institut santpau
Institut d'Investigacions Biomèdiques

22



SCIENTIFIC REPORT

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01



FOREWORD



Jordi Surrallés

Scientific Director
IIB Sant Pau

This annual report marks the 30th anniversary of our research institute. Thirty years after, we are proud of what we have achieved but also enthusiastic and committed with what is yet to come.

In 2022, we have celebrated our anniversary the best way we can do, offering outstanding science, opening our science to the public, and promoting innovation and tech transfer.

Also, we are deeply saddened by the passing of two outstanding scientists in our institute, Dr. Isabel Illa in March and Dr. Jordi Mancebo in August. Both researchers left a great legacy and became worldwide leaders in their respective scientific areas, inspiring new generations of scientists and clinical doctors.

Our science and its impact

We continued our excellent results and consolidated the IIB Sant Pau track record regarding scientific production. We have published 1,325 publications, 23% of them in first decile and 54% in first quartile. Our researchers led 37% of these publications, and 44% of this leadership corresponds to female scientists. Finally, most of our publications are open access (68%) and in collaboration with international colleagues (48%).

We have also been able to bring scientific knowledge close to our patients. We have performed 674 clinical trials, 47 of which academic and promoted by IIB Sant Pau researchers. We are especially proud of this milestone, which really represents our mission and vision: to improve people's health and quality of life through scientific knowledge.

Also, we keep committed to technology transfer and innovation, with fantastic records in patents, intellectual property registers, licenses and product transfers or spin-offs.

It is also important to highlight our commitment with openness and public engagement. Our Unit of Scientific Culture and Innovation (UCC+I) has flourished in 2022, reaching the highest records of public engagement activities and media relations. We have seen our research highlighted in top-tier media and thousands of people attended our activities. The celebration of our 30th anniversary was a fantastic example, together with the Fundació Privada Hospital de Sant Pau at the Hospital de Sant Pau Art Nouveau Site, we shared our research with general public in a big event that brought together more than 4,000 people. Citizens and researchers were able to share and discuss about our scientific research, establishing an open dialogue while promoting scientific education.

Talent

We keep increasing our capacity and expertise with new groups, areas and people in the institute. At scientific level, we welcomed two new research groups "Molecular Neurodegeneration" led by Olivia Belbín, and "Epilepsy", led by Susana Boronat. Both groups joined the Neurological Diseases, Neuroscience and Mental Health area, thus strengthening and enhancing this strategic research area. Also, with these two new groups the institute reached parity in the leadership of research groups, with 40% of women group leaders.

This year came also with a new managing director, Mr. Jaume Bacardit. Bacardit holds a degree in Economic and Business Sciences from the University of Barcelona and an Executive MBA from IESE Business School. He's been trained in Project Management and Process Reengineering at the Universitat Politècnica de Catalunya and Organization and Strategic Management at the London School of Economics. He has more than 25 years of experience in the international biomedical research sector and is an expert in finance and economic management. His expertise, skills and vision will be key to face the institute challenges.

Also, we continued to strengthen our Administration and Research support areas, welcoming Adrià Aceituno as head of our IT Systems unit, and promoting Ma Rosa Ballester, as head of the Responsible Research and Innovation (RRI) unit.

Highest standards

Again, our institute has been accredited with several quality assurance certifications. On the one hand, we have been accredited for R+D+I management with the UNE 166002 certification, demonstrating the correct management and quality of the support offered by the Tech Transfer and Innovation unit to all the research groups.

The institute also renewed the quality certification ISO 9001:2015 for its core facilities, as well as 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, certificate that allows the production and quality control of cellular medicines type CAR-T.

Furthermore, in terms of excellence, an important milestone to be mentioned was the successful results of the evaluation by CERCA. The evaluation committee considered our institute an excellent research institution with results close to the highest standards at international level, with some room for improvement as detailed in their recommendations. They congratulated us for the major improvement since our last evaluation. We obtained a very good result, even the new and more demanding evaluation criteria. They also encouraged us to keep advancing towards excellence.

Towards sustainability and soundness

It is with proud, gratitude and hope that I also want to mention our advancement towards sustainability. We have successfully achieved and mostly increased our indicators within the sustainability plan. 2022 has been a record for fundraising from national and international competitive projects, and also for clinical trials, patronage and donations.

So, it is time to thank all the IIB Sant Pau staff and community for their effort, creativity and patience. Also, I am grateful to our board of trustees for their support, and more especially to the Generalitat de Catalunya, for trusting us and for increasing and consolidating their core fund as well as allocating additional funding this year (for COVID related expenses), through the Health Department and the Research and Universities Department.

I am sure we will see our institute to consolidate all these outstanding records while facing and achieving new challenges in 2023. The new year comes with strategic changes and will be a turning point for our institute, working to strengthen the Sant Pau Campus Salut Barcelona, together with the Sant Pau Hospital.

I can't wait to working together in all these challenges and initiatives.

Happy to have you all on board!

Jordi Surrallés
Scientific Director
IIB Sant Pau



02



PRESENTATION



02.1

ABOUT US

Institut de Recerca Hospital de la Santa Creu i Sant Pau is a scientific foundation which mission is to promote basic, clinical, epidemiological, and healthcare research in the fields of health sciences and biomedicine. Our main goals are to improve people's health and quality of life through the production and dissemination of scientific knowledge, training of researchers at the international level, the generation of healthcare innovations, and the application of advances in care practices and health policies.

Created in 1992, the institute was attached to the Autonomous University of Barcelona (UAB) in 2003, and since 2011 it is part of the Government of Catalonia's CERCA Programme.

The Institute, located at the Sant Pau Campus, is a biomedical research center of excellence. It is affiliated to the Autonomous University of Barcelona (UAB) since 2009, it is an accredited health research institute of excelence by the Spanish Carlos III Health Institute (ISCIII), and member of the CERCA system in Catalonia since 2011.

The Institute has its own team of researchers as well as affiliated researchers. Our scientists carry out their research work in multidisciplinary groups, performing both basic and clinical research, in collaboration with researchers from other "sister" organizations located on the Sant Pau campus and the surrounding area.

We are center of:

02.2

WHO WE ARE

BOARD OF TRUSTEES - INSTITUT DE RECERCA DE L'HOSPITAL DE LA SANTA CREU I SANT PAU

President
Mr Manel Balcells i Díaz (until October 2022)
Mr Xavier Prats Monné (from November 2022)

Appointed by the Fundació de Gestió Sanitària Hospital de la Santa Creu i Sant Pau
Mr Adrià Comella Carnicé
Mr Joan Carles Souto Andres

Appointed by the Fundació Privada Hospital de la Santa Creu i Sant Pau
Mr Jordi Sierra Gil
Mr Josep Mª Forcada i Casanovas

Appointed by the Generalitat de Catalunya
Mr Ana Ma Plaza Tesías
(Departament de Salut, Generalitat de Catalunya)
Mr Joan Gómez Pallarès
(Departament de Recerca i Universitats, Generalitat de Catalunya)

Appointed by the Universitat Autònoma de Barcelona (UAB)
Mr Jordi Casademont i Pou
Mr Manuel Armengol i Carrasco

Appointed by the Institut de Recerca Hospital de la Santa Creu i Sant Pau, upon proposal from the Fundació Privada Hospital de la Santa Creu i Sant Pau.
Mr Antoni Esteve i Cruella
Mr Jaume Kulisevsky Bojarski

Secretary (Not trustee)
Mr Joaquim Jornet i Porta



INTERNAL SCIENTIFIC COMMITTEE

President
Jordi Surrallés
(IIB Sant Pau's Scientific Director)

Vicepresident
Antonio López Pousa
(Ethics Committee's President)

Innovation, Quality and training
Miriam Ors Griera
(Deputy Scientific Director. Innovation, Training & Quality)

Members by direct designation of the IIB 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 IIB Sant Pau's research areas
Lina Badimon
(Cardiovascular Diseases area)
José M Guerra
(Cardiovascular Diseases area)
Jose Manuel Soria
(Cardiovascular Diseases area)
Javier Briones
(Oncohematologic Diseases area)
Ramón Mangues
(Oncohematologic Diseases area)
Agustí Barnadas
(Oncohematologic Diseases area)
Alberto Lleó
(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 Rodriguez
(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



EXTERNAL SCIENTIFIC COMMITTEE

CHAIR
Dr Jose Lopez-Barneo
Professor of Physiology
Instituto de Biomedicina de Sevilla (IBiS)
Hospital Universitario Virgen del Rocio/CSIC/Universidad de Sevilla

SECRETARY
Dr Jordi Surrallés
IIB Sant Pau Director

MEMBERS
Dr Ángel Maria Carracedo Álvarez
Instituto de Medicina Legal
Facultade de Medicina e Odontoloxía, Santiago de Compostela

Dr José Palacios
Jefe de Servicio de Anatomia Patológica
Hospital Ramón y Cajal, Madrid

Dr Mercedes Robledo
Hereditary Endocrine Cancer Group, Group Leader
Human Cancer Genetics Program, CNIO, Madrid

Dr Judith García
Barcelona Institute for Global Health – Campus MAR
ISGlobal, Barcelona

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

Mr Manuel Arellano
Plataforma de organizaciones de pacientes, Madrid

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

IIB SANT PAU STEERING COMMITTEE

President
Dr Adrià Comella
Fundació Gestió Sanitària Hospital de la Santa Creu i Sant Pau

Members
Dr Jordi Bachs
fundació Privada Hospital de la Santa Creu i Sant Pau

Dr Lluis Tort
Universitat Autònoma de Barcelona
Dr Lluís Gausa
Puigvert Foundation

Dr Joan Garcia
Banc de Sang i Teixits

Dr Xavier Bonfill
Iberoamerican Cochrane Centre

Dr Jaume Sellarés
Barcelona-Sardenya Primary Health Centre

Dr Carme Borrell
Public Health Agency of Barcelona

Dr Jordi Surrallés
Fundació Institut de Recerca Hospital Santa Creu i Sant Pau

MANAGEMENT TEAM

Scientific Director
Dr Jordi Surrallés

Management Director
Ms Reyes Grases (until August 2022)
Mr Jaume Bacardit (from September 2022)

Deputy Scientific Director
Ms Miriam Ors

Communications Director
Ms Laia Cendrós

Assistant to the Management Team
Ms Eva Sanfeliu



02.3 MEMBERSHIP

We are members of:

ciber CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED

ciber | BBN CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED Bioingeniería, Biomateriales y Nanomedicina

ciber | DEM CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED Diabetes y Enfermedades Metabólicas Asociadas

ciber | EHD CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED Enfermedades Hepáticas y Digestivas

ciber | ER CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED Enfermedades Raras

ciber | ES CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED Enfermedades Respiratorias

ciber | ESP CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED Epidemiología y Salud Pública

ciber | SAM CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED Salud Mental

ciber | NED CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED Enfermedades Neurodegenerativas

Redtransfer asociación de profesionales de transferencia, innovación y gestión de la investigación

itemas isciii Plataforma de dinamización e innovación de las capacidades industriales del Sistema Nacional de Salud

eatris European infrastructure for translational medicine

BIOINFORMATICS BARCELONA

CataloniaBio & HealthTech Connecting companies

BARCELONA HEALTH HUB

ecrin

TRANSBIONET Translational Bioinformatics Network

EHDEN EUROPEAN HEALTH DATA & EVIDENCE NETWORK

We are accredited by:

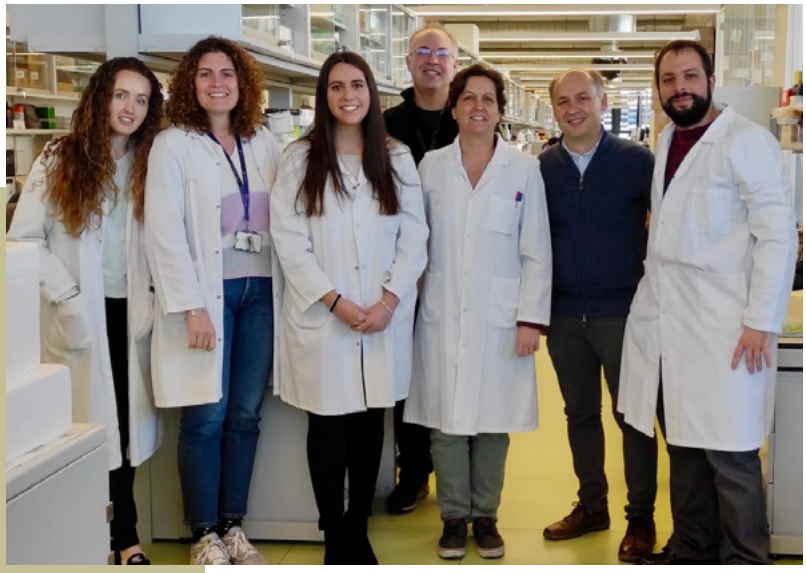
Instituto de Salud Carlos III

HR EXCELLENCE IN RESEARCH

03



HIGHLIGHTS



Scientists discover a micro-RNA that can promote the development of atherosclerosis in patients with coronary disease.

Scientific paper

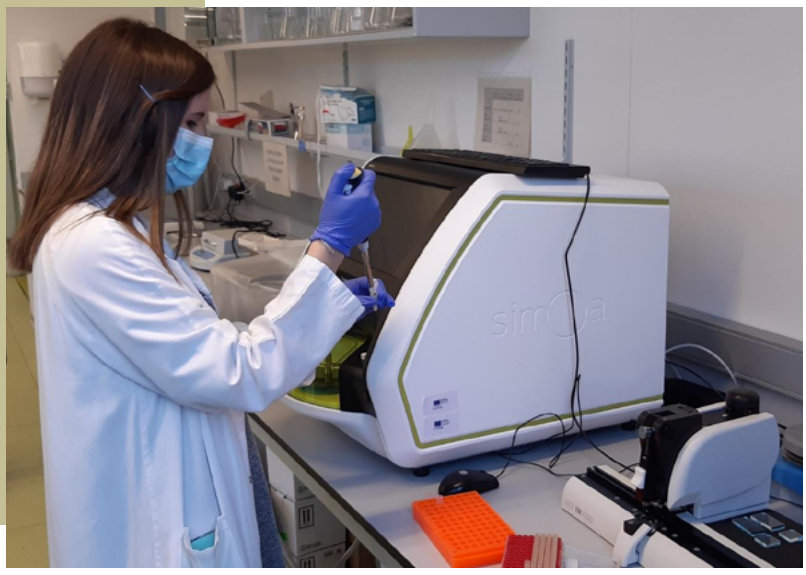
News article



Sant Pau leads the largest study in Spain on non-invasive respiratory support in Covid-19 patients admitted to the ICU.

Scientific paper

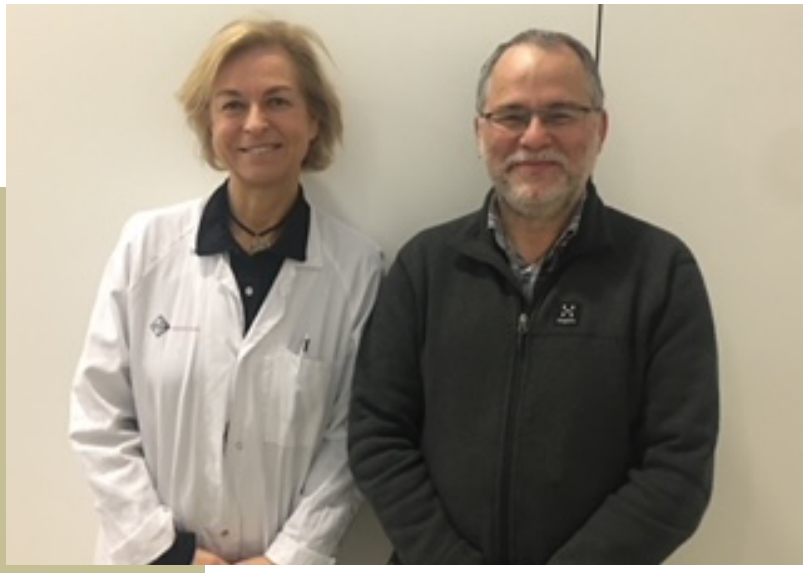
News article



Researchers suggest a new biomarker that may be key in the diagnosis of psychosis caused by autoimmune encephalitis and could have a major impacton clinical practice.

Scientific paper

News article



New research published in NEJM offers an objective criterion for identifying perioperative myocardial injury after cardiac surgery

Scientific paper

News article



RIGHT-Ad@pt, a new tool that improves adaptation of healthcare guidelines by different countries and organisations

News article



The largest genomic study on schizophrenia reveals the key role of synapse in this disorder

Scientific paper

News article



An international study shows that the use of tranexamic acid in non-cardiac surgery reduces the risk of major bleeding

Scientific paper

News article



New therapeutic strategy to reduce intramyocardial cholesterol accumulation and to improve cardiac response to insulin

Scientific paper

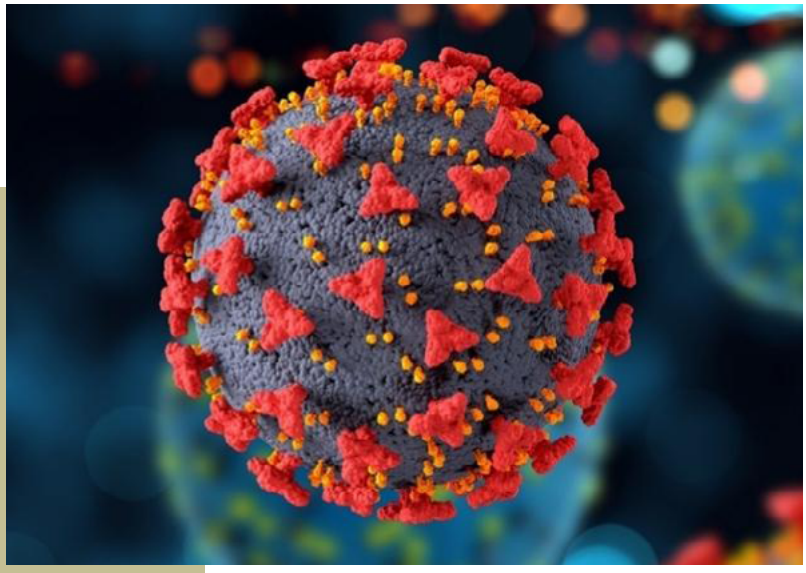
News article



Research links long covid-related fatigue to anxiety, depression and other cognitive deficits for the first time

Scientific paper

News article



International study identifies 11 new genetic regions linked with the susceptibility to SARS-CoV-2 infection and in severity of COVID-19

Scientific paper

News article



Josep Santaló named new 'ombudsperson' at IIB Sant Pau

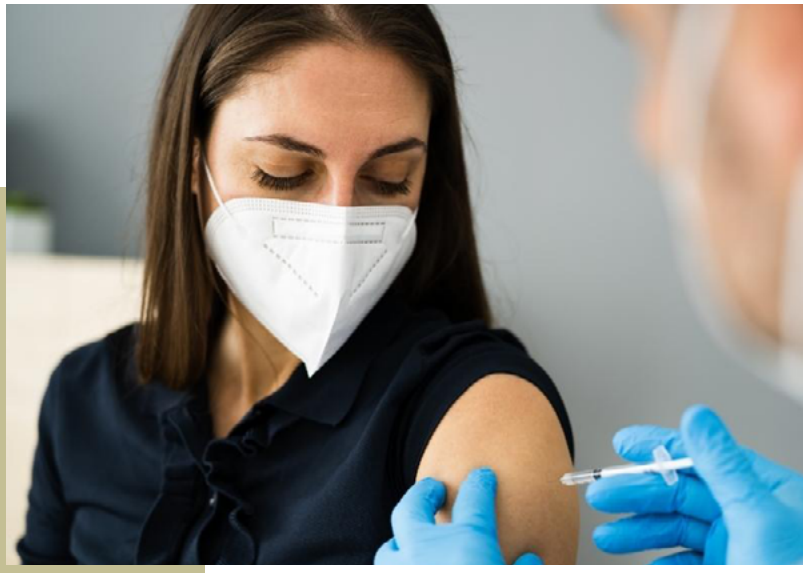
News article



IIB Sant Pau researchers provide new data on cognitive impairment due to Alzheimer's disease in Down syndrome adults

