, and ensuring that the IT infrastructure supports the long-term goals of the business. IT professionals may also be in-

### 7.3.6 SERVICES AND INFRASTRUCTURES COORDINATION UNIT

## Javier Crespo

Coordinator

### Functions

The services and infrastructures coordination unit is designed to coordinate the work between the different sub-units that form it: scientific and technical services platforms, general services and infrastruc-



tures. This provides a better solution to the needs of the scientists and staff of the centre's structural centre.

### 7.3.6.1 INFRASTRUCTURE UNIT

## Rosa García Bravo

Staff

### Functions

- Organising, selecting and determining the spaces that are distributed among the different departments and research groups.
- To interact with the institutions that form part of the Sant Pau Campus to organize the spaces distributed among them.
- Responsible for creating new spaces and workplaces to improve the working conditions of the different teams.





### 7.3.6.2 GENERAL SERVICE UNIT

#### Staff

Pau Escartin, Cristina García, Laura Rios,  
Josep Moreno, Rosa García



#### Functions

- Building Management.
- Maintenance of the Building and equipment.
- Security.
- Warehouse.
- Booking of Meeting rooms.
- Overseeing cleaning services and treatment waste.
- Access authorization.
- Transfers.

### 7.3.7 COMUNICACION UNIT

#### Laia Cendrós

(until August 2023)

Communications Director

#### Laura Díaz-Roig

(from September 2023)

Communications Director

Staff

Media Relations and content creation

#### Karla Islas

Fundraising

#### Paola Grommes

Public Engagement

Júlia Massó (until July 2023)

Patricia Rodríguez (from November 2023)

#### Functions

- Increase the reputation and visibility of the Institute, as well as to strengthen and create new relationships with key stakeholders.
- The Communications Unit is responsible for the definition and development of the corporate image, media relations, citizen participation, scientific education, internal communication, and fundraising.
- The Unit communicates and disseminates innovative and pioneering research activities of the Institute at both national and international levels.
- Through activities and projects, the unit engages with citizens and various agents to promote their commitment and increase awareness of biomedical research in health.
- The Communications Unit is an accredited Unit of Scientific Culture and Innovation (UCC+i) by the Spanish Foundation for Science and Technology (FECYT).
- It is member of the Scientific Culture and Innovation Units Network, which includes the main agents for the dissemination of science and innovation in Spain.





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