Scientific paper

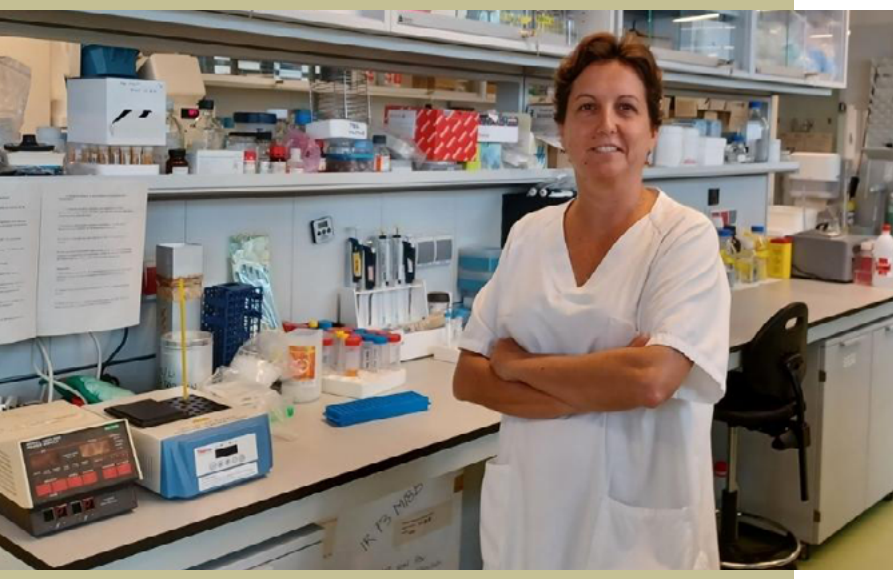
News article



The administration of the COVID-19 vaccine after ovulation could prevent menstrual cycle disturbances

Scientific paper

News article



Inhibition of miR-148a decreases the progression of arteriosclerosis

Scientific paper

News article



The expression of two glutaminergic genes is associated with the accumulation of the TAU protein in Alzheimer's disease

Scientific paper

News article



Largest genetic study on stroke to date finds 89 genes involved in stroke risk, of which 61 newly described

Scientific paper

News article



A participatory research on endometriosis results in six recommendations to inform public policies in Catalonia

News article



Researchers identify a new biomarker in head and neck cancer patients that can prevent highly aggressive surgeries

Scientific paper

News article



The emotional impact caused by COVID-19 is worse in patients who were not hospitalised at ICU

Scientific paper

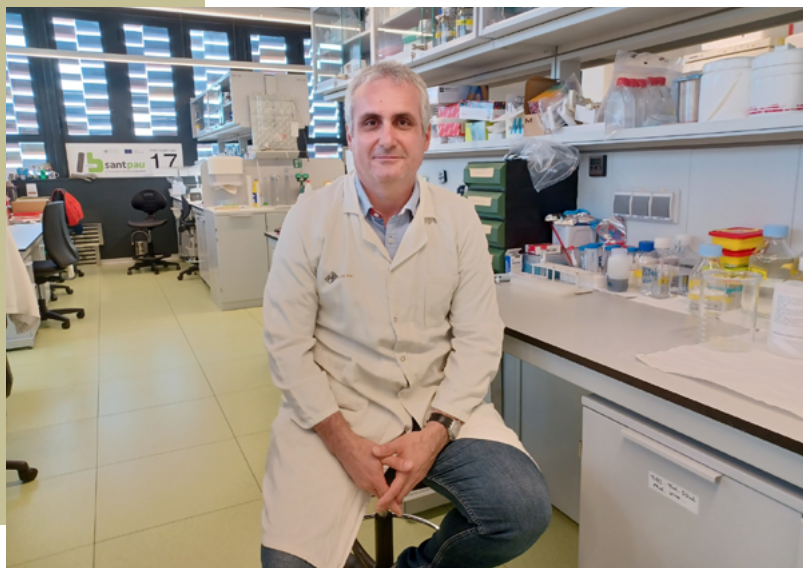
News article



Researchers find a key factor that protects the heart after a heart attack

Scientific paper

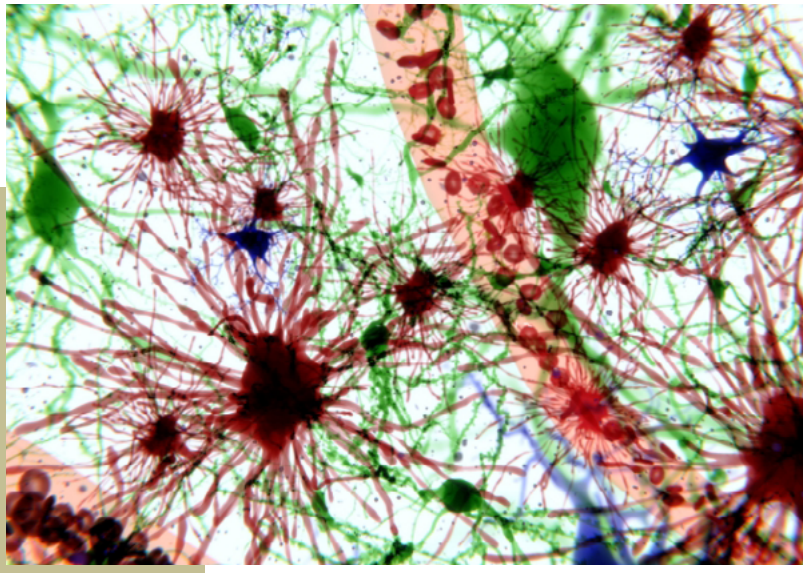
News article



New biomarker would help detect arteriosclerotic plaque early in diabetics

Scientific paper

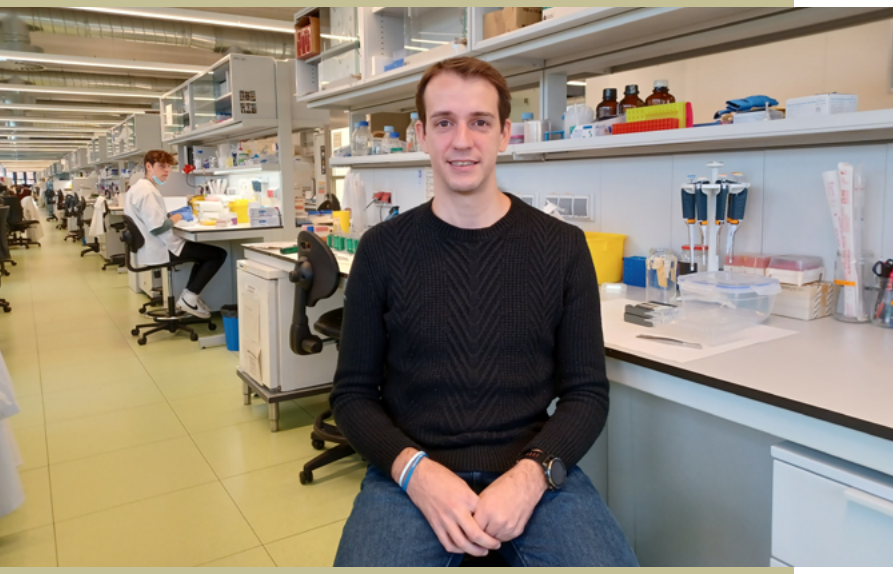
News article



A new protocol will facilitate the study of astrocytes in different neurodegenerative diseases

Scientific paper

News article



An International team of scientist identify two new genes that increase risk of developing Alzheimer's disease

Scientific paper

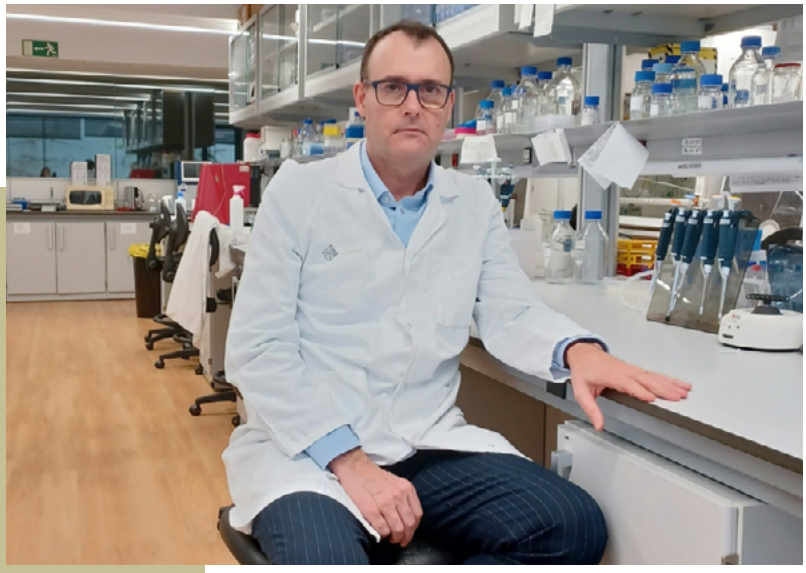
News article



Macrovascular complications in people with diabetes is associated with a worse prognosis in hospitalised COVID-19 patients

Scientific paper

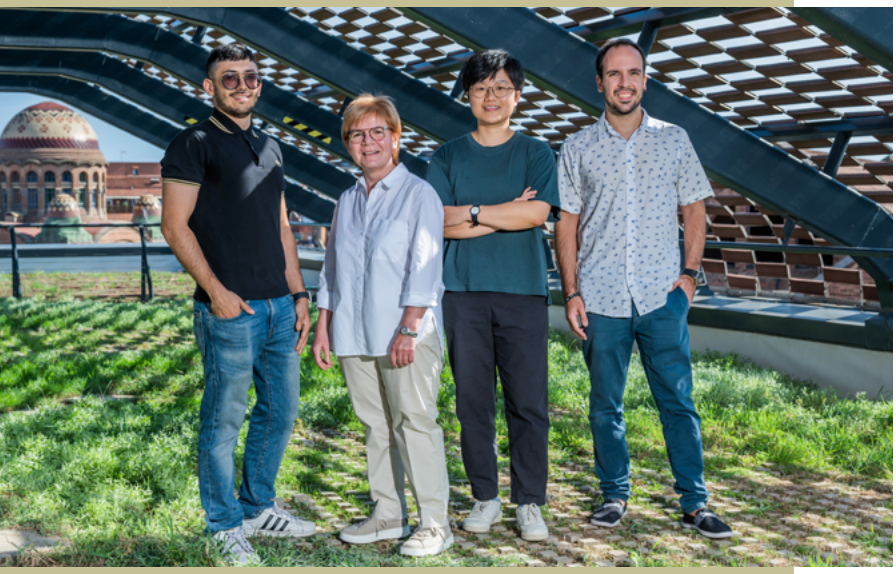
News article



Rare disease research helps identifying the mechanism that explains head and neck tumours in the general population

Scientific paper

News article



Molecular hydrogen can be a promising strategy for the treatment of chronic pain

Scientific paper

News article



Researchers identify two new biomarkers in the pathophysiology of amyotrophic lateral sclerosis (ALS)

Scientific paper

News article



Sant Pau presents the results of Europe's first self-produced CART-30 clinical trial for Hodgkin's lymphoma and T-cell lymphoma

News article



Early differenciated T lymphocytes predict prognosis in patients with pneumonia

Scientific paper

News article



Nanoligent, spin off of the IIB Sant Pau and UAB, raised 2.8 M€ and complete first round seed financing to develop nanotechnology-based cancer treatments

News article



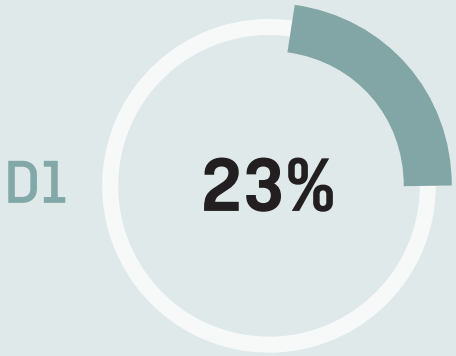
04

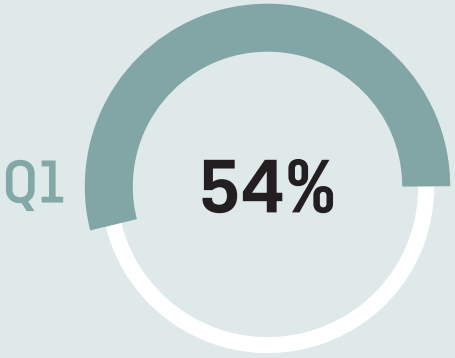
FACTS AND FIGURES

04.1

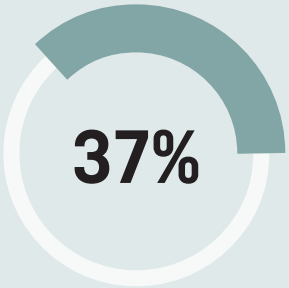
PUBLICATIONS

1,325

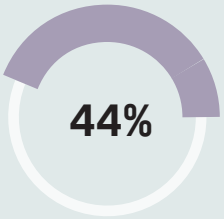












68% Open access

48% International collaboration

04.2

CLINICAL TRIALS AND CLINICAL GUIDELINES

NEW PROJECTS

674

47 Independent clinical trials

627 Industry led clinical trials

61

Clinical guidelines

04.3

INNOVATION AND TECH TRANSFER

27
Active patents

13
IP registers

27
Transfers and IP licenses

135K€
Revenue from Innovation and TT activities

6
Spin-offs



04.4

EDUCATION

57
Doctoral thesis

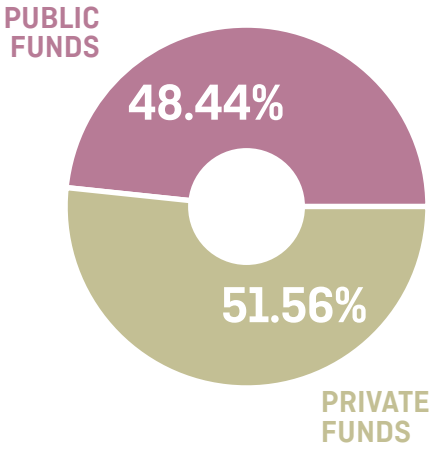
126
Trainee students

83
Courses

04.5

FUNDING

27.81 Income **M€**



CORE FUNDING	19.62%	
Generalitat de Catalunya	16.54%	4,598,831.00 €
Fundació Privada Hospital Santa Creu i Sant Pau	3.08%	857,470.00 €
NON COMPETITIVE FUNDING	45.07%	
Clinical trials	26.98%	7,502,752.00 €
Teaching	4.54%	1.261.529,00 €
Other	13.55%	3,768,163.00 €
COMPETITIVE FUNDING	35.31%	
National and international grants and projects	35.31%	9,817,684.00 €

TOTAL 27,806,427.00 €

04.6

COMPETITIVE PROJECTS

NEW PROJECTS

92

13.61M€

10.17M€ National grants

3.44M€ International grants

314

Active projects

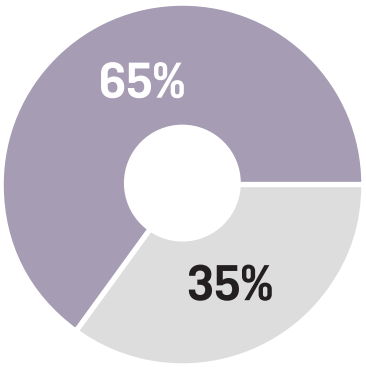
04.7

PEOPLE

1,284

FEMALE

MALE



1,158	Research staff	64%	36%
126	Administration and scientific support staff	76%	24%

CATEGORIES

70	Group leaders	39%	61%
727	Researchers (R2, R3)	61%	39%
49	First stage researchers (R1)	65%	35%
312	Technicians	76%	24%
104	Management staff	75%	25%
22	Core facilities staff	82%	18%

04.8

SCIENCE AND SOCIETY

60
News

28
Press releases

1551
Print and online media appearences

33
Radio mentions

16
TV interviews and mentions



PUBLIC ENGAGEMENT AND OUTREACH ACTIVITIES

32
Activities

5,086
Participants



05

OUR RESEARCH

05.1

STRATEGIC SCIENTIFIC RESEARCH AREAS



05.1.1

CARDIOVASCULAR DISEASES



Area Director:
Lina Badimon

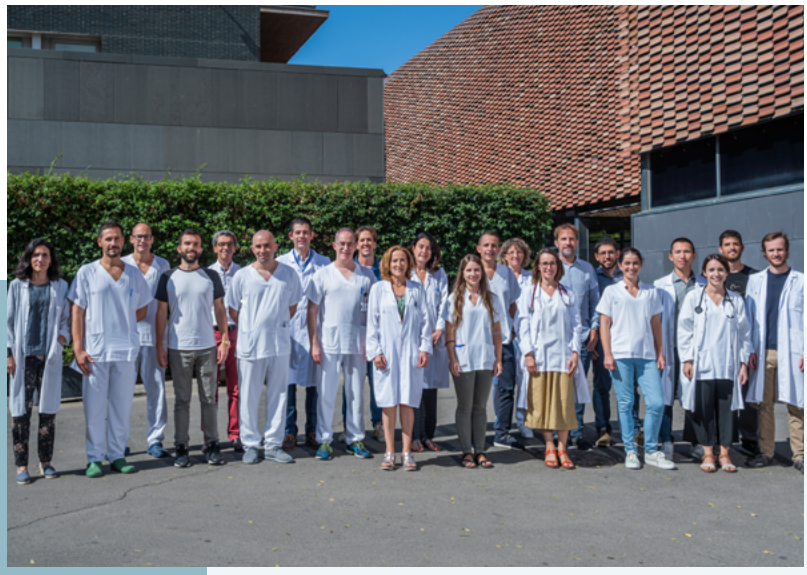
The incorporation of new technologies that facilitate molecular profiling and gene regulation has led to innovative research into heart and other cardiovascular diseases including arrhythmias, aorta aneurism, vascular diseases, thrombosis, etc. The great diversity of groups in this area gives varied perspectives to on-going 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
  José M. Guerra
- Thrombosis and Haemostasis
  Joan Carles Souto
- Cardiovascular Biochemistry
  José Luis Sánchez Quesada
- Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases
  Lina Badimon
- Biomarkers for Cardiovascular Disease
  Teresa Padró
- Regulation of Cardiac Rhythm and Contraction
  Leif Hove-Madsen
- Lipids and Cardiovascular Pathology
  Vicenta Llorente Cortes
- Genomics of Complex Diseases
  José Manuel Soria
- Regulatory Mechanisms of Cardiovascular Remodelling
  Cristina Rodríguez Sinovas
- Pathophysiology of lipid-related disease
  Francisco Blanco Vaca
- Clinical Research in Transfusion Medicine
  Ramon Salinas

CLINICAL AND TRANSLATIONAL CARDIOLOGY



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Serra Peñaranda, Antonio (FGS)
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Sanchez Gomez, Claudia (UB)
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Valiente Garcia, Miguel (UPF)

DESCRIPTION

The Clinical and Translational Cardiology research group is a multidisciplinary research group focus on cardiovascular research. Our lines of work include basic and clinical electrophysiology, heart failure and heart transplantation, ischemic heart disease, valvular heart disease, cardiac imaging, cardiac modelling, 3D printing, bioengineering and innovation in health care organization. The Group have access to all the research facilities of HSCSP RI, and the patients and clinical facilities of HCSP. The group keeps multiple research collaborations at the national and international level.

MAIN LINES OF RESEARCH

Basic and clinical electrophysiology
Biomarkers of cardiovascular disease
Heart failure and heart transplantation
Ischemic heart disease
Valvular heart disease
Cardiovascular epidemiology
Cardiovascular genetics
Cardiac modelling and 3D printing
Bioengineering applied to cardiovascular disease
Innovation in health care organization

SCIENTIFIC CHALLENGES

Electrophysiology

New experimental models of atrial fibrosis.
Description of the mechanisms and clinical significance of electrocardiographic changes in patients with acute myocardial infarction, using translational research in pig heart models.
Develop animal models for the study of left bundle branch block.
Develop clinical applications of myocardial impedance

Heart failure

Develop new risk scores for ambulatory heart failure patients predicting death and rehospitalizations.
Research on new biomarkers in patients with heart dilatation and heart failure (including the Spanish registry Redinscor II (RIC) (1500 patients) and Rediscor III (ongoing)). Our group is the national coordinator for Redinscor II and Co-coordinator for Redinscor III.

Develop new markers for early detection of cardiac graft rejection in transplanted patients.
Develop palliative care programs for patients with advanced heart failure.

Ischemic heart disease
Prognosis in patients with left circumflex coronary occlusion.
Multidisciplinary treatment of cardiac sudden death.
Treat complex atherosclerotic coronary artery lesions using interventional techniques.

Valvular heart disease
Implement new percutaneous techniques for the treatment of mitral valve regurgitation and degenerative aortic stenosis.
Implement novel devices for the treatment of prosthetic valve leak.

Cardiac imaging
Implement new imaging software analysis to detect structural abnormalities of the myocardium (fibrosis, necrosis).
Implement new percutaneous techniques for the treatment of mitral regurgitation in patients with heart failure or myocardial infarction.

COLLABORATIONS
• IIB SANT PAU RESEARCH GROUPS
Llorente Cortes, Concepcion Vicenta (Lipids and Cardiovascular Pathology)
Hove-Madsen, Leif (Regulation of Cardiac Rhythm & Contraction)
Badimon Maestro, Lina (Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases)
Alonso Coello, Pablo Ignacio (Clinical Epidemiology and Healthcare Services)
Montiel Serrano, José, (Cardiac Surgery)
Sánchez Quesada, José Luis (Cardiovascular Biochemistry)
Surrallés Calonge, Jordi (Cancer Predisposition and DNA Repair Syndromes)
Portella Moll, Maria Jesús (Mental Health)
Guarner Aguilar, Carlos (Digestive Diseases)
Blanco Vaca, Francisco (Pathophysiology of Lipid-Related Diseases)
Llurba Olivé, Elisa (Women and Perinatal Health Research Group)
Rodríguez Sinovas, María Cristina (Regulatory mechanisms of Cardiovascular Remodeling)
Capdevila, Antoni - Radiodiagnosis service HSCSP
Serra, Rafael - Anaesthesiology service HSCSP

EXTERNAL COLLABORATIONS
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Carlos Macaya Miguel. Hospital Clínico San Carlos (Madrid)
Andrés Iníguez Romo. Complejo Hospitalario de Vigo

• Euro CTO Club (chronic total occlusions (CTOs): formed by 60 members, spread among all European countries

• Registro Nacional de Trasplante Cardiaco
Clínica Universitaria de Navarra
Hospital Universitario Puerta de Hierro (Madrid)
Hospital Universitario Marqués de Valdecilla (Cantabria)
Hospital Universitario Reina Sofía (Córdoba)
Hospital Universitario y Politécnico La Fe (Valencia)
Hospital General Universitario Gregorio Marañón (Madrid)
Fundación Jiménez Díaz (Madrid)
Hospital Universitario Virgen del Rocío (Sevilla)
Hospital Universitario 12 de Octubre (Madrid)
Hospital Universitario A Coruña
Hospital Universitario de Bellvitge
Hospital Central de Asturias
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Hospital Universitario Virgen de la Arrixaca (Murcia)
Hospital Universitario Miguel Servet (Zaragoza)
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• RETAC Group - European Network for the Treatment of Arrhytmias in Cardiology:
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Franck Halimi. C.M.C. Parly II, Le Chesnay (France)
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Pascal Defaye. Hospital Universitaire de Grenoble (France)
Antonio Curnis. Spedali Civili, Brescia (Italy)
Marc Zimmermann. Hôpital de la Tour, Geneve (Switzerland)

• RITMOCORE - Arrhythmias monitoring and comprehensive care:
Liverpool Heart and Chest Hospital NHS (United Kingdom)

• GREAT: Global Research on Acute Conditions Team:
International Network between 308 experts operating in the management of acute clinical conditions in the field of Emergency Medicine.

• EURO SHOCK
University of Glasgow, KU Leuven, University of East Anglia, Deutsches Herzzentrum Muenchen, A.O. Ospedale Papa Giovanni XXIII, Chalice Medical Ltd, Ludwig-Maximilians - University of Munich, University of Tromso, Institut d'Investigacions Biomèdiques August Pi i Sunyer, Paula Stradina Liniska Universitates, Accelopment AG, Universiteit Antwerpen, Cardiovascular European Research Centre (CERC).

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- Grupo de Trabajo de Síndrome Cardiorrenal. Asociación de Insuficiencia Cardiaca. Sociedad Española de Cardiología
- Registro multicéntrico con el dispositivo mitraclip (Hospital Universitario Salamanca, Hospital Clinic Barcelona, Clínico San Carlos, Hospital Clinic, Álvaro Cunqueiro)
- Registro Multicéntrico Orejuela (Hospital Clínic Barcelona, CHU Quebec)
- Registro TAVI Naviero (Clínico San Carlos)
- REGICOR Study Group, IMIM (Hospital del Mar Medical Research Institute)
- Carles Casacuberta Vergés. Universitat de Barcelona-UB. Departament de Matemàtiques
- Registro español de hematoma intramural y úlcera penetrante de aorta. Carlos Farrera. SEC
- Cardiovascular Genetics Center, Montreal Heart Institute, Université de Montréal, Canada

ACTIVE GRANTS
- Guerra Ramos, Jose Maria. Caracterización Genética del Síndrome del QT Largo Asociado a Fármacos. PI17/00980. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2022. 147.620,00 €
- Guerra Ramos, Jose Maria. Estudio traslacional para caracterizar las alteraciones estructurales y moleculares subyacientes a la reversibilidad de la miocardiopatía inducida por taquicardia. PI20/01702. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 187.550,00 €
- Guerra Ramos, Jose Maria. Centro de Investigación Biomédica en Red de Enfermedades Cardiovasculares (CIBERCV). CB16/11/00276 . Ministerio de Ciencia e Inovación. ISCIII. Duration 2017-2023. 89.835,00€
- Mirabet Perez, Sonia. Safety and immunogenecity 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 €
- Vilades Medel, David. Anàlisi de les interaccions proteiques amb el receptor LRP1 com a font de nosu biomarcadors d'aterosclerosi coronària en pacients sotmesos a una tomografia comouteritzada cardiaca. ACADEMIA 2021. Fundació Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears. Duration: 2021-2022. 30.000,00 €
- Viñolas Prat, Xavier. H2020-SCI-2016-CNET: RITMOCORE Arrhythmias monitoring and comprehensive care. Horizon 2020. European Commission. Agencia de Qualitat I Avaluació

Sanitarias (AQuAS) – Hospital Sant Pau. Duration: 2016-2022. 903.875,00€ (FGS)

- Viñolas Prat, Xavier. 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)

GRANTS AWARDED

- 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)

DOCTORAL THESES

- Agudelo Montáñez, Víctor Hugo. Seguimiento clínico y por tomografia axial computeritzada cardíaca en pacientes con fibrilación auricular tratados mediante cierre percutaneo de orejuela izquierda. 27/05/2022. Universitat Autònoma de Barcelona. Supervisors: Arzamendi Aizpurua, Dabit; Cinca Cuscullola, Juan. http://hdl.handle.net/10803/675203.
- Gheorghe, Livia Luciana. Valoració clínica i multimodal (per imatge cardíaca i fisiologia coronària) a llarg i a molt llarg termini dels armaçons vasculars bioabsorbibles (Absorb) en lesions coronàries complexes (oclusions coronàries cròniques). Universitat Autònoma de Barcelona. 21/07/2022. Supervisors: Arzamendi Aizpurua, Dabit; Serra Peñaranda, Antoni; Cinca Cuscullola, Juan. Excel·lent. https://hdl.handle.net/10803/687896.

AWARDS

- Mario Salido Iniesta - Mentor: David Viladés Medel. The Young Author Achievement Awards 2021 - Journal of the American College of Cardiology JACC. 02/04/2022. Salido M, Soriano M, Fernández-Peregrina E, Arzamendi D, Maestro A, Sans-Roselló J, Vidal M, Bos L, Viladés D, Sionis A. Acute Mitral Regurgitation Secondary to Spontaneous Left Atrial Appendage Occluder Migration. JACC Case Rep. 2021 Apr 7;3(6):888-892. doi: 10.1016/j.jaccas.2021.01.016. eCollection 2021 Jun. PMID: 34317648

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- Asmarats L, Millan X, Cubero H, Valverde J, Li CH, Arzamendi D. Implementing a fast-track TAVI pathway in times of COVID-19: necessity or opportunity?. *REC-INTERVENTIONAL CARDIOLOGY*. 2022; 4(2). DOI:10.24875/RECICE.M22000269. Document type: Letter.
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SCIENTIFIC DISSEMINATION

Conferences and scientific symposia organised:

- Online course at Spanish Cardiology Society Campus – SEC: "Buscando respuestas a preguntas comunes en insuficiencia cardíaca." 30/03 - 30/05/2022. Coordination by: Sònia Mirabet Pérez.
- First 3D printing course in cardiovascular pathology. Organised by the Spanish Cardiology Society – SEC. Barcelona, 01/04/2022. Coordination by: David Viladés i Abdel Moustafa.
- Master in Advanced Diagnostic Imaging Techniques in Cardiology (12th Ed). Universitat Autònoma de Barcelona - Hospital Santa Creu i Sant Pau, Barcelona oct 2021 - jun 2022. Coordination by: José M Guerra Ramos.
- RETAC 2022 - Annual Workshop. Hospital Santa Creu i Sant Pau, Barcelona 24-25/05/2022. Coordination by: Xavier Viñolas Prat.
- Master in Structural Endovascular Interventionism 2021-2023. Spanish Cardiology Society – SEC - Fundación IMAS - Universidad Rey Juan Carlos. Online. 2021-2022. Dabit Arzamendi, Antoni Serra, Lluis Asmarats, Pedro Li Li
- XL Congress of the Cardiac Imaging Association. Spanish Society of Cardiology - SEC. Online. 2-4/03/2022. Organizing Committee: Chi-Hion Li
- Coronary and Structural Course. CSC ESTRUCTURAL 2022 . 31/03-01/04/2022. Barcelona. Comité Organizador: Chi-Hion Li, Dabit Arzamendi.

Participation by invitation in scientific conferences and talks:

- "The rhythm of heart failure. Atrial fibrillation in heart failure. When how to pursue sinus rhythm? When to use Accord?" Space Solo Museum. Madrid , 21/11/2022. Speaker: José M Guerra Ramos

- "News in mapping technologies and atrial ablation." Qdot & Heliostar Ballon. RITMO 2022 . Granada, 15-17/06/2022. Speaker: José M Guerra Ramos
- "Clinical features of drug-induced long QT syndrome in a large prospective cohort. Session: Pharmacological and metabolic impact on ventricular arrhythmias." European Society of Cardiology Congress-ESC Congress 2022 . Barcelona. 26-29/08/2022. Speaker: José M Guerra Ramos.
- "A closed-chest model of selective atrial myocardial infarction for the study of induced electrophysiological and structural derangements. Session: Models for cardiovascular diseases." European Society of Cardiology Congress-ESC Congress 2022 . Barcelona. 26-29/08/2022. Speaker: Gerard Amorós-Figueras.
- "Real-time electrophysiological characterization of acute and chronic radiofrequency ablation lesions. Session: Mechanisms of atrial and ventricular arrhythmias." European Society of Cardiology Congress-ESC Congress 2022 . Barcelona. 26-29/08/2022. Speaker: Gerard Amorós-Figueras.
- Online course at Spanish Cardiology Society Campus – SEC: "Seeking answers to common questions in heart failure." 30/03 - 30/05/2022. Speaker: Marta de Antonio Ferrer.
- "Beyond the inhibition of the RAAS axis in the Round Table session. New strategies for the management of patients with advanced heart failure." 34th Congress of the Catalan Cardiology Society. Barcelona, 02/06/2022 . Speaker: Marta de Antonio Ferrer.
- I Catalan – Balearic Expert Meeting in hATTR, Table of Clinical Cases of Amyloidosis. Barcelona, 27/10/2022. Speaker: Marta de Antonio Ferrer
- Round table on Vascular Medicine: "Aorta: Comprehensive vision of arthropathies from the office to the operating room. What can the cardiologist do today in thoracic aortic pathology? How to speed up the diagnosis and delay its growth?" Simposium Pre Congress ICBA 2022. 19/10/2022. Speaker: Antonio Barros Membrilla.
- VI Conference on updating the cardiology acute care working group of the Catalan Society of Cardiology. "How to treat the elderly patient with AAS". 25/11/2022. Speaker: Antonio Barros Membrilla.
- New "Fast-Track" strategies in the care process for aortic stenosis. Webinar of the Catalan Society of Cardiology: "TAVI or not TAVI: Here, when and how to implement the care process for Aortic Stenosis." Barcelona, 15/09/2022. Speaker: Lluis Asmarats Serra.
- News in valvular interventionism 2022. 33rd Congress of the Association of Interventional Cardiology of the Spanish Society of Cardiology – SEC. Alicante, 8-10/06/2022. Speaker: Lluis Asmarats Serra.
- "Aortic Sinus Contrast Retention During TAVR-A Warning Sign Preceding a Potential Thrombotic Complication." Medstar Washington Hospital Center Cardiac Cath Conference . Washington, 08/06/2022. Speaker: Lluis Asmarats Serra.
- "In which patient with Aortic Stenosis should we indicate TAVI in 2022?" 34th Congress of the Catalan Society of Cardiology. Barcelona, 1-3/06/2022. Speaker: Lluis Asmarats Serra.
- "TAVI patient long term management: first implantation and future implications. Transcatheter Interventions." Online 2022. 23-25/03/2022. Speaker: Lluis Asmarats Serra.
- G20 GLOBAL INNOVATION HUB FOR IMPROVING VALUE IN HEALTH. Session on the Spanish Health System. Saudi Arabia, 22/03/2022.
- "Management of arrhythmia units: an approach to the future effective integration of processes from the perspective of value." RITMO 2022. Granada, 15-17/06/2022. Speaker: Xavier Viñolas Prat.
- Round table: "Anticoagulation in atrial fibrillation: state of the art in 2022." 34th CONGRESS OF THE CATALAN SOCIETY OF CARDIOLOGY. Barcelona, 1 – 3/06/2022. Moderadors: Xavier Viñolas Prat, Hospital de la Santa Creu i Sant Pau and Antonio Sánchez Hidalgo, Consorci Sanitari de Terrassa.
- ESADE - Master in Public Management (EMPA), Program in Strategic Management of Public-Private Collaboration. Guest speaker: Xavier Viñolas Prat.
- ESADE – Degree in Global Governance, Economics & Legal Order. Master classes subject Public-Private Governance. Guest speaker: Xavier Viñolas Prat.
- SIMPOSIUM: "New clinical scenarios in cardiac imaging. What do I use 3D printing for in acquired heart disease." XL Congress of the Cardiac Imaging Association. Spanish Society of Cardiology - SEC. Online 2-4/03/2022. Speaker: Abdel Hakim Moustafa.
- QCQ "What techniques, how do I do it and what decisions do I make. Clinical application of imaging techniques." "The real life". QCQ in TricValve. "Keys for correct diagnostic imaging." XL Congress of the Cardiac Imaging Association. Spanish Society of Cardiology - SEC. Online. 2-4/03/2022. Speaker: Chi-Hion Li.
- QCQ in clinical practive. Congress of the Cardiac Imaging Association. Spanish Society of Cardiology - SEC. Online. 2-4/03/2022. Moderators: Regina Dalmau González - Gallarza and David Viladés Medel.
- Clinical sessions by expert guests. Lecture: Cardiac Imaging in Structural Interventionism. 2022 Sevilla. Speaker: Chi-Hion Li.
- Coronary and Structural Course. "Echocardiographer: Live cases in TAVI." 2022 Madrid. Speaker: Chi-Hion Li.
- Sessions of experts from the GREC-Hospital Mar group. Lecture: "The role of imaging in transcatheter mitral valve repair." 2022 Barcelona. Speaker: Chi-Hion Li.
- Lecture: "What imaging tests do I need to optimize patient selection prior to structural intervention?," within the Course session: "Clinical indications and patient selection for structural intervention." Lecture: "Experts, within the session Contest: Electrocardiography and image: a picture is worth a thousand words." Congress of the Spanish Society of Cardiology - SEC. Mallorca 20-22/10/2022. Speaker: Chi-Hion Li.
- Lecture: "Imaging in Atrioventricular Valve interventionism, key points in pre-procedure and intra-pavilion." IV International Congress COMECITE. Online. 29-30/09 – 01/10/2022. Speaker: Chi-Hion Li.
- Lecture: "Fusion imaging in interventional treatment of left and right heart failure." European Society of Cardiology Congress (ESC). Barcelona. 26-29/08/2022. Speaker: Chi-Hion Li.
- Lecture: "Tricuspid valve: anatomical assessment and key information for surgical and percutaneous procedures". Lecture: "Mitraclip challenging clinical cases." Lecture: "Tricuspid edge-to-edge repair: step by step." Echocardiographer: "Training on 3DTOE guiding using 3 different setups of whole heart phantom for simulation of transcatheter procedures (wet lab)." 2022. "3D echocardiography: meet the experts!." Eindoven. 12-14/05/2022. Speaker: Chi-Hion Li.
- Coronary and Structural Course. CSC ESTRUCTURAL. Echocardiographer: "Live cases. Transcatheter Mitral and Tricuspid Repair. 31/03-01/04/2022 Barcelona. Speaker: Chi-Hion Li.

- Master's Degree in Diagnostic Imaging in Cardiology. Universidad Católica de Murcia. Online. 2021-2022. Speakers: Chi Hion Li and David Viladés Medel.
- University Expert Course in Imaging Procedures and Techniques in Cardiac Structural Interventionism. Campus SEIC-CTO. Online. 2021-2022. Speaker: Chi Hion Li.
- Master's Degree in Nursing Care for People with Heart Problems. Universitat Autònoma de Barcelona (UAB). 2021-2022. Speakers: Antonio José Barros Membrilla, Francesc Carreras Costa, Sònia Mirabet Pérez, Xavier Viñolas Prat and Chi Hion Lli.
- "Cardiogenic shock." Session type: "Abstract Sessions.". European Society of Cardiology Congress - ESC Congress 2022. Barcelona. 26-29/08/2022. Chairpersons: Professor S. Price and Alessandro Sionis.
- "Pulmonary artery catheter use in contemporary cardiac ICUs: the basics." Session: "The pulmonary artery catheter in contemporary cardiac ICUs." ESC Acute CardioVascular Care 2022. Online. 18-19/03/2022. Speaker: Alessandro Sionis.
- Pharmacological treatment. Session: "Update in the treatment of acute heart failure." ESC Acute CardioVascular Care 2022. Online. 18-19/03/2022. Speaker: Alessandro Sionis.
- "The pulmonary artery catheter in contemporary cardiac ICUs." ESC Acute CardioVascular Care 2022. Online. 18-19/03/2022. Chairpersons: Alessandro Sionis and P. Vranckx.
- "Cardiogenic shock: keep the organs running!" Session type: Symposium. ESC Acute CardioVascular Care 2022. Online. 18-19/03/2022. Chairpersons: Alessandro Sionis and E. Bonnefoy-Cudraz.
- "When two lives are at stake: cardiovascular emergencies around pregnancy." Session type: Symposium. ESC Acute CardioVascular Care 2022. Online. 18-19/03/2022. Chairpersons: F. Caetano and A. Sionis.
- "Update in the treatment of acute heart failure." Session type: Case-Based Presentation: Pharmacological treatment. ESC Acute CardioVascular Care 2022. Online. 18-19/03/2022. Speaker: Alessandro Sionis.

Outreach activities to society:

- TV Program La Marató TV3 2022 - Cardiovascular health. What does a real heart look like? 3D models help the disclosure and treatment of coronary diseases. 18/12/2022. Speker: José Guerra Ramos.

THROMBOSIS AND HAEMOSTASIS



Group leader
Souto Andres, J. Carles (FGS)

Researchers
Carrasco Exposito, Marina (FGS)
Mateo Arranz, Jose (FGS)
Millon Caño, Juan Antonio (FGS)
Moret Puig, Carla (FGS)
Vilalta Seto, Noelia (FGS)

Research technicians
Llobet Lorente, Maria Dolors (FGS)
Mojal Garcia, Sergio (IR)
Plaza Seijas, Melania (IR)
Romero Roman, Lidia (FGS)
Tirado Garcia, Isabel (FGS)
Vallve Fornieles, Cristina (FGS)

DESCRIPTION

Our group is dedicated to clinical and basic research of haemostasis 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, by means of IA. We perform also scientific translational research on new anticoagulants, anti IIa, Xa and 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

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS
Genomics of Complex Diseases Unit
Department of Clinical Biochemistry
Clinical Trials Unit (AGDAC)
Haematology Service
Drug Research Centre
Haematology Service

EXTERNAL COLLABORATIONS

Oncology Service, Hospital Gregorio Marañón (Madrid)
Hematopathology, Department of Pathology, Centre de Diagnostic Biomedic (CDB), Hospital Clinic de Barcelona, Institut d'Investigacions Biomediques August Pi i Sunyer (IDIBAPS)
Biosciences Institute, Faculty of Medicine, Newcastle University, Newcastle Upon Tyne, United Kingdom
Population Health and Genomics, University of Dundee, Dundee, Scotland, United Kingdom
Congenital Coagulopathies Laboratory, Banc de Sang i Teixits, Barcelona, Spain
Transfusional Medicine, Vall d'Hebron Research Institute, Universitat Autònoma de Barcelona (VHIR-UAB), Barcelona, Spain
Wellcome Sanger Institute, Wellcome Genome Campus, Hinxton, South Cambridgeshire, United Kingdom
Department of Genetic Medicine and Development, University of Geneva, Geneva, Switzerland
Institute of Biological Psychiatry, Mental Health Sct. Hans Hospital, Roskilde, Denmark
Cardiovascular Medicine Unit, Department of Medicine, Center for Molecular Medicine, Karolinska Institutet, Stockholm, Sweden
CHARGE Hemostasis Working Group
Department of Epidemiology, University of Washington, Seattle, WA
Hematology Laboratory, La Timone University Hospital of Marseille, Marseille, France

ACTIVE GRANTS

- Souto Andres, J. Carles. Perfil individual de Riesgo de Enfermedad TROmboembólica VEnosa (RETROVE 4). PI21/01772. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 205.700,00 €
- Souto Andres, J. Carles. Modelo de Aplicación Clínica de los AntiCoagulantes Orales de acción Directa MACACOD Register.
- Daiichi-Sankyo España, SA. Duration: 2019-2023.
- Non-competitive. 618.000,00 €

DOCTORAL THESES

- Romero Carro, José María. Bases genéticas de la enfermedad venosa crónica. 01/07/2022. Universitat Autònoma de Barcelona. Supervisors: Soria Fernández, José Manuel; Bellmunt Montoya, Sergi; Souto, Juan Carlos; . http://hdl.handle.net/10803/675449.

SCIENTIFIC PRODUCTION

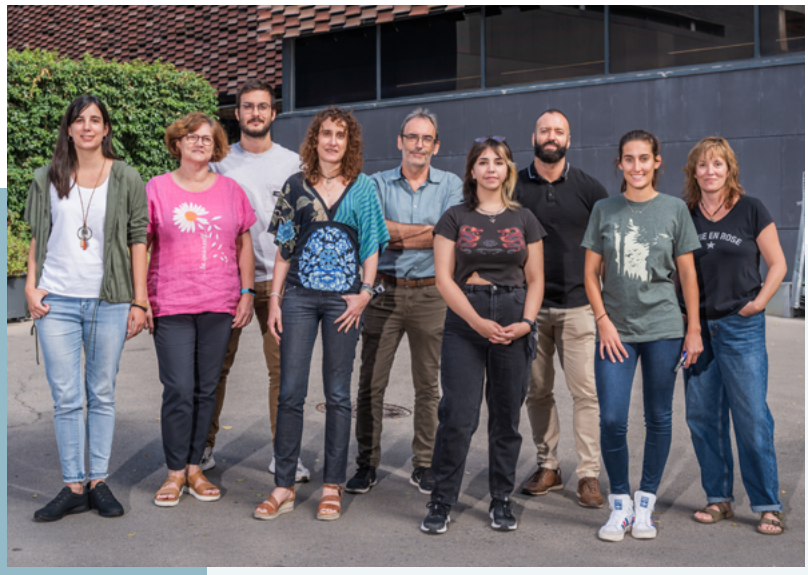
- Canyelles M, Plaza M, Rotllan N, Llobet D, Julve J, Mojal S, Diaz M, Soria JM, Escola JC, Tondo M, Blanco F, Souto JC. TMAO and Gut Microbial-Derived Metabolites TML and gamma BB Are Not Associated with Thrombotic Risk in Patients with Venous Thromboembolism. *JOURNAL OF CLINICAL MEDICINE*. 2022; 11(5):1425. DOI:10.3390/jcm11051425. PMID:35268516. IF:4,964 (Q2/4D). Document Type: Article.
- Corrochano M, Acosta R, Mojal S, Miqueleiz S, Rodriguez D, Quijada MA, Fraga E, Castillo M, Amaro K, Albiol N, Soria JM, Antonijoan RM, Souto JC. Impact of pre-admission antithrombotic therapy on disease severity and mortality in patients hospitalized for COVID-19. *JOURNAL OF THROMBOSIS AND THROMBOLYSIS*. 2022; 53(1). DOI:10.1007/s11239-021-02507-2. PMID:34138399. IF:5,221 (Q2/3D). Document Type: Article.
- Corrochano M, Acosta R, Plaza M, Muñoz R, Mojal S, Moret C, Souto JC. Impact of increased kidney function on clinical and biological outcomes in real-world patients treated with Direct Oral Anticoagulants. *PLOS ONE*. 2022; 17:e0278693. DOI:10.1371/journal.pone.0278693. PMID:36490245. IF:3,752 (Q2/4D). Document Type: Article.
- Cruz R, Diz S, Lopez-de Heredia M, Quintela I, Ceballos FC, Lorenzo GM, Gonzalez R, Gago M, Porras MS, Castano J, Nevado J, Aguado JM, Aguilar C, Aguilera S, Almadana V, Almoguera B, Alvarez N, Andreu A, Arana E, Arango C, Arranz MJ, Artiga MJ, Baptista RC, Barreda M, Belhassen M, Bezerra JF, Bezerra M, Boix L, Brion M, Brugada R, Bustos M, et al. [Martinez-Perez A, Soria JM, Souto JC, Fernandez-Cadenas I]. Novel genes and sex differences in COVID-19 severity. *HUMAN MOLECULAR GENETICS*. 2022; 31(22). DOI:10.1093/hmg/ddac132. PMID:35708486. IF:5,121 (Q1/3D). Document Type: Article.
- Gil AD, Suarez GMG, Puig CM, Ganoza AH. Superwarfarin poisoning: challenges still remain. *BMJ CASE REPORTS*. 2022; 15(5):e248385. DOI:10.1136/bcr-2021-248385. PMID:35584857. Document Type: Article.
- Gonzalez JR, Mateo J, Gonzalez V, Marco P, Garcia V, Reverter JC, Lecumberri R. Prevention of venous thromboembolism in hematologic neoplasms: an expert consensus from SEHH-SETH. *CLINICAL & TRANSLATIONAL ONCOLOGY. 2022*; 24(5). DOI:10.1007/s12094-021-02735-1. PMID:34850351. IF:3,340 (Q3/7D). Document Type: Review.
- Jimenez V, Alvarez MT, Bravo AP, Galmes BJ, Hernandez MDN, Hidalgo OB, Alonso CM, Gonzalez NFP, Coll J, Nunez R, Carrasco M, Candel FG, Gonzalez JR, Garcia CH, Castro MJV, Mir R. Clinical Efficacy and Safety of Fanhdi(R), a Plasma-Derived VWF/Factor VIII Concentrate, in von Willebrand Disease in Spain: A Retrospective Study. *CLINICAL AND APPLIED THROMBOSIS-HEMOSTASIS*. 2022; 28:10760296221074348. DOI:10.1177/10760296221074348. PMID:35108125. IF:3,512 (Q3/6D). Document Type: Article.
- Lopez S, Martinez A, Rodriguez A, Vinuela A, Brown AA, Martin L, Vilalta N, Arus M, Panousis NI, Buil A, Sabater M, Souto JC, Dermitzakis ET, Soria JM. Integrated GWAS and Gene Expression Suggest ORM1 as a Potential Regulator of Plasma Levels of Cell-Free DNA and Thrombosis Risk. *THROMBOSIS AND HAEMOSTASIS*. 2022; 122(06). DOI:10.1055/s-0041-1742169. PMID:35272364. IF:6,681 (Q1/2D). Document Type: Article.
- Megias JE, Boix SB, Moreno RB, Mingot ME, Lopez MR, Hirnyk MC, Arranz JM, Villas JMC, Guaita SH, Meda MM, Jaime FL, Albo C, Palomero A, Seto NV, Lecinena IL, Haro A, Andres JLP. Pharmacokinetic and clinical improvements after PK-guided switch from standard half-life to extended half-life factor VIII products. *THROMBOSIS RESEARCH*. 2022; 216. DOI:10.1016/j.thromres.2022.06.001. PMID:35696967. IF:10,407 (Q1/1D). Document Type: Article.
- Paramo JA, Lozano ML, Gonzaalez JR, Mateo J. Current status of diagnosis and treatment of heparin-induced thrombocytopenia (HIT). *MEDICINA CLINICA*. 2022; 158(2). DOI:10.1016/j.medcli.2021.05.020. PMID:34311973. IF:3,200 (Q2/5D). Document Type: Article.
- Soria JM, Mojal S, Martinez A, Acosta FR, López S, Miqueleiz S, Rodriguez D, Quijada MA, Cardenas A, Vidal F, Remacha A, Antonijoan RM, Souto JC. A validated clinical-genetic score for assessing the risk of thrombosis in patients with COVID-19 receiving thromboprophylaxis. *HAEMATOLOGICA*. 2022; 107(9). DOI:10.3324/haematol.2022.281068. PMID:35545920. IF:11,047 (Q1/2D). Document Type: Article.
- Soto I, Mateo J, Garcia DA, Gil B, Ruiz E, Ivanova Y, Lorenzo TM, Maravilla P, Hidalgo A, Merino M. The impact of improving haemophilia A management within the Spanish National Healthcare System: a social return on investment analysis. *BMC HEALTH SERVICES RESEARCH*. 2022; 22(1):115. DOI:10.1186/s12913-021-07447-4. PMID:35081958. IF:2,908 (Q3/6D). Document Type: Article.
- Thibord F, Klarin D, Brody JA, Chen MH, Levin MG, Chasman DI, Goode EL, Hveem K, Teder M, Martinez-Perez A, Aissi D, Daian D, Ito K, Natarajan P, Lutsey PL, Nadkarni GN, de Vries PS, Cuellar G, Wolford BN, Pattee JW, Kooperberg C, Braekkan SK, Li RF, Saut N, Sept C, Germain M, Judy RL, Wiggins KL, Ko D, O'Donnell CJ, Taylor KD, Giulianini F, De Andrade M, et al. [Soria JM, Souto JC, Sabater M]. Cross-Ancestry Investigation of Venous Thromboembolism Genomic Predictors. *CIRCULATION*. 2022; 146(16). DOI:10.1161/CIRCULATIONAHA.122.059675. PMID:36154123. IF:39,918 (Q1/1D). Document Type: Article.

SCIENTIFIC DISSEMINATION

Participation by invitation in scientific conferences and talks:

- The von Willebrand's disease. Educational Program at the LXIV National Congress of the AEHH and the XXXVIII National Congress of the Spanish Society of Thrombosis and Haemostasis - SETH. Barcelona, 6-8/10/2022. Speaker: Marina Carrasco Exposito.
- "Resistance to antithrombotic drugs: diagnosis and management." Symposium 12: "Current challenges in antithrombotic therapy." LXIV National Congress of the AEHH and XXXVIII National Congress of the Spanish Society of Thrombosis and Haemostasis - SETH. Barcelona, 6-8/10/2022.
- "Clinical cases of bleeding diathesis." SETH 2022 Satellite Symposium, sponsored by Stago. "Standardization and application of the thrombin generation test." LXIV National Congress of the AEHH and XXXVIII National Congress of the Spanish Society of Thrombosis and Haemostasis - SETH. Barcelona, 6-8 octubre 2022. Speaker: Noelia Vilalta Seto.
- Treatment of venous thromboembolism in cancer patients: utility of real-life records for daily clinical practice. SETH Satellite Symposium. LXIV National Congress of the AEHH and XXXVIII National Congress of the SETH. Barcelona, 6-8 octubre 2022.

CARDIOVASCULAR BIOCHEMISTRY



Group leader
Sanchez Quesada, Jose Luis (IR)

Researchers
Benitez Gonzalez, Sonia (IR)
Freixa Martin, Julia (FGS)
Garcia Osuna, Alvaro (FGS)
Grau Agramunt, Margarita (FGS)
Rives Jimenez, Jose (FGS)

Research technicians
Porcel Jabalera, Inmaculada (FGS)
Puig Grifol, Nuria (IR)

Internship students
Bautista Cerecero, Olga (UB)
Gifreu Pelayo, Maria (UVic)
Rodas Vega, Silvia (UB)
Sole Galvez, Arnau (UAB)

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 in the arterial wall.
Use of mimetic peptides derived from apoJ as therapeutic tools.
Involvement of LDL(-) on lipid accumulation in cardiomyocytes associated to diabetes, obesity and heart failure.
Inflammatory mechanisms induced by LDL(-) on monocytes from patients with diabetes
Analysis of the secretome of the adipose tissue from cardiac surgery patients
Alterations of lipoprotein properties in patients with Alzheimer disease and cerebral amyloid angiopathy
Alterations of lipoprotein properties in patients with carotid atherosclerosis (asymptomatic or symptomatic
for ischemic stroke)

Diagnosis and Biomarkers

Analysis of apolipoprotein J (apoJ) as a marker of CVR.
Development of algorithms for ruling-out acute coronary disease.
Assessment of new biomarkers of acute cardiovascular disease: cardiac troponins, natriuretic peptides, ST-2.
Development of methods for point-of-care biomarker measurement.
Vulnerability markers in atheromatous plaque: electronegative LDL, LDL size, HDL function, myeloperoxidase, phospholipase.
Lipoprotein-related biomarkers to assess carotid plaque inflammation in ischemic stroke
Lipoprotein alterations as biomarkers of CVR in HIV patients

SCIENTIFIC CHALLENGES

Determine the intracellular mechanisms involved in the inflammatory response induced by LDL (-) and the components of the particle that entail atherogenicity.
Analyse the therapeutic potential of mimetic peptides derived from apoJ to delay the development of atherosclerosis in animal models.
Demonstrate that electronegative LDL is a marker of vulnerable atheromatous plaque.
Find new markers of cardiovascular risk in diseases such as diabetes, obesity, HIV or cardiac failure.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Physiopathology of lipid-related diseases (Dr. F. Blanco Vaca, Dr. JC Escolà, Dr. J. Julve, Dr. N. Rotllan)
Endocrinology, Diabetes and Nutrition (Dr. A. Pérez. Dr. J. Julve)
Cerebrovascular Diseases (Dr. J. Martí Fabregas, Dr. P. Camps)
Image Cardiology Unit (Dr. D. Vilades, Dr. JM. Guerra)
Nuclear Medicine (Dr. Alejandro Fernández-León)
Genomics of Complex Diseases (Dr. M. Camacho)
Lipids and Cardiovascular Pathology (Dr. C. Llorente)
Women and Perinatal Health Research (Dr. E. Llurba)
Regulatory Mechanisms of Cardiovascular Diseases
(Dr. C. Rodríguez, J. Martínez)

EXTERNAL COLLABORATIONS

Dr. Kati Öörni, Wihuri Research Institute, Helsinki, Finland.
Dr. Olga Gursky, Boston University School of Medicine, Boston, MA, USA.
Dr. Chu Huang Chen, Baylor College of Medicine, Houston, TX, USA
Dr. Ana Reis. Facultade de Ciencias da Universidade do Porto, Portugal
Dr. Ferdinando Mannello. Department of Biomolecular Sciences, University "Carlo Bo", Urbino, Italy
Dr. Sandra Villegas Hernández, Biochemistry and Molecular Biology Department, UAB, Barcelona, Spain.
Dr. Mar Hernández-Guillamon. Neurovascular Res Laboratory, Vall d'Hebron Research Institute; Barcelona, Spain
Dr. Daniel Podzamczer, HIV Unit, Infectious Disease Service, Bellvitge University Hospital, Barcelona, Spain
Dr. Maria Saumoy, Unidad HIV, IDIBELL, Barcelona, Spain.
Dr. Esteban Martínez, Infectious Disease Service, Hospital Clinic, Barcelona, Spain
Dr. Anna Rull, Institut de Investigació Sanitaria Pere Virgili, Reus, Spain.
Dr. Josep Ribalta, Institut de Investigació Sanitaria Pere Virgili, Reus, Spain.
Dr. David de Gonzalo, Institut de Recerca Biomédica de Lleida, Lleida, Spain.
Dr. Francesc Jiménez-Altayó, Farmacologia Cardiovascular, Universitat Autònoma Barcelona, Barcelona, Spain.

ACTIVE GRANTS

- Almendra Pegueros, Rafael Antonio. Contractes predoctorals PFIS 2021. FI21/00125. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024
- Benitez Gonzalez, Sonia. 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, Sonia. LRP1 como mediador de los efectos proinflamatorios de la LDL modificada electronegativa en la arterioesclerosis. Sociedad Española de Arterioesclerosis (SEA). Duration: 2021-2023. 15.000,00 €
- Genua Trullos, Idoia. Nuevos biomarcadores de insuficiencia cardíaca y perfil de microRNAs. SED 2021. Sociedad Española de Diabetes (SED). Duration: 2021-2022. 20.000,00 €
- Puig Grifol, Nuria. Contractes Predoctorals PFIS 2020. FI20/00252. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 82.400,00 €
- Puig Grifol, Nuria. Estancia externa en el Whuri Research Institute por el proyecto Collateral Circulation ("collaterome") in Acute Ischemic Stroke with Large Vessel Occlusion: A Study of Clinical, Radiological, Plasma and Genetic Factors (PI19/0085). MV21/00041. Instituto de Salud Carlos III (ISCIII). May 3rd 2022-September 5th 2022. 14.490,00 €
- Sanchez 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 €

GRANTS AWARDED

- 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)

SCIENTIFIC PRODUCTION

- Canyelles M, Perez A, Junza A, Minambres I, Yanes O, Sarda H, Rotllan N, Julve J, Sanchez JL, Tondo M, Escola JC, Blanco F. Divergent Effects of Glycemic Control and Bariatric Surgery on Circulating Concentrations of TMAO in Newly Diagnosed T2D Patients and Morbidly Obese. *DIAGNOSTICS*. 2022; 12(11):2783. DOI:10.3390/diagnostics12112783. PMID:36428843. IF:3,992 (Q2/4D). Document type: Article.
- Ferrer R, Zhu N, Arranz J, Porcel I, El Bounasri S, Sanchez O, Torres S, Julve J, Lleo A, Blanco F, Alcolea D, Tondo M. Importance of cerebrospinal fluid storage conditions for the Alzheimer's disease diagnostics on an automated platform. *CLINICAL CHEMISTRY AND LABORATORY MEDICINE*. 2022; 60(7). DOI:10.1515/cclm-2022-0134. PMID:35405043. IF:8,490 (Q1/2D). Document type: Article.
- Garcia A, Sans J, Ferrero A, Alquezar A, Sionis A, Ordonez J. Risk Assessment after ST-Segment Elevation Myocardial Infarction: Can Biomarkers Improve the Performance of Clinical Variables?. *JOURNAL OF CLINICAL MEDICINE*. 2022; 11(5):1266. DOI:10.3390/jcm11051266. PMID:35268358. IF:4,964 (Q2/4D). Document type: Article.
- Grinan R, Escola JC, Julve J, Benitez S, Rotllan N. Epigenetic Regulation by microRNAs in Hyperhomocysteinemia-Accelerated Atherosclerosis. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(20):12452. DOI:10.3390/ijms232012452. PMID:36293305. IF:6,208 (Q1/3D). Document type: Review.
- Jayaraman S, Perez A, Minambres I, Sanchez JL, Gursky O. Heparin binding triggers human VLDL remodeling by circulating lipoprotein lipase: Relevance to VLDL functionality in health and disease. *BIOCHIMICA ET BIOPHYSICA ACTA-MOLECULAR AND CELL BIOLOGY OF LIPIDS*. 2022; 1867(1):159064. DOI:10.1016/j.bbalip.2021.159064. PMID:34610468. IF:5,228 (Q1/3D). Document type: Article.
- Minambres I, Sarda H, Urgell E, Genua I, Ramos A, Fernandez S, Balague C, Sanchez JL, Bassas L, Perez A. Obesity Surgery Improves Hypogonadism and Sexual Function in Men without Effects in Sperm Quality. *JOURNAL OF CLINICAL MEDICINE*. 2022; 11(17):5126. DOI:10.3390/jcm11175126. PMID:36079056. IF:4,964 (Q2/4D). Document type: Article.
- Perez PC, Gonzalez JR, Nuche J, Matute L, Serrano I, Selles MM, Garcia RV, Dolz LM, Gomez M, Figal DP, Crespo MG, Garcia A, Ordonez J, Cuscullola JC, Guerra JM, Delgado JF. Renal Function Impact in the Prognostic Value of Galectin-3 in Acute Heart Failure. *FRONTIERS IN CARDIOVASCULAR MEDICINE*. 2022; 9:861651. DOI:10.3389/fcvm.2022.861651. PMID:35463785. IF:5,846 (Q2/4D). Document type: Article.
- Puig N, Camps P, Camacho M, Aguilera A, Jimenez F, Fernandez A, Marin R, Marti J, Sanchez JL, Jimenez E, Benitez S. Plasma sICAM-1 as a Biomarker of Carotid Plaque Inflammation in Patients with a Recent Ischemic Stroke. *TRANSLATIONAL STROKE RESEARCH*. 2022; 13(5). DOI:10.1007/s12975-022-01002-x. PMID:35237947. IF:6,800 (Q1/2D). Document type: Article.
- Rivas A, Rotllan N, Santos D, Julve J, Escolà JC, Sanchez JL. Assessment of Ex Vivo Antioxidative Potential of Murine HDL in Atherosclerosis. *METHODS IN MOLECULAR BIOLOGY*. 2022; 2419. DOI:10.1007/978-1-0716-1924-7_17. Document type: Article.
- Rivas A, Rotllan N, Santos D, Julve J, Sanchez JL, Escolà JC. Monitoring Atheroprotective Macrophage Cholesterol Efflux In Vivo.

METHODS IN MOLECULAR BIOLOGY. 2022; 2419DOI:10.1007/978-1-0716-1924-7_35. Document type: Article.

- Saumoy M, Sanchez JL, Assoumou L, Gatell JM, Gonzalez A, Guaraldi G, Domingo P, Giacomelli A, Connault J, Katlama C, Masia M, Ordonez J, Pozniak A, Martinez E, Podzamczer D. Atherogenicity of low-density lipoproteins after switching from a protease inhibitor to dolutegravir: a substudy of the NEAT022 study. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*. 2022; 77(7). DOI:10.1093/jac/dkac117. PMID:35411401. IF:5,758 (Q1/2D). Document type: Article.

SCIENTIFIC DISSEMINATION

Participation by invitation in scientific conferences and talks:

- Reviews in Diabetes. Spanish Diabetes Society/UFV. "Physiopathology of diabetic dyslipidemia, where do we are?" Barcelona 14/10/2022. Opening speech: José Luis Sánchez Quesada.
- "Role of electronegative modified LDL in arteriosclerosis (LDL(-))". Instituto de Investigaciones Bioquímicas de La Plata, (INIBIOLP, Argentina, 6/06/2022. International.)
- "Cellular models for the study of their interaction with lipoproteins in the context of arteriosclerosis", Faculty of Sciences, Technology and Engineering of the University of Vic – Universitat Central de Catalunya, 26/04/2022. National. Speaker: Sònia Benítez.
- "Modified LDL as a possible biomarker (or therapeutic target) of cardiovascular diseases and ischemic stroke associated with arteriosclerosis". Catalan Society of Pharmacology, 13/06/2022. National.
- "Which lipid signalling parameters to integrate into pathways?" Meeting COST action EpilipidNET, Aveiro (Portugal), 23/09/2022. International. Speaker: Sònia Benítez.

Outreach activities to society

- "Benefits of the Mediterranean diet on cholesterol" organized by IIB-Sant Pau, at the Centre Cívic Navas, 05/04/2022. Speaker: Sònia Benítez

MOLECULAR PATHOLOGY AND THERAPEUTIC OF ISCHAEMIC AND ATHEROTHROMBOTIC DISEASES



Group leader
Badimon Maestro, Lina (IR)

Researchers
Alcover Rullan, Sebastian (IR)
Aledo Zamora, Rosa (CIVERCV)
Arderiu Marques, Gemma (IR)
Borrell Pages, Maria (IR)
Civit Urgell, Anna (IR)
Escate Chavez, Oscar Rafael (CIVERCV)
Luquero Gomez, Aureli (IR)
Maestro Benedicto, Alba (IR)
Magaldi Mendaña, Marta (Fund. Recerca Clínic Barcelona)
Schoch, Leonie (IR)
Suades Soler, Rosa (IR)
Vilahur Garcia, Gemma (IR)

Research technicians
Canovas Noe, Maria Angeles (IR)
Catalina Garcia, Pablo (IR)
Gallinat O'Callaghan, Alexandre (IR)
Garcia Garcia, Olaya (IR)
Garcia Hernaez, Nerea (IR)
Gerboles Freixas, Esther (IR)
Huertas Segarra, Sonia (IR)
Lopez Bernal, Sergio (IR)
Morato Simo, Silvia (IR)
Muñoz Garcia, Natalia (IR)
Pescador Romero, Monica (IR)
Pimentel Mayordomo, Noelia (IR)
Traver Tejedor, Susana (IR)

Internship students
Calls Campaña, Paula (Escola Pia Balmes)

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 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 consultant and reviewers for National and International Funding Agencies.

MAIN LINES OF RESEARCH

Pathophysiological role of LRP family proteins in chronic diseases.
Role of lipids and inflammation in atherosclerosis and ischemic heart disease.
Vascular impact of ischemia and angiogenesis in heart disease.
Tissue-factor mediated angiogenic switch-Cell and advanced therapies.
Search of new targets to inhibit the transformation of silent atherosclerosis into ischemic syndromes and promote cardio-protection

SCIENTIFIC CHALLENGES

Broaden the experimental focus to include transgenic animal models with/without cardiovascular risk factors in order to proceed to in-depth analysis of molecules involved in the modulation of new proteins identified by post-genomic technologies and systems biology approaches.
Maintain present scientific networks and establish new multidisciplinary collaborations.
Increase international funding for the extension of new and established platforms in order to implement proposed activities.

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS:
Acute and Intensive Cardiac Care Unit (Sans-Roselló J, Sánchez-Martinez M, Vila-Perales M, Duran-Cambra A)
Department of Cardiology (Garcia-Moll X, López L, Sans-Rosello J, Sionis A, Fernández-Peregrina E, Roig E, Mirabet S)
Radiology Unit (Hidalgo A)

Biomarkers for Cardiovascular Disease (Padro T)
Clinical and Translational Cardiology (Carreras F)
Pharmacological Research in Humans (Antonijoan RM)
Neuromuscular Diseases Unit, Department of Neurology (Alonso-Pérez J, Carrasco-Rozas A, Lleixà C, Gallardo E, Olive M, Díaz-Manera J, Suárez-Calvet X)
Department of Obstetrics and Gynecology, (Porta Roda O, Pero M)

EXTERNAL COLLABORATIONS

National Collaborations:

- Department of Cardiology, Thorax Institute, Hospital Clínic, University of Barcelona, Barcelona, Spain (Brugaletta S, MartínYuste V, Cola C, Sabaté M, Mendieta G).
- Endocrinology and Nutrition Department, Institut d'Investigacions Biomèdiques August Pi Sunyer, Hospital Clínic, Barcelona, Spain (Chiva-Blanch G, Giro O)
- Fundación Hipercolesterolemia Familiar. Madrid, Spain (Mata P, Alonso R, Perez-Isla L).
- Department of Internal Medicine, Hospital Abente y Lago, A Coruña, Spain (Diaz-Diaz JL)
- Department of Cardiology, Hospital Universitario de San Juan, Alicante, Spain (Bertomeu-Martínez V, Moreno-Arribas J, Rivera-Caravaca JM)
- Deapartment of Cardiology, Hospital Clínico Universitario Virgen de la Arrixaca, Murcia, Spain (Esteve-Pastor MA, Marín F)
- Department of Cardiology, Hospital La Paz, Madrid, Spain(Roldan-Rabadan I)
- Instituto Universitario de Ciencias de la Salud, Instituto de Investigación Biomédica de A Coruña (INIBIC), Universidade da Coruña, La Coruña, Spain (Muñiz J)
- Hospital General Universitario Gregorio Marañón, Instituto de Investigación Sanitaria Gregorio Marañón, Universidad Complutense, Madrid, Spain (Fernandez-Aviles F, Climent AM, Grigorian Shamagian L, Sanz-Ruiz R)
- Centro Nacional de Investigaciones Cardiovasculares Carlos III (CNIC), Madrid, Spain (Fuster V, Ibañez B, Mendieta G)
- Unitat de Lípids i Risc Vascular, Department of Medicine, Hospital del Mar, Barcelona, Spain (Pedro-Botet J)
- Lipid and Atherosclerosis Unit, Department of Internal Medicine (López-Miranda) J/ Department of Cardiology (Ruiz-Ortiz M, Anguita M) / IMIBIC / Reina Sofia University Hospital/University of Cordoba, Cordoba, Spain
- Unidad de Lípidos, Hospital Universitario Miguel Servet, IIS Aragón, Universidad de Zaragoza, Zaragoza, Spain. (Civeira F)
- Lipids and Vascular Risk Unit, Internal Medicine (Pintó X)/ Department of Cardiology (Cequier A) / Hospital Universitario de Bellvitge, Hospitalet de Llobregat, Barcelona, Spain
- Cell Therapy Network (TerCel), RD16/0018
- CIBER Cardiovascular Diseases CB16/11

International Collaborations:

- Experimental, Diagnostic and Speciality Medicine, University of Bologna, Bologna, Italy (Raffaele Bugiardini, Edina Cenko).
- Department of Pharmacology, Catholic University School of Medicine, Rome, Italy (Carlo Patrono)
- Department of NeuroFarBa, C.I.M.M.B.A., University of Florence, Florence, Italy (Elisabetta Cerbai)
- Department of Epidemiology and Prevention, IRCCS Istituto Neurologico Mediterraneo Neuromed, Pozzilli, Italy (Giovanni de Gaetano)
- Cardiology Department, University of Medicine and Pharmacy "Carol Davila" of Bucharest, Emergency Clinical Hospital of Bucharest, Bucuresti, Romania (Maria Dorobantu)
- Cardiology Unit, Department of Medicine, Solna, Karolinska Institute and Karolinska University Hospital, Stockholm, Sweden (Francesco Cosentino)
- Liverpool Centre for Cardiovascular Science, University of Liverpool and Liverpool Heart & Chest Hospital, Liverpool, UK. (Gregory Y.H. Lip)
- Department of Experimental, Diagnostic, and Specialty Medicine, University of Bologna, Bologna, Italy (Raffaele Bugiardini)
- Department of Pharmacological and Biomolecular Sciences, University of Milan and MultiMedica IRCCS, Milano, Italy (Alberico L. Catapano)
- Institute for Physiology, Justus-Liebig University Giessen, Giessen, Germany (Rainer Schulz)
- Institut für Pathophysiologie, Westdeutsches Herz- und Gefäßzentrum, Universitätsklinikum Essen, Essen, Germany (Petra Kleinbongard, Gerd Heusch)
- Department of Pharmacology and Pharmacotherapy, Semmelweis University, Budapest, Hungary (Péter Ferdinandy)
- Department of Bioethics and Safety, Section of Pharmacology, Catholic University School of Medicine, Rome, Italy (Bianca Rocca)
- Department of Pharmacological and Biomolecular Sciences, Università degli Studi di Milano, 20133 Milan, Italy (Maria Francesca Greco)
- Centre for Bioscience, Faculty of Science & Engineering, Manchester Metropolitan University, Manchester, UK (Yvonne Alexander)
- Cardiovascular Research Unit, Luxembourg Institute of Health, Strassen, Luxembourg (Yvan Devaux)
- Department of Infection, Immunity and Cardiovascular Disease, University of Sheffield, UK (Robert F. Storey)
- Center for Molecular Cardiology, University of Zurich, Schlieren, Switzerland; University Heart Center, Department of Cardiology, University Hospital Zurich, Zurich, Switzerland; Department of Research and Education, University Hospital Zurich, Zurich, Switzerland (Giovanni Camici)
- National Heart and Lung Institute, Imperial College, London, UK (Diana A.Gorog)
- Center for Thrombosis and Haemostasis, University Medical Center of Gutenberg University, Mainz, Germany (Hugo Ten Cate)
- Universidade Federal de Santa Maria (UFSM), Santa Maria, RS, Brazil; Department of Food and Nutrition, Universidade Federal de Santa Maria (UFSM), Palmeira das Missões, RS, Brazil (Patricia Chagas)
- Institute of Neurogenetics, University of Lübeck, Lübeck, Germany (Aleksandar Rakovic, Christine Klein)
- TACTICS - Transnational Alliance for Regenerative Therapies in Cardiovascular Syndromes (Fernández-Avilés F, Sanz-Ruiz R, Climent AM, Charron D, Fuster V, Janssens S, Kastrup J, Kim HS, Lüscher TF, Martin J, Menasché P, Simari R, Stone GW, Terzic A, Willerson JT, Wu J)

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. 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 isquemico. PID2019-107160RB-I00. Ministerio de Ciencia e Innovación (MICINN). Duration: 2020-2024. 484.000,00 €
- Badimon Maestro, Lina. Red de Terapia Celular (TerCel). RD16/0011/0018. Instituto de Salud Carlos III (ISCIII). Duration: 2017-2022. 182.880,50 €
- 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. 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. Unión Europea. Duration: 2020-2023. 273.943,00 €
- Badimon Maestro, Lina. CARDIOPATCH: NETWORK OF EXCELLENCE FOR THE DEVELOPMENT OF ADVANCED THERAPIES FOR THE TREATMENT OF MYOCARDIAL INFARCTIONSBASED ON REGENERATIVE MEDICINE AND 3D PRINTING.. CARDIOPATCH 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. Unión Europea. Duration: 2019-2024. 50.000,00 €
- Borrell Pages, Maria. Progresión de la aterosclerosis: nuevas funciones del PCSK9 y los LRPs. PI20/01282. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 135.520,00 €
- Borrell Pages, Maria. SEC 2019. Sociedad Española de Cardiología (SEC). Duration: 2019-2023. 15.000,00 €
- Luquero Gomez, Aureli. LUQUERO GOMEZ, AURELI. PRE2020-096422. Ministerio de Ciencia e Innovación (MICINN). Duration: 2021-2025. 97.460,00 €
- Vilahur Garcia, Gemma. Noves estratègies de protecció de l'eix cor-cervell després d'una parada cardiaca. CCR 2021. Fundació Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears. Duration: 2021-2023. 6.000,00 €
- Vilahur Garcia, Gemma. Reconstitución de las HDL: bioingeniería para restaurar la función perdida por hipercolesterolemia. FEA 2019. Fundación Española de Arteriosclerosis. Duration: 2020-2023. 12.000,00 €
- Vilahur Garcia, Gemma. Estrategias innovadoras para restaurar la actividad cardioprotectora de las HDL: perfil molecular y caracterización fenotípica de HDL disfuncionales y restauradas. PGC2018-094025-B-I00. Ministerio de Ciencia, Innovación y Universidades (MICIU). Duration: 2019-2022. 181.500,00 €
- Vilahur Garcia, 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 Garcia, 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. Sociedad Española de Cardiología (SEC). Duration: 2020-2024. 15.000,00 €

GRANTS AWARDED

- Badimon Maestro, Lina. PATOLOGIA MOLECULAR I TERAPEUTICA DE LES MALALTIES ATEROTROMBOTIQUES I ISQUEMIQUES. 2022 INV-1 00048. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 66.217,84 €
- 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 €
- Borrell Pages, Maria. Rol del PCSK9 en la enfermedad vascular: impacto del PCSK9 de la pared vascular. SEC 2022. Sociedad Española de Cardiología (SEC). Duration: 2022-2023. 15.000,00 €
- Lopez Yerena, Anallely. Ayudas para contratos Juan de la Cierva-Formación 2021. FJC2021-047235-I. Ministerio de Ciencia e Innovación (MICINN). Duration: 2023-2024. 64.800,00 €
- Vilahur Garcia, 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. PID2021-1288910B-I00. Ministerio de Ciencia e Innovación (MICINN). Duration: 2022-2025. 302.500,00 €

DOCTORAL THESES

- Díaz Riera, Elisa. Pathophysiological understanding of acute decompensated heart failure. A proteomic approach. 12/07/2022. Universitat de Barcelona. Supervisors: Padró Capmany, Teresa; Badimon Maestro, Lina; González Martín, Julià.

AWARDS

LINA BADIMON. Named Doctor Honoris Causa in 01/06/2022 by Universidad de Córdoba, España

LINA BADIMON. "Expertscape : Experto en Tejido Adiposo en los últimos 10 años". 21/01/2022. expertscape.com-@ExpertscapeNews- @Daily_Experts

SCIENTIFIC PRODUCTION

- Alonso J, Carrasco A, Borrell M, Fernandez E, Pinol P, Badimon L, Wollin L, Lleixa C, Gallardo E, Olive M, Diaz J, Suarez X. Nintedanib Reduces Muscle Fibrosis and Improves Muscle Function of the Alpha-Sarcoglycan-Deficient Mice. *BIOMEDICINES*. 2022; 10(10):2629. DOI:10.3390/biomedicines10102629. PMID:36289891. IF:4,757 (Q2/4D). Document type: Article.
- Arderiu G, Pena E, Badimon L. Ischaemic tissue released microvesicles induce monocyte reprogramming and increase tissue repair by a tissue factor-dependent mechanism. *CARDIOVASCULAR RESEARCH*. 2022; 118(10). DOI:10.1093/cvr/cvab266. PMID:34406379. IF:14,239 (Q1/1D). Document type: Article.
- Arderiu G, Pena E, Civit A, Badimon L. Endothelium-Released Microvesicles Transport miR-126 That Induces Proangiogenic Reprogramming in Monocytes. *FRONTIERS IN IMMUNOLOGY*. 2022; 13:836662. DOI:10.3389/fimmu.2022.836662. PMID:35251029. IF:8,786 (Q1/3D). Document type: Article.
- Badimon L, Padro T, Arderiu G, Vilahur G, Borrell M, Suades R. Extracellular vesicles in atherothrombosis: From biomarkers and precision medicine to therapeutic targets. *IMMUNOLOGICAL*

REVIEWS. 2022; 312(1). DOI:10.1111/imr.13127. PMID:35996799. IF:10,983 (Q1/2D). Document type: Review.

- Badimon L, Padro T, Vilahur G. Moving from reactive to preventive medicine. En:Aging: From Fundamental Biology To Societal Impact. Elsevier. 2022. p. 663-681. Document type: Book chapter.
- Barriuso I, Worner F, Vilahur G. Novel Antithrombotic Agents in Ischemic Cardiovascular Disease: Progress in the Search for the Optimal Treatment. *JOURNAL OF CARDIOVASCULAR DEVELOPMENT AND DISEASE*. 2022; 9(11):397. DOI:10.3390/jcdd9110397. PMID:36421932. IF:4,415 (Q2/5D). Document type: Review.
- Bell RM, Basalay M, Botker HE, Kalkhoran SB, Carr RD, Cunningham J, Davidson SM, England TJ, Giesz S, Ghosh AK, Golforoush P, Gourine AV, Hausenloy DJ, Heusch G, Ibanez B, Kleinbongard P, Lecour S, Lukhna K, Ntsekhe M, Ovize M, Salama AD, Vilahur G, Walker JM, Yellon DM. Remote ischaemic conditioning: defining critical criteria for success-report from the 11th Hatter Cardiovascular Workshop. *BASIC RESEARCH IN CARDIOLOGY*. 2022; 117(1):39. DOI:10.1007/s00395-022-00947-2. PMID:35970954. IF:12,416 (Q1/1D). Document type: Article.
- Bergami M, Cenko E, Yoon J, Mendieta G, Kedev S, Zdravkovic M, Vasiljevic Z, Milicic D, Manfrini O, van der Schaar M, Gale CP, Badimon L, Bugiardini R. Statins for primary prevention among elderly men and women. *CARDIOVASCULAR RESEARCH*. 2022; 118(14). DOI:10.1093/cvr/cvab348. PMID:34864917. IF:14,239 (Q1/1D). Document type: Article.
- Bugiardini R, Cenko E, Yoon J, van der Schaar M, Kedev S, Gale CP, Vasiljevic Z, Bergami M, Milicic D, Zdravkovic M, Krljanac G, Badimon L, Manfrini O. Concerns about the use of digoxin in acute coronary syndromes. *EUROPEAN HEART JOURNAL-CARDIOVASCULAR PHARMACOTHERAPY*. 2022; 8(5). DOI:10.1093/ehjcvp/pvab055. PMID:34251454. IF:11,177 (Q1/1D). Document type: Article.
- Bugiardini R, Yoon J, Mendieta G, Kedev S, Zdravkovic M, Vasiljevic Z, Milicic D, Manfrini O, van der Schaar M, Gale CP, Bergami M, Badimon L, Cenko E. Reduced Heart Failure and Mortality in Patients Receiving Statin Therapy Before Initial Acute Coronary Syndrome. *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY*. 2022; 79(20). DOI:10.1016/j.jacc.2022.03.354. PMID:35589164. IF:27,203 (Q1/1D). Document type: Article.
- Crea F, Badimon L, Berry C, De Caterina R, Elliott PM, Hatala R, Libby P, Linde C, Tybjaerg A, EHJ B. The European Heart Journal: fulfilling the mission. *EUROPEAN HEART JOURNAL*. 2022; 43(23). DOI:10.1093/eurheartj/ehac171. PMID:35512309. IF:35,855 (Q1/1D). Document type: Article.
- Cubedo J, Padro T, Vilahur G, Crea F, Storey RF, Sendon JLL, Kaski JC, Sionis A, Sans J, Fernandez E, Gallinat A, Badimon L. Glycosylated apolipoprotein J in cardiac ischaemia: molecular processing and circulating levels in patients with acute ischaemic events. *EUROPEAN HEART JOURNAL*. 2022; 43(2) DOI:10.1093/eurheartj/ehab691. PMID:34580705. IF:35,855 (Q1/1D). Document type: Article.
- Delgado J, Alcala JF, Torres JD, Quintana GM, Fuentes F, Garcia A, Ortiz AM, Perez AI, Yubero EM, Rangel OA, Camargo A, Rodriguez F, Lopez F, Badimon L, Ordovas JM, Perez F, Perez P, Lopez J, Almaden Y, Aranda E, Arenas de Larriva AP, Badimon JJ, Blanco A, Blanco R, Bolivar J, Caballero J, Chica J, Corina A, Criado J, Cruz C, Daponte A, de Teresa E, Delgado N, Estruch R, et al. Long-term secondary prevention of cardiovascular disease with a Mediterranean diet and a low-fat diet (CORDIOPREV) a randomised controlled trial. *LANCET*. 2022; 399(10338). DOI:10.1016/S0140-6736(22)00122-2. PMID:35525255. IF:202,731 (Q1/1D). Document type: Article.
- Diaz E, Garcia M, Lopez L, Garcia X, Badimon L, Padro T. Urinary Proteomic Signature in Acute Decompensated Heart Failure: Advances into Molecular Pathophysiology. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(4):2344. DOI:10.3390/ijms23042344. PMID:35216460. IF:6,208 (Q1/3D). Document type: Article.
- Diaz E, Garcia M, Lopez L, Garcia X, Badimon L, Padro T. Vitamin D Binding Protein and Renal Injury in Acute Decompensated Heart Failure. *FRONTIERS IN CARDIOVASCULAR MEDICINE*. 2022; 9:829490. DOI:10.3389/fcvm.2022.829490. PMID:35757319. IF:5,846 (Q2/4D). Document type: Article.
- Esteve MA, Rivera JM, Ruiz M, Muniz J, Roldan I, Otero D, Lopez R, Cequier A, Bertomeu V, Badimon L, Anguita M, Lip GYH, Marin F, FANTASIIA I. A comparison of front-line oral anticoagulants for the treatment of non-valvular atrial fibrillation: effectiveness and safety of direct oral anticoagulants in the FANTASIIA registry. *EXPERT OPINION ON PHARMACOTHERAPY*. 2022; 23(12). DOI:10.1080/14656566.2022.2109961. PMID:35924672. IF:4,103 (Q2/4D). Document type: Article.
- Esteve MA, Ruiz M, Muniz J, Roldan I, Otero D, Cequier A, Bertomeu V, Badimon L, Anguita M, Lip GYH, Marin F, FANTASIIA I. Impact of Integrated Care Management on Clinical Outcomes in Atrial Fibrillation Patients: A Report From the FANTASIIA Registry. *FRONTIERS IN CARDIOVASCULAR MEDICINE*. 2022; 9:856222. DOI:10.3389/fcvm.2022.856222. PMID:35586656. IF:5,846 (Q2/4D). Document type: Article.
- Evans PC, Davidson SM, Wojta J, Back M, Bollini S, Brittan M, Catapano AL, Chaudhry B, Cluitmans M, Gnecchi M, Guzik TJ, Hoefer I, Madonna R, Monteiro JP, Morawietz H, Osto E, Padro T, Sluimer JC, Tocchetti CG, Van der Heiden K, Vilahur G, Waltenberger J, Weber C. From novel discovery tools and biomarkers to precision medicine-basic cardiovascular science highlights of 2021/22. *CARDIOVASCULAR RESEARCH*. 2022; 118(13). DOI:10.1093/cvr/cvac114. PMID:35899362. IF:14,239 (Q1/1D). Document type: Review.
- Gallinat A, Badimon L. DJ-1 interacts with the ectopic ATP-synthase in endothelial cells during acute ischemia and reperfusion. *SCIENTIFIC REPORTS*. 2022; 12(1):12753. DOI:10.1038/s41598-022-16998-3. PMID:35882968. IF:4,996 (Q2/3D). Document type: Article.
- Gallinat A, Mendieta G, Vilahur G, Padro T, Badimon L. DJ-1 administration exerts cardioprotection in a mouse model of acute myocardial infarction. *FRONTIERS IN PHARMACOLOGY*. 2022; 13:1002755. DOI:10.3389/fphar.2022.1002755. PMID:36210822. IF:5,988 (Q1/2D). Document type: Article.
- Gallinat A, Rakovic A, Klein C, Badimon L. DJ-1 regulates mitochondrial gene expression during ischemia and reperfusion. *FREE RADICAL BIOLOGY AND MEDICINE*. 2022; 193. DOI:10.1016/j.freeradbiomed.2022.10.315. PMID:36341940. IF:8,101 (Q1/2D). Document type: Article.
- Gallinat A, Vilahur G, Padro T, Badimon L. Network-Assisted Systems Biology Analysis of the Mitochondrial Proteome in a Pre-Clinical Model of Ischemia, Revascularization and Post-Conditioning. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(4):2087. DOI:10.3390/ijms23042087. PMID:35216205. IF:6,208 (Q1/3D). Document type: Article.
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- Vilahur G, Sutelman P, Ben S, Mendieta G, Radike M, Schoch L, Casani L, Borrell M, Padro T, Badimon L. Supplementation With Spirulina Reduces Infarct Size and Ameliorates Cardiac Function in a Pig Model of STEMI. *FRONTIERS IN PHARMACOLOGY*. 2022; 13:891801. DOI:10.3389/fphar.2022.891801. PMID:35592428. IF:5,988 (Q1/2D). Document type: Article.
- Vilella A, Gallinat A, Escate R, Mirabet S, Padró T, Badimon L. Systems Biology in Chronic Heart Failure—Identification of Potential miRNA Regulators. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(23):15226. DOI:10.3390/ijms232315226. PMID:36499552. IF:6,208 (Q1/3D). Document type: Article.
- Vilella A, Padro T, Roig E, Mirabet S, Badimon L. New factors in heart failure pathophysiology: Immunity cells release of extracellular vesicles. *FRONTIERS IN CARDIOVASCULAR MEDICINE*. 2022; 9:939625. DOI:10.3389/fcvm.2022.939625. PMID:36407432. IF:5,846 (Q2/4D). Document type: Article.
- Vogel RF, Delewi R, Badimon L, Angiolillo DJ, Vlachojannis GJ. Current Status and Future Direction of Antithrombotic Therapy for Patients with STEMI Undergoing Primary PCI. *REVIEWS IN CARDIOVASCULAR MEDICINE*. 2022; 23(9):297. DOI:10.31083/j.rcm2309297. IF:4,430 (Q2/4D). Document type: Review.

SCIENTIFIC DISSEMINATION

Conferences and scientific symposia organised:

- Eurothrombosis/Eurovessels Meeting - European Society of Cardiology. Lisbon, 20-22/10/2022. Congress. International - European Society of Cardiology. Member of the organizing committee.
- Congress of the Spanish Society of Cardiology of Cardiovascular Diseases. Mallorca, 20-22/10/2022. Congress. International - Spanish Society of Cardiology. Member of the organizing committee. Speaker: Gemma Vilahur.
- "Hot topics and new insights for thrombosis." ESC Working Group on Thrombosis. International. Course director: Gemma Vilahur.
- Master in Advanced Studies in Antithrombotic Management (CAS-AM Course). Maastricht, 20-24/04/ 2022. Master of Training. International. Organizing member: Gemma Vilahur.

Participation by invitation in scientific conferences and talks:

- "New biomarkers in liquid biopsies: deciphering their potential application in cardiovascular disease." VI Practical course in antithrombotic treatment for residents. Spanish Society of Cardiology. Castelldefels, 4-5/03/2022. National. Speaker: Gemma Vilahur.
- "Etio-pathogenesis of atherosclerosis: still an enigma?" Winter School 2022. Univeristà degli Studi di Padova. Padova, 28/03-01/04/2022. International. Speaker: Lina Badimón.
- "The power of statins in the heart: unravelling a novel cardioprotective approach." 9th EU-CARDIOPROTECTION COST Action. Coimbra (Portugal), 2-4/04/2022. International. Speaker: Gemma Vilahur.
- "Unravelling the complexity of HDL." Instituto de Biomedicina Sevilla, IBIS. Sevilla, 07/04/2022. International. Speaker (on-line): Gemma Vilahur.
- Certificate in Advanced Studies in Antithrombotic Management. CAS-AM course. Maastricht (The Netherlands), 20-24/04/2022. Speaker: Gemma Vilahur.
- "The past: Landmarks of the development of Cardiology – and the role of Europe." Cardiovascular Science Summit (ESC, Council Basic Cardiovascular Science). Budapest, 28/04/2022. International. Speaker: Lina Badimón.
- Session: "Novel insights on well-known players in cardio-oncology. Frontiers in Cardiovascular Biomedicine 2022." Budapest, 29/04/2022. International. Moderator: Lina Badimón.
- Session: "Young Investigator Award – Novelties in cardiovascular disease mechanism." Frontiers in Cardiovascular Biomedicine 2022. Budapest, 30/04/2022. International. Moderator: Lina Badimón.
- "Effects of the metabolic syndrome on the blood vessels." Frontiers in Cardiovascular Biomedicine 2022, European Society of Cardiology. Budapest, 01/05/2022. International. Speaker: Gemma Vilahur.
- "Extracellular vesicles as emerging biomarkers in cardiovascular disease." Frontiers in Cardiovascular Biomedicine 2022, European Society of Cardiology. Budapest, 01/05/2022. International. Speaker: Lina Badimón.
- Session: "Biomarkers in arterial thrombosis." Frontiers in Cardiovascular Biomedicine 2022, European Society of Cardiology. Budapest, 01/05/2022. International. Moderator: Gemma Vilahur.
- "Precision medicine: approaching the future of health care." Catalan Society of Cardiology. Barcelona, 02/05/2022. National. Speaker: Gemma Vilahur.
- "The cardiovascular protection of the 21st century. X Years adding moments BAYER." Madrid; 5-6/05/2022. National. Speaker: Lina Badimón.
- "News on the management of hypercholesterolemia." 38th Uruguayan Congress of Cardiology – CardioSUC; Uruguayan Society of Cardiology. 18-20/05/2022. International. Speaker: Lina Badimón.
- "What's next in secondary prevention: is everyone there?" 38th Uruguayan Congress of Cardiology – CardioSUC; Uruguayan Society of Cardiology. 18-20/05/2022. International. Speaker: Lina Badimón.
- "Atherosclerosis and myeloid cells." EAS 2022 / European Atherosclerosis Society. Milan, 22-25/05/2022. International. Moderator: Lina Badimón.
- "Endothelial cell biology in atherosclerosis." EAS 2022 / European Atherosclerosis Society. Milan, 24/05/2022. International. Moderator: Lina Badimón.

- "Advances in the characterization of atherosclerotic plaques: a complex network of dysfunctional biological systems." XXXIV Congress of the Spanish Arteriosclerosis Society (SEA). Madrid, 8-10/06/2022. International. Speaker: Lina Badimón.
- "The power of statins in the heart: unravelling a novel cardioprotective approach." 56th Annual Scientific Meeting European Society for Clinical Investigation. Bari (Italy), 8-10/06/2022. International. Speaker: Gemma Vilahur.
- "Biomarker Revolution in Cardiology: Liquid Biopsy. Beyond LDL in search of residual risk." Health Research Institute, INCLIVA. Valencia, 14/06/2022. Nacional. Speaker: Gemma Vilahur (on-line).
- "Treatment of lipid disorders based on RNA interference." VII Symposium on Familial Hypercholesterolemia. Family Hypercholesterolemia Foundation. Madrid, 22-23/06/2022. National. Speaker: Lina Badimón.
- "New CV Risk Factors." VII Symposium on Familial Hypercholesterolemia. Family Hypercholesterolemia Foundation. Madrid, 22-23/06/2022. National. Moderator: Lina Badimón.
- "Antithrombotic therapy in diabetes." 15th Congress of the European Association for Clinical Pharmacology and Therapeutics. Athens (Greece), 25-28/06/2022. International. Speaker: Gemma Vilahur.
- "High-density lipoproteins and cardiovascular protection: exiting research ahead." Institute for Pathophysiology, University of Duisburg-Essen. Essen (Germany), 07/07/2022. International. Speaker: Gemma Vilahur (on-line).
- "Biomarkers: clinical evidence of their usefulness." SEC2022 Congress of Cardiovascular Health, Spanish Society of Cardiology. Mallorca, 21/10/2022. International. Speaker: Rosa Suades.
- "Cardiac benefits of P2Y12 receptor inhibitors beyond their antiplatelet properties." Eurothrombosis and Eurovessels Meeting, European Society of Cardiology. Lisbon (Portugal), 20-22/10/2022. International. Speaker: Gemma Vilahur.
- Interactive Workshop. "Real-World Data on Thrombosis. Incidence and Treatment in Countries Affiliated to EMLTD." ALPIC 2022 / European and Mediterranean League Against Thrombotic Diseases. Kalavryta (Greece), 04/11/2022. International. Speaker: Lina Badimón.
- "Endothelial function and its relevance to cardiovascular disease." Karolinska Institute. Class online (1h) in a PhD Course, 08/11/2022. International. Speaker: Rosa Suades.
- "Coronary artery disease: Progress in antiplatelet therapy." 29th Annual Meeting of the Belgian Society of Thrombosis and Haemostasis; Belgian Society on Thrombosis and Haemostasis (BSTH). Mechelen (Belgium), 24-25/11/2022. International. Speaker: Lina Badimón.
- "Clinical research for cardiologists. What is basic research and translational research in cardiology? Approach to basic and translational research." Spanish Society of Cardiology. Madrid, 25/11/2022. National. Speaker: Gemma Vilahur.
- "Pharmacological repositioning: a key option with a future for the treatment of ischemic coronary disease." Barcelona, 12/12/2022. National. Speaker: Gemma Vilahur.

Outreach activities to society:

#100tifiques at the "International Day of Women and Girls in Science". Joan Abelló del Mollet del Vallès School. Mollet del Vallès, 08/02/2022. 6th grade students. Speaker: Rosa Suades.

- Gemma Vilahur. "We carry it in our blood." Talk at Col.legi Sant Ignasi - Jesuites de Sarrià. Barcelona, 13/05/2022. Students from the school, different grades. Speaker: Gemma Vilahur.

BIOMARKERS FOR CARDIOVASCULAR DISEASE



Group leader
Padro Capmany, Teresa (IR)

Researchers
De Santisteban Vilaplana, Victoria Marta (IR)
Diaz Riera, Elisa (IR)
Garcia Arguinzonis, Maisa Ines (IR)
Greco , Maria Francesca (Univ. Milan, Italy)
Vilella Figuerola, Alba (IR)

Research technicians
Gomez-Pardo Arellano, Montserrat (IR)

DESCRIPTION

The Group's research refers to identification and characterization of key molecular and cellular biomarkers of atherothrombosis and ischemic heart disease, with potential use in prevention, disease diagnosis, risk stratification and treatment. Research activities focus on cardiovascular disease, vascular remodelling and atherosclerosis, thrombosis, risk factors, and ischemic and heart disease, covering studies at cellular, pre-clinical and clinical level. Moreover, current studies focus on myocardial remodelling post-infarction and its association with scar evolution after the ischemic events.

MAIN LINES OF RESEARCH

Biomarkers and molecular targets of vascular remodelling in atherosclerosis progression, thrombosis, and subsequent ischemic events (Proteomic-based studies)
Extracellular matrix and cardiac remodelling 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 remodelling in atherosclerotic vessels and cardiac tissue post-myocardial infarction.

Generate new information on extracellular vesicles (microvesicles / exosomes) due to their specific feature as carriers of RNAs (miRNA, lncRNAs and mRNAs) and proteins derived from the parental cells providing precise bioprints of defined pathophysiological scenarios and consequently being ideal biomarker candidates of disease evolution.

To identify and characterize cardiovascular-disease associated circulating biomarkers (serum, plasma, urine) and microvesicles- or lipoprotein - carried molecular biomarkers by proteomic technologies based on liquid chromatography / bidimensional electrophoresis and mass spectrometry, lipidomic approaches by mass spectrometry coupled to ultra-performance liquid chromatography and nuclear magnetic resonance (NMR), trans-criptomic (mRNA, non-coding RNA) studies 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.
Characterize molecular and functional mechanisms for selected biomarkers in cardiovascular pathology and myocardial remodelling (biology of systems).

COLLABORATIONS

· IIB SANT PAU RESEARCH GROUPS

Molecular Pathology and Therapeutic of Ischemic and Atherothrombotic Diseases (PI: Lina Badimon; Gemma Vilahur)
Clinical and Translational Cardiology (Xavier Garcia-Moll, Sonia Mirabet, Alessandro Sionis; Laura Lopez)
Pharmacological Research in Humans (PI: Rosa M Antonijoan / Montserrat Puntes)
Internal Medicine Department- Infectious Diseases Unit (PI: Pere Domingo)
Molecular Basis Cardiovascular Risk (PI: Francisco Blanco Vaca; Joan Carles Escolà)

· EXTERNAL COLLABORATIONS

CIBER in the specific area of Cardiovascular Diseases (CIBERCV) CIBER-CB16/11/00411 Instituto de Salud Carlos III. CIBER. Since 2017 (Member of the Research Team 02)

Fundación Hipercolesterolemia Familiar. Madrid. (Pedro Mata, Rodrigo Alonso, Leopoldo Perez-Isla, Raquel Arroyo and other members of SAFEHEART).
Department of Rheumatology, Consorci Sanitari de Terrassa (CST). Terrassa, Bacelona (Carmen Garcia-Gomez).
Internal Medicine Department Lipids and Vascular Risk Units, University Hospital of Bellvitge, Hospitalet de Llobregat, Barcelona (Xavier Pinto).
Cardiology Department, Hospital Universitario de San Juan, Alicante, Spain. (Alberto Cordero)
UCERV-UCAMI, Hospital Virgen del Rocío, Sevilla (Ovidio Muñiz).
Department of Internal Medicine, Hospital Abente y Lago, A Coruña (Jose Luis Diaz-Diaz).
Department of Endocrinology and Nutrition, Institut d'Investigacions Biomèdiques August Pi Sunyer (IDIBAPS), Hospital Clínic, Barcelona, Spain. (Gemma Chiva-Blanch)
Centro Investigación Trombosis, Universidad de Talca (Chile). (Ivan Palomo)
TRANSBIOLINE Consortium (IMI- EU Project – (European and EEUU collaborations)
COVIRNA Consortium (European Project) (EuropeanCollaboration)
Nucleus Members ESC-Working Group on Coronary Pathophysiology and Microcirculation (European Collaboration).
Members of the ESC- Council on Basic Cardiovascular Science (European Collaboration)

ACTIVE GRANTS

- 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. Identificación en la matriz extracellular post-infarto de moléculas estimulantes de regeneración cardiaca (MATRI-REG). PI22/01930. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 171.820,00 €

DOCTORAL THESES

- Diaz Riera, Elisa. Pathophysiological understanding of acute decompensated heart failure. A proteomic approach. 12/07/2022. Universitat de Barcelona. Supervisors: Padró Capmany, Teresa; Badimon Maestro, Lina; González Martín, Julià.

AWARDS

- Padro Capmany, Teresa. Chairperson Working-Group Coronary Pathophysiology and Microcirculation (2022-2024). European Society Cardiology
- Padro Capmany, Teresa. General Secretary (2020-2024) of the European and Mediterranean League against Thrombotic Diseases (EMLTD)
- Padro Capmany, Teresa. Member of the Advisory Board of the "Centro Investigacion en Trombosis" Iniversidad de Talca (Talca, Chile) since 2022.

SCIENTIFIC PRODUCTION

- Badimon L, Padro T, Arderiu G, Vilahur G, Borrell M, Suades R. Extracellular vesicles in atherothrombosis: From biomarkers and precision medicine to therapeutic targets. *IMMUNOLOGICAL REVIEWS*. 2022; 312(1). DOI:10.1111/imr.13127. PMID:35996799. IF:10,983 (Q1/2D). Document type: Review.
- Badimon L, Padro T, Vilahur G. Moving from reactive to preventive medicine. In: Aging: From Fundamental Biology To Societal Impact. Elsevier. 2022. p. 663-681. Document type: Book chapter.
- Cubedo J, Padro T, Vilahur G, Crea F, Storey RF, Sendon JLL, Kaski JC, Sionis A, Sans J, Fernandez E, Gallinat A, Badimon L. Glycosylated apolipoprotein J in cardiac ischaemia: molecular processing and circulating levels in patients with acute ischaemic events. *EUROPEAN HEART JOURNAL*. 2022; 43(2). DOI:10.1093/eurheartj/ehab691. PMID:34580705. IF:35,855 (Q1/1D). Document type: Article.
- Diaz E, Garcia M, Lopez L, Garcia X, Badimon L, Padro T. Urinary Proteomic Signature in Acute Decompensated Heart Failure: Advances into Molecular Pathophysiology. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(4):2344. DOI:10.3390/ijms23042344. PMID:35216460. IF:6,208 (Q1/3D). Document type: Article.
- Diaz E, Garcia M, Lopez L, Garcia X, Badimon L, Padro T. Vitamin D Binding Protein and Renal Injury in Acute Decompensated Heart Failure. *Frontiers in Cardiovascular Medicine*. 2022; 9:829490. DOI:10.3389/fcvm.2022.829490. PMID:35757319. IF:5,846 (Q2/4D). Document type: Article.
- Evans PC, Davidson SM, Wojta J, Back M, Bollini S, Brittan M, Catapano AL, Chaudhry B, Cluitmans M, Gnecchi M, Guzik TJ, Hoefer I, Madonna R, Monteiro JP, Morawietz H, Osto E, Padro T, Sluimer JC, Tocchetti CG, Van der Heiden K, Vilahur G, Waltenberger J, Weber C. From novel discovery tools and biomarkers to precision medicine-basic cardiovascular science highlights of 2021/22. *CARDIOVASCULAR RESEARCH*. 2022; 118(13). DOI:10.1093/cvr/cvac114. PMID:35899362. IF:14,239 (Q1/1D). Document type: Review.
- Gallinat A, Mendieta G, Vilahur G, Padro T, Badimon L. DJ-1 administration exerts cardioprotection in a mouse model of acute myocardial infarction. *Frontiers in Pharmacology*. 2022; 13:1002755. DOI:10.3389/fphar.2022.1002755. PMID:36210822. IF:5,988 (Q1/2D). Document type: Article.
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- Vilella A, Gallinat A, Escate R, Mirabet S, Padró T, Badimon L. Systems Biology in Chronic Heart Failure—Identification of Potential miRNA Regulators. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(23):15226. DOI:10.3390/ijms232315226. PMID:36499552. IF:6,208 (Q1/3D). Document type: Article.
- Vilella A, Padro T, Roig E, Mirabet S, Badimon L. New factors in heart failure pathophysiology: Immunity cells release of extracellular vesicles. *Frontiers in Cardiovascular Medicine*. 2022; 9:939625. DOI:10.3389/fcvm.2022.939625. PMID:36407432. IF:5,846 (Q2/4D). Document type: Article.

SCIENTIFIC DISSEMINATION

Conferences and scientific symposia organised:

- "Advanced Learning on Platelets & Thrombosis International Course." Organized by the European and Mediterranean League Against Thrombotic Diseases (EMLTD) –Foundation. 4-6/11/2022. International. General Secretary of the EMLTD and Secretary of the EMLTD Foundation. Speaker: Teresa Padró.

INVITED SPEAKER

- XXVI International Conference on Nutrition / XXV International Congress of SEDCA. Organized by "Spanish Society of Dietetics and Food Sciences (SEDCA)". Virtual, March 2022. International. Lecture "Moderate consumption of beer and cardiovascular health in overweight people". Invited Speaker: Teresa Padró.
- Frontiers in CardioVascular Biomedicine 2022 organized by European Society of Cardiology (ESC). Budapest (Hungary), April 2022. International. Session: "Extracellular Microvesicles." Lecture: "Microvesicles: liquid biopsies of cardiovascular disease progression." Invited Speaker: Teresa Padró.
- 56th Annual Scientific Meeting European Society Clinical Investigation organized by the European Society Clinical Investigation. Bari (Italy), 8-10/06/2022. International. "Cardiovascular and Metabolic Diseases". Lecture: "Familial Hypercholesterolemia: towards personalized medicine." Invited Speaker: Teresa Padró.
- VII Symposium of Familial Hypercholesterolemia. Madrid, 22-23/06/2022. National. Session: "New CV Risk Markers". Lecture: "New biomarkers in the progression and prediction of CV disease". Invited Speaker: Teresa Padró.
- EuroThrombosis and EuroVessels 2022. Session: "Coronary Microcirculatory Dysfunction." Lecture: "Ischemic heart disease in women: Risk Factors and Pathophysiology." Lisbon (Portugal), 20-22/10/2022. International. https://esc365.escardio.org/presentation/262011. Invited Speaker: Teresa Padró.
- 27th National Meeting SEHLELHA (Spanish Hypertension Society). Murcia, 22-24 September 2022. National. Session: Research in vascular pathophysiology: cellular communication mechanisms: microvesicles. Lecture: "Role of microvesicles as biomarkers and/or therapeutic targets in cardiovascular disease". Invited Speaker: Teresa Padró.
- Seminars for Residents and Family Doctors SEMERGEN Basque Country. Vitoria, 24-26 November 2022. National. Session "Update on major cardiovascular risk factors". Lecture: The importance of nutrition in cardiovascular health. Invited Speaker: Teresa Padró.

INVITED SESSION CHAIRPERSON

- Frontiers in Cardio Vascular Biomedicine 2022 (European Society of Cardiology
- Extracellular Microvesicles (29/04/2022). Session Type: Orally Presented Works. Budapest (Hungary), April 2022. International. Session: Chairperson: Teresa Padró.
- Frontiers in Cardio Vascular Biomedicine 2022 (European Society of Cardiology. Session: Coronary microvascular dysfunction

in cardiovascular disease (30/04/2022). Session Type: Orally Presented Works. Budapest (Hungary), April 2022. International. Chairperson: Teresa Padró.

- Session "Young Investigator Awards Session in Coronary Pathophysiology and Microcirculation". 27/09/2022. Session Type: Orally Presented Works. European Society Cardiology (ESC) Congress 2022. Barcelona, 26-29/08/2022. International. https://esc365.escardio.org/session/36976. Chairperson: Teresa Padró.
- Session: "Cardiovascular disease in women (Part 1)" – 28/08/2022. Session Type: Moderated e-Posters. European Society Cardiology (ESC) Congress 2022. Barcelona. 26-29/08/2022. International. https://esc365.escardio.org/session/37541. Chairperson: Teresa Padró.
- Session: Cardiovascular disease in women (Part 2) European Society Cardiology (ESC) Congress 2022. Barcelona, 26-29/08/2022. International. –28/08/2022. Session Type: Moderated e-Posters. Chairperson: Teresa Padró.
- Session: "Cardiovascular disease in women (Part 2)" – 28/08/2022. Session Type: Moderated e-Posters. European Society Cardiology (ESC) Congress 2022. Barcelona. 26-29/08/2022. International. https://esc365.escardio.org/session/37549. Chairperson: Teresa Padró.
- EuroThrombosis and EuroVessels (ESC) 2022. Session: Coronary Microcirculatory Dysfunction – 20th October 2022. Session Type: Teaching Course. Lisbon (Portugal), 20-22 October 2022. https://esc365.escardio.org/session/39775. Chairperson: Teresa Padró.
- Session: New tools for frontier research in the cardiovascular area. Session Type: Online basic research track. Spanish Society of Cardiology (SEC). Palma de Mallorca, October 2022. National. Chairperson: Teresa Padró.

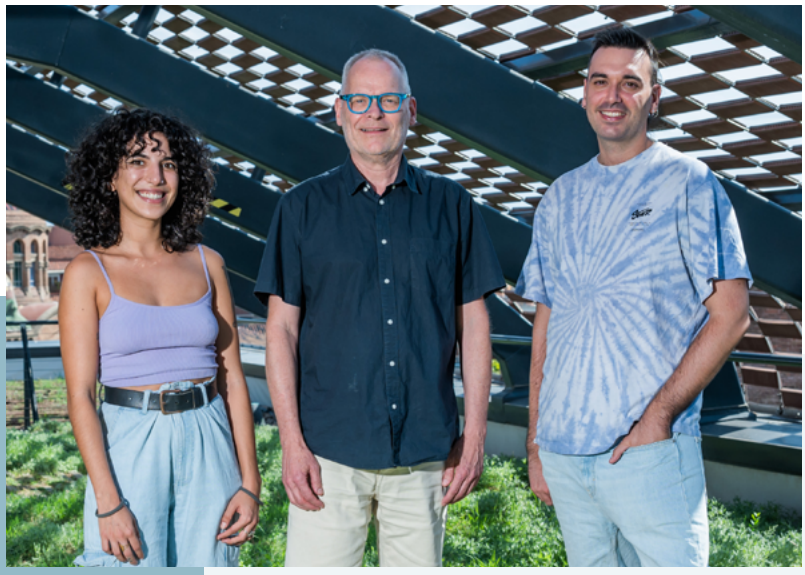
OTHER INVITED ACTIVITIES IN INTERNATIONAL CONGRESSES

- Teresa Padro. European Society Cardiology (ESC) Congress 2022. Barcelona, 26-29 August 2022. International. Invited Jury in the Session: Young Investigator Awards Session in Coronary Pathophysiology and Microcirculation – 27th August 2022. Session Type: Orally Presented Works.

Outreach activities to society:

- Teresa Padro. Informative Talk. Centre Civic Guinardo. Barcelona, 23 Noviembre 2022 (Time 19:00). Invited Speaker: Teresa Padro. "Enfermedad Cardiovascular: El riesgo de ser mujer". Youtube: https://youtu.be/mvC1Qm6nMkk. Dissemination in Social Networks. Tweet (afterwards): https://twitter.com/IIBSantPau/status/1595500439629348865. Link to the activity in the IR-WEB: http://www.recercasantpau.cat/actualitat/1900-h-nou-seminari-al-cc-guinardo-malaltia-cardiovascular-el-risc-de-ser-dona-dra-teresa-padro-capmany/. Information and dissemination by the "Centre Civic Guinardo". https://ajuntament.barcelona.cat/ccivics/guinardo/category/aula-141/institut-de-recerca-de-lhospital-de-sant-pau-iib-sant-pau/.
- Teresa Padro. Activity: Train the Trainers. Organized by AB-Biotics. Barcelona (Hotel AC Barcelona Forum), 8th July 2022. Invited speaker: Teresa Padro. AB-Life: Nuevo Estudio Mecanistico.

REGULATION OF CARDIAC RHYTHM AND CONTRACTION



Group leader
Hove-Madsen , Leif (CSIC)

Researchers
Casabella Ramon, Sergi (CSIC)
Aceituno Fernandez, Cristina (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, in order 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 from 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 automatized 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 the one of the biggest recent opportunities to make a substantial advance in risk stratification and personalized treatment of atrial fibrillation.
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.

COLLABORATIONS

· IIB SANT PAU RESEARCH GROUPS:
Cardiologia Clínica i Translacional
Impact of clinical factors on human atrial myocyte function
Cirugia Cardíaca
Impact of clinical factors on human atrial myocyte function
Mecanismes reguladors del remodelat cardiovascular
Modulation of intracellular calcium and myocyte function by NOR-1

EXTERNAL COLLABORATIONS

Dr. Raúl Benítez, Dept. Automatic Analysis, Universitat Politècica de Catalunya. Development of computational tools for automatized analysis of large image stacks
Dr. Blas Echebarria, Dept. Fisica, Universitat Politècica de Catalunya. Development of detailed high-resolution mathematical myocyte models
Dr. Morten S. Olesen, Dept. Biomedical sciences, Copenhagen University, Denmark. Genetic analysis of SNPs associated with risk of atrial fibrillation
Dr. Glen Tibbits, Cellular and Regenerative Medicine Centre (CRMC) at the BC Children's Hospital Research Institute, Vancouver, Canada. Functional analysis of SNPs in stem-cell derived human cardiomyocytes.
Dr. SR Wayne Chen, Dept. Physiology and Pharmacology, University of Calgary. Impact of physiological and pathological alterations of ryanodine receptor function.
Dr. Francisco Ciruela, Dept. Farmacilogía, IDIBELL. Functional impact of pathological alterations in adenosine receptor signaling
Dr. Diego Franco, Dept. Experimental Biology, Universidad de Jaén. Modulation of cardiomyocyte function by Pitx2, microRNA and long non-coding RNA.

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)

SCIENTIFIC PRODUCTION

- Arslanova A, Shafaattalab S, Lin E, Barszczewski T, Hove L, Tibbits GF. Investigating inherited arrhythmias using hiPSC-derived cardiomyocytes. *METHODS*. 2022; 203. DOI:10.1016/j.ymeth.2021.06.015. PMID:34197925. IF:4,647 (Q2/3D). Document type: Article.
- Casabella S, Jimenez V, Tarifa C, Casellas S, Lu TT, Izquierdo P, Gich I, Jimenez M, Ginel A, Guerra JM, Chen SRW, Benitez R, Hove L. Impact of R-Carvedilol on beta 2-Adrenergic Receptor-Mediated Spontaneous Calcium Release in Human Atrial Myocytes. *BIOMEDICINES*. 2022; 10(7):1759. DOI:10.3390/biomedicines10071759. PMID:35885069. IF:4,757 (Q2/4D). Document type: Article.
- Garcia C, Dominguez JN, Lodde V, Munk R, Abdelmohsen K, Gorospe M, Jimenez V, Ginel A, Hove L, Aranega AE, Franco D. Identification of atrial-enriched lncRNA Walras linked to cardiomyocyte cytoarchitecture and atrial fibrillation. *FASEB JOURNAL*. 2022; 36(1):e22051. DOI:10.1096/fj.202100844RR. PMID:34861058. IF:5,834 (Q1/2D). Document type: Article.
- Gharanei M, Shafaattalab S, Sangha S, Gunawan M, Laksman Z, Hove L, Tibbits GF. Atrial-specific hiPSC-derived cardiomyocytes in drug discovery and disease modeling. *METHODS*. 2022; 203. DOI:10.1016/j.ymeth.2021.06.009. PMID:34144175. IF:4,647 (Q2/3D). Document type: Article.
- Herraiz A, Tarifa C, Jimenez V, Llach A, Godoy H, Colino H, Nolla C, Casabella S, Izquierdo P, Benitez I, Benitez R, Rosello E, Rodriguez E, Vinolas X, Ciruela F, Cinca J, Hove L. Influence of sex on intracellular calcium homoeostasis in patients with atrial fibrillation. *CARDIOVASCULAR RESEARCH*. 2022; 118(4). DOI:10.1093/cvr/cvab127. PMID:33788918. IF:13,081 (Q1/1D). Document type: Article.
- Nolla C, Casabella S, Jimenez V, Vallmitjana A, Tarifa C, Herraiz A, Llach A, Tauron M, Montiel J, Cinca J, Chen SRW, Benitez R, Hove L. beta 2-adrenergic stimulation potentiates spontaneous calcium release by increasing signal mass and co-activation of ryanodine receptor clusters. *ACTA PHYSIOLOGICA*. 2022; 234(4):e13736. DOI:10.1111/apha.13736. PMID:34709723. IF:7,523 (Q1/1D). Document type: Article.

LIPIDS AND CARDIOVASCULAR PATHOLOGY



Group leader
Llorente Cortes, Concepcion Vicenta (CSIC)

Researchers
Benitez Amaro, Aleyda (CSIC)
Bosch Rue, Elia (UAB)
Garcia Rodriguez, Jesus Eduardo (IR)
La Chica Lhoest, Maria Teresa (IR)

Internship students
Claudi , Lene (UAB)
Martin , Alice Stella (Univ. Catholique
De Lyon, France)

DESCRIPTION

• Development of new therapeutic tools for the treatment of atherosclerosis and cardiomyopathies based on the LRP1 receptor
• Molecular, biophysical and structural characterization of vascular and cardiac remodeling in dilated, ischemic and diabetic cardiomyopathies
• Identification of new connecting axes of cardiac and hepatic functionality and their consequences in the regulation of metabolism in vitro and in patients with metabolic syndrome
• Identification of new circulating omic biomarkers of inflammation, epicardial fat and subclinical atherosclerosis in patients

MAIN LINES OF RESEARCH

Development of new therapeutic tools for the treatment of atherosclerosis and cardiomyopathies based on the LRP1 receptor

• Study of the efficacy of anti-LRP1 antibodies developed based on the P3 sequence of the CR9 domain of cluster II of the LRP1 receptor to block the development in preclinical models of atherosclerosis and heart failure
• Study of the efficacy of a family of optimized peptides developed based on the LRP1 P3 sequence in the proatherogenicity of LDLs and in blocking arteriosclerosis in a humanized murine model of ApoB100.

Molecular, biophysical and structural characterization of vascular and cardiac remodeling in dilated, ischemic and diabetic cardiomyopathies

• Study of the mechanisms underlying the relation between altered intracellular lipid metabolism and extracellular matrix disturbances in the context of atherosclerosis and heart failure in translational in vivo models
• Identification of the biophysical, molecular and structural changes of cardiac remodeling associated with dilated cardiomyopathy and ischemic cardiomyopathy in translational in vivo models and patients.

Identification of new connecting axes of cardiac and hepatic functionality and their consequences in the regulation of metabolism

• Study of the relationship between cardiac ANP-dependent natriuretic fatty acid oxidation activity in the liver, energy homeostasis, and metabolism.
• Study of the effects of intramyocardial levels of esterified cholesterol in cardiac insulin resistance

Identification of new biomarkers (omic, protein and biophysical) of subclinical arteriosclerosis, epicardial fat spread and myocardial steatosis

• Study of the diagnostic and prognostic value of the soluble form of the LRP1 receptor (sLRP1) in subclinical atherosclerosis, and epicardial fat in diabetic patients
• Identification of microRNAs (miRNAs), lncRNAs (long non-coding RNAs) and circular RNAs as new biomarkers of arteriosclerosis, myocardial steatosis, cardiac remodeling, and as potential predictors of response to treatment in patients with type 2 diabetes and dilated cardiomyopathy

Technological assets

• Polyclonal Anti-P3 (LRP1) antibodies
• A family of optimized peptides with anti-ApoB100 (LDL) aggregation properties

Unique in vivo models developed in the group

• P3-immunized hypercholesterolemic rabbits raising policlonal anti-P3 Abs
• A mouse model with conditional Lrp1 deficiency in cardiomyocytes (TNT-iCre+-RP1flox/flox).
• Humanized ApoB LDLR KO murine model
• Humanized ApoB PDAC LDLR KO murine model

SCIENTIFIC CHALLENGES

To develop new therapeutic tools targeting intracellular cholesteryl ester accumulation in vascular, cardiac, and tumour cells to improve the treatment of patients with cardiovascular and metabolic alterations

To identify new circulating biomarkers of cardiovascular and metabolic risk to improve the diagnosis and prognosis of cardiovascular and metabolic diseases

COLLABORATIONS

- OTHER IIB SANT PAU RESEARCH GROUPS

Pathophysiology of lipid-related disease (Cardiovascular Diseases)

• Development of a new humanized ApoB100 transgenic mice model

• Characterization of lipoprotein profiles in different in vivo models and patients

• Impact of new developed anti-atherosclerotic tools in reverse cholesterol transport

Cardiovascular biochemistry (Cardiovascular Diseases)

• Identification of new circulating biomarkers in type 2 diabetic patients

• Study of the role of the receptor LRP1 on the pro-inflammatory effects of electronegative LDL

Cerebrovascular diseases (Neurological Diseases, Neuroscience and Mental Health)

• Evaluation of the performance of soluble low-density lipoprotein receptor-related protein 1 (sLRP1) as an indicator of carotid plaque inflammation

Gynecologic and peritoneal oncology (Oncohematologic Diseases)

• Fluorescent labeled Peptide biodistribution in in vivo models

• Development of new models of cancer integrating dyslipidemia

Inflammatory diseases (Translational Medicine)

• Evaluation of the levels of soluble low-density lipoprotein receptor-related protein 1 (sLRP1) in COVID patients

Clinical and Translational Cardiology (Cardiovascular DIseases)

• Characterization of cardiac remodeling in translational in vivo models of dilated cardiomyopathy

EXTERNAL COLLABORATIONS

Professor Valerie Samouillan. Paul Sabatier University, Tolouse, France

Professor Gustavo Chiabrando. National University of Cordoba, Argentina

Professor Carlos Enrich. Unit of Cell Biology, Department of Biomedicine, Faculty of Medicine, University of Barcelona

Dra. Laura Herrero. Associate professor. B.Sc. Chemistry. University of Barcelona

Professor Jose Carlos Fernández-Checa. Profesor de Investigación - IIBB-CSIC. Barcelona

ACTIVE GRANTS

• Llorente Cortes, Concepcion Vicenta. Translational Molecular Imaging for Detection of Cholesterol Entrapment in the Vasculature with 68Ga-labeled LRP1-derived Peptides (PlaqueCHOL). BBVA 2019. Fundación BBVA. Duration: 2020-2023. 125.000,70 €

• Llorente Cortes, Concepcion 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)

GRANTS AWARDED

• Llorente Cortes, Concepcion Vicenta. The role of ABCB10 posttranslational modifications in cardiovascular disease. Proyectos BBQ-CSIC 2022. Duration: 2022-2023. 10.000,00 €. (IIBB-CSIC)

• Garcia Rodriguez, Jesus Eduardo. Convocatoria de becas y ayudas para la formación de doctores del programa nacional de formación de profesorado universitario 2020. FPU21/01173. Ministerio de Educación, Cultura y Deporte (MECD). Duration: 2022-2026. 77.389,26 €

DOCTORAL THESES

• Benítez Amaro, Aleyda. New therapeutic approaches to modulate metabolic alterations in the cardiovascular system. In vivo studies. 22/12/2022. Universitat de Barcelona. Supervisors: Llorente Cortés, Concepción Vicenta; Zorzano Olarte, Antonio. http://hdl.handle.net/10803/687492.

SCIENTIFIC PRODUCTION

• Benitez A, Martinez N, Manero N, Claudi L, Lhoest MTL, Soler M, Ros L, Navarro P, Llorente V. Peptides against Low Density Lipoprotein (LDL) Aggregation Inhibit Intracellular Cholesteryl Ester Loading and Proliferation of Pancreatic Tumor Cells. *CANCERS.* 2022; 14(4):890. DOI:10.3390/cancers14040890. PMID:35205638. IF:6,575 (Q1/3D). Document type: Article.

• Dato VA, Benitez A, Garcia E, Claudi L, Lhoest MTL, Iborra A, Guerra JM, Escola JC, Samouillan V, Enrich C, Chiabrando G, Llorente V. Targeting cholesteryl ester accumulation in the heart improves cardiac insulin response.
BIOMEDICINE & PHARMACOTHERAPY. 2022; 152:113270. DOI:10.1016/j.biopha.2022.113270. PMID:35709652. IF:7,419 (Q1/1D). Document type: Article.

SCIENTIFIC DISSEMINATION

Participation by invitation in scientific conferences and talks:

• METABOLIC SYNDROME AND ATHEROTHROMBOSIS: "NEW ACTORS AND TARGETS FOR INTERVENTION_LRP1-based immunotherapy as an effective strategy to inhibit metabolic alterations in the cardiovascular system." Congress of the Spanish Society of Cardiology. Las Palmas (Spain), 10/21/2022. Spanish Society of Cardiology.

• MOLECULAR BASIS OF ARTERIOSCLEROSIS: "New therapeutic strategies based on the proatherogenic role of the LRP1 receptor." XXXIV Congress of the Spanish Arteriosclerosis Society. Madrid (Spain), 06/08/2022-06/10/2022. Spanish Society of Arteriosclerosis. Conference Corresponding author.

• LIPID SIGNALING AND OXIDATIVE STRESS IN PATHOLOGY SYMPOSIUM: Targeting intracellular cholesterol ester accumulation in cardiomyocytes as a potential therapeutic strategy to improve cardiac insulin resistance. Symposium. Barcelona 1,2 Institutional Delegation of CSIC in Barcelona.

Outreach activities to society:

• Talk at Institut Escola Jacint Verdaguer. "Lipoproteïnes i Salut Cardiovascular". Sant Sadurní d'Anoia, Barcelona, March 2022

GENOMICS OF COMPLEX DISEASES



Group leader
Soria Fernandez, Jose Manuel (IR)

Researchers
Aloy Ortiz, Carme (Hospital Dos De Mayo)
Camacho Perez, Maria Mercedes (IR)
Diez Ahijado, Laia (IR)
Dilme Muñoz, Jaume Felix (FGS)
Escudero Rodriguez, Jose Roman (FGS)
Fite Matamoros, Joan (FGS)
Le , Ngoc Quynh (IR)
Lloret Cano, Maria Dolores (Hospital Dos De Mayo)
Lobato Delgado, Barbara (IR)
Romero Carro, Josep Maria (FGS)
Sabater Lleal, Maria (IR)
Soto Carricas, Begoña Dolores (FGS)
Temprano Sagrera, Gerard (IR)

Research technicians
Alcolea Ruiz, Sonia (IR)
Borras Orobitg, Andrea Adriana (IR)
Cardenas Yebra, Antonio (IR)
Martinez Perez, Angel (IR)
Vega Mendez, Anton (IR)

DESCRIPTION

Our group is focus 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 biologycal 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.
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.

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS:
Thrombosis and Haemostasis, Dr. JC. Souto: GAIT, MIRTO, RETROVE Projects.
Stroke Pharmacogenomics and Genetics, IR Sant Pau. Dr. I. Fernandez Cadenas
Clinical Hematology, Dr. J. Sierra: MIRTO Project.

Otorhinolaryngology. Dr. M Quer and Dr. X Leon. Prediction of response to head and neck cancer.
Regulatory Mechanisms of Cardiovascular Remodeling. Dra. C. Rodriguez. and Dra. M. Galán
Participation in CIBERCV, CIBER of Cardiovascular Diseases. Dr. J. Gonzalez
Clinical Pharmacology, Dra. M.A. Mangues, M. Gomis: Cancer and Thrombosis Projects.
Pathophysiology of lipid-related disease Group. Dr. JC Escolá.
Endocrinology, Diabetes and Nutrition: Dr. J Julve
Cardiovascular biochemistry: Dr JL Sánchez, Dra S Benítez
Clinical Pharmacology, Dra. M.A. Mangues, M. Gomis: Cancer and Thrombosis Projects.
Caracterización del perfil transcriptómico de los linfocitos T utilizados en procedimiento de obtención de CAR-T Cells. Dr. J Briones (Hematologia Clinica)

• EXTERNAL COLLABORATIONS

(CHARGE) Consortium (US). Paul de Vries, Nicholas L Smith. The Cohorts for Heart and Aging Research in Genomic Epidemiology. Hemostasis Working Group. Co-convener: Maria Sabater-Lleal.
INVENT Consortium (Venous Thrombosis). Member: Maria Sabater-Lleal
AAAgen Consortium (Abdominal Aortic Aneurysm). Member: Maria Sabater-Lleal
GIANT Consortium (Anthropometric factors). Participation: Maria Sabater-Lleal
GLGC Consortium (Global Lipids). Participation: Maria Sabater-Lleal
Clinical Oncology Department, Hospital Gregorio Marañón, Madrid. Dr. A. Muñoz: ONCOTHROMB, AIRTOP Projects.
ONCOTHROMB Project a collaboration with Clinical Department of Hematology and Hemostasis. University of Wien, Austria. Dra. Ingrid Pabinger. IP: Dr. José Manuel Soria
SHERPA Project a collaboration with Hospital Clinic de Barcelona. Neumology Service Dr. O. Sibila. IP: José Manuel Soria
CEGEN. Dr Angel Carracedo, Dra. Inés Quintela. Instituto de Salud Carlos III (Madrid, ES). SCOURGE_COVID19 (COV20_0622). IP Sant Pau: José Manuel Soria
ISCIII Data Science IMP/00019. Precision Medicine Program (IMPaCT). Instituto de Salud Carlos III (Madrid, ES). IP Sant Pau: José Manuel Soria
Development and validation of a new technology of transcriptomics data analysis based on AI to optimize monitoring and personalized treatment of patients with overweight and obesity Public-Private collaboration Projects. CPP2021-008423. Collaboration with Nutritional Department of Universitat de Barcelona (Dra. A Izquierdo). IP: José Manuel Soria.
HLA COVID19 Consortium School of Medicine, Stanford University. IP Sant Pau: José Manuel Soria

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: 2021-2023. 145.200,00 €
- Lobato Delgado, Barbara. Contractes predoctorals PFIS 2021. FI21/00197. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2025. 89.900,00 €
- Sabater Lleal, Maria. Contractes d'Investigadors "Miguel Servet tipo I" 2017. CP17/00142. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2023. 202.500,00 €
- 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 €
- Soria Fernandez, Jose 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 €
- Temprano Sagrera, Gerard. Nuevo enfoque ómico para predecir el crecimiento y la rotura del anurisma aórtico abdominal. SLT017/20/000100. Departament de Salut Generalitat de Catalunya. Duration: 2021-2023. 90.579,14 €
- IP: Angel Carracedo. CoIP: JM Soria. SCOURGE_COVID19. Subproject_19_ Risk prediction of induced coagulopathy by Sepsis in COVID19 patients. (PRECIS_COVID19). COV20_0622. Competitive Project. (COV20_0622). ISCIII. Duration: 2020-2022. 597.000,00 €.
- IP: JC Souto. CoIP: JM Soria. CORONA. Anticoagulant therapies effects in hospitalized patients by Covid 19. Clinical Trial. Study of thrombotic and hemorrhage complications, requirements of ICU and mortality. IIBSP-COV-2020-24. Duration: 2020-2024.
- IP Sant Pau: JM Soria. Identification of plasma markers for risk stratification of COVID-19 patients in acute phase and for prognosis after infection. RS 2020-0346. Competitive project Application for HMT project funding 2021. Stockholm County Council. Duration: 2021-2023.
- IP: JM Soria. SHERPA_Everest'2017. SHERPA_Everest Project. Exposition to extreme environmental hypoxia and its effects on the inflammatory and cardiopulmonary response: Biological, genetic and clinical impact. LCF/PR/PR17/11120004. Competitive Project.. Funding entity: FUNDACIO Obra Social La Caixa. Duration: 2020-2022. 100.000,0 €.
- IP: JM Soria. Trombosis y Cáncer. Proyecto MIRTO (Modeling the Individual Risk of Thrombosis in Oncology. Non competitive project. Fundación ActivaTT por la Salud. Duration: 2019-2023. 40.000,00 €
- IP: JM Soria. Line of development. Thrombosi's genetic diagnosis. Non competitive project. GenIncode. Duration: 2017-2023. 60.000,00 €
- IP: JM Soria. CoIP: J Souto, M Sabater, M. Camacho. Thrombo_COVID 19. Non competitive project. Laboratorios ROVI. Beginning date: 2021. Final date: 2023. 80.000,00 €.

GRANTS AWARDED

- 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 €
- Sabater Lleal, Maria. Contratos Miguel Servet II 2022. CPII22/00007. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 101.250,00 €
- Soria Fernandez, Jose 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 Fernandez, Jose 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 €
- Soria Fernandez, Jose 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 €
- IP: José Manuel Soria. 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. NEOTEC: SNEO-20221005. (competitive) 2022-2024. 250.000,00 €
- IP: José Manuel Soria. Antitumoral treatment and VTE risk. GenIncode. 2022- 2024 (non-competitive). 165.000,00 €
- IP: José Manuel Soria. Thromboembolismo venoso en Oncologia. ActivaTT por la Salud. 2022-2024 (non-competitive). 40.000,00 €
- IP: Mercedes Salgado, Andrés Muñoz, José Manuel Soria. PRophylaxis of venous thromboembolic disease with LMWH in patients with metastatic COLorectal cáncer who start the first line of threatment (PRoTINCOL). GIT-PRo-2022-02. 2022-2025. Leo-Pharma
- IPs: José Antonio Páramo, José Manuel Soria. Evaluación clínico-genética de la REcurrencia de la TROMBosis (RETROMB). 2022-2026. Gen InCode
- IPs: Luis Jara-Palomares, Pedro Ruiz-Artacho. IP Sant Pau y Coordinador Omics WP: José Manuel Soria. Validating of RIETE score for identifying patients with unprovoked VTE who are at an increased risk of cancer at follow-up. Multinational prospective cohort study. 2022-2025.
- IP: Jess Lindholdt. CoIP: Maria Sabater-Lleal. Personalised Risk Estimation and Prevention Of Cardiovascular Disease (PREPARE). 1061-00073ª. Danish Innovation Funding. Duration: 2022-2024. 2.679.660,00€.
- IP: Dr Josep Cladera y Dr Ramón Barnadas. CoIP: Mercedes Camacho. Lipidical nanosystems for biomedical uses. MCIN 860 PID2021-1236820B-I00. Ministerio Ciencia, Innovación y Universidades (SP). Duration: 2022-2025. 157.300,00 €.
- IP: Ramón Barnadas Rodríguez. CoIP: Mercedes Camacho. Assessment of the effect of the polar head on the surface of TCOL10 metallosomes on their cellular uptake. CELLS - ALBA Synchrotron 2022085926. CELLS - ALBA Synchrotron .Beginning date: 2022.

DOCTORAL THESES

- Romero Carro, José María. Bases genéticas de la enfermedad venosa crónica. 01/07/2022. Universitat Autònoma de Barcelona. Supervisors: Soria Fernández, José Manuel; Bellmunt Montoya, Sergi; Souto, Juan Carlos. http://hdl.handle.net/10803/675449.

AWARDS

- José Manuel Soria Fernández. EXHEUS: Gene expression analysis for optimizing your health status. Concession date: 2022. Entity that awards the prize: US National Academy of Medicine. Healthy Longevity. Competition Sponsor: EIT Health of the European Union.
- José Manuel Soria Fernández. Joan Roget Award to knowledge transfer: EXHEUS. Concession date: 13/12/2022. Entity that awards the prize: Fundació catalana de la Recerca i la Innovació. Generalitat de Catalunya. 5.000 €
- José Manuel Soria Fernández. EIT Health Bridgehead. Expression in Health for Us. 2022
- José Manuel Soria Fernández. Barcelona Deep Tech Finalist: Leading event aimed to connect Deep Tech startups with corporates with technological needs. 2022
- José Manuel Soria Fernández. Ship2B Impact Award a la mejor Start-up en Salud (Exheus). 2022
- José Manuel Soria Fernández. ESADE Choice Award in the FY4N of the Barcelona Mobile Congress. 2022

SCIENTIFIC PRODUCTION

- Bague S, Leon X, Terra X, Lejeune M, Camacho M, Aviles FX. Prognostic capacity of the transcriptional expression of lactate dehydrogenase A in patients with head and neck squamous cell carcinoma. *HEAD AND NECK-JOURNAL FOR THE SCIENCES AND SPECIALTIES OF THE HEAD AND NECK*. 2022; 44(11). DOI:10.1002/hed.27161. PMID:36207788. IF:3,821 (Q1/2D). Document type: Article.
- Camacho M, Leon X, Pujol A, Montezuma L, Quer M, Garcia J. Prognostic value of transcriptional expression of fibronectin type III domain-containing 4 (FNDC4) in head and neck carcinoma patients treated with chemoradiotherapy. *CLINICAL & TRANSLATIONAL ONCOLOGY*. 2022; 24(11). DOI:10.1007/s12094-022-02870-3. PMID:35752749. IF:3,340 (Q3/7D). Document type: Article.
- Canyelles M, Plaza M, Rotllan N, Llobet D, Julve J, Mojal S, Diaz M, Soria JM, Escola JC, Tondo M, Blanco F, Souto JC. TMAO and Gut Microbial-Derived Metabolites TML and gamma BB Are Not Associated with Thrombotic Risk in Patients with Venous Thromboembolism. *JOURNAL OF CLINICAL MEDICINE*. 2022; 11(5):1425. DOI:10.3390/jcm11051425. PMID:35268516. IF:4,964 (Q2/4D). Document type: Article.
- Corrochano M, Acosta R, Mojal S, Miqueleiz S, Rodriguez D, Quijada MA, Fraga E, Castillo M, Amaro K, Albiol N, Soria JM, Antonijoan RM, Souto JC. Impact of pre-admission antithrombotic therapy on disease severity and mortality in patients hospitalized for COVID-19. *JOURNAL OF THROMBOSIS AND THROMBOLYSIS*. 2022; 53(1). DOI:10.1007/s11239-021-02507-2. PMID:34138399. IF:5,221 (Q2/3D). Document type: Article.
- Cruz R, Díaz S, López de Heredia M, Quintela I, Ceballos FC, Lorenzo GM, Gonzalez R, Gago M, Porras MS, Castano J, Nevado J, Aguado JM, Aguilar C, Aguilera S, Almadana V, Almoguera B, Alvarez N, Andreu A, Arana E, Arango C, Arranz MJ, Artiga MJ, Baptista RC, Barreda M, Belhassen M, Bezerra JF, Bezerra M, Boix L, Brion M, Brugada R, Bustos M, Calderon EJ, et al. [Martínez-Pérez A, Soria JM, Souto JC, Fernández-Cadenas I]. Novel genes and sex differences in COVID-19 severity. *HUMAN MOLECULAR GENETICS*. 2022; 31(22). DOI:10.1093/hmg/ddac132. PMID:35708486. IF:5,121 (Q1/3D). Document type: Article.
- Garcia LS, Munoz JFD. Steerable sheath for cannulation of target visceral vessels in complex endoprosthesis. *ANGIOLOGIA*. 2022; 74(5). DOI:10.20960/angiologia.00401. Document type: Article.
- Kanoni S, Graham SE, Wang Y, Surakka I, Ramdas S, Clarke SL, Bhatti KF, Vedantam S, Winkler TW, Locke AE, Marouli E, Zajac GJM, Wu K-HH, Ntalla I, Hui Q, Klarin D, Hilliard AT, Xue C, Thorleifsson G, Helgadottir A, Gudbjartsson DF, Holm H, Olafsson I, Hwang MY, Han S, Akiyama M, Sakaue S, Terao C, Kanai M, Zhou W, Brumpton BM, Rasheed H, Havulinna AS, et al. [Sabater-Lleal M]. Implicating genes, pleiotropy, and sexual dimorphism at

blood lipid loci through multi-ancestry meta-analysis. *GENOME BIOLOGY*. 2022; 23(1):268. DOI:10.1186/s13059-022-02837-1. PMID:36575460. IF:10,288 (Q1/1D). Document type: Article.

- Leon X, Garcia J, Pujol A, de Juan J, Vasquez R, Quer M, Camacho M. Relationship between the transcriptional expression of PIM1 and local control in patients with head and neck squamous cell carcinomas treated with radiotherapy. *EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY*. 2022; 279(7). DOI:10.1007/s00405-021-07223-4. PMID:34993612. IF:3,236 (Q2/3D). Document type: Article.
- Lobato B, Priego B, Sanchez D. Combining Molecular, Imaging, and Clinical Data Analysis for Predicting Cancer Prognosis. *CANCERS*. 2022; 14(13):3215. DOI:10.3390/cancers14133215. PMID:35804988. IF:6,575 (Q1/3D). Document type: Review.
- Lopez S, Martinez A, Rodriguez A, Vinuela A, Brown AA, Martin L, Vilalta N, Arus M, Panousis NI, Buil A, Sabater-Lleal M, Souto JC, Dermitzakis ET, Soria JM. Integrated GWAS and Gene Expression Suggest ORM1 as a Potential Regulator of Plasma Levels of Cell-Free DNA and Thrombosis Risk. *THROMBOSIS AND HAEMOSTASIS*. 2022; 122(06). DOI:10.1055/s-0041-1742169. PMID:35272364. IF:6,681 (Q1/2D). Document type: Article.
- Marín-García M, Benseny-Cases N, Camacho M, Barnadas-Rodríguez R. Chapter 11: Metallosurfactants as Carbon Monoxide-Releasing Molecules. In: Surinder M, Ravneet K (Eds). Metallosurfactants: From Fundamentals to Catalytic and Biomedical Applications. Wiley, 2022. pp.195-222. DOI:10.1002/9783527831289.ch11. ISBN:9783527348688. Document Type: Book chapter.
- Meler C, Aviles FX, Vilaseca I, Terra X, Bragado P, Fuster G, Vintro XL, Camacho M. Semaphorin-3F/Neuropilin-2 Transcriptional Expression as a Predictive Biomarker of Occult Lymph Node Metastases in HNSCC. *CANCERS*. 2022; 14(9):2259. DOI:10.3390/cancers14092259. PMID:35565388. IF:6,575 (Q1/3D). Document type: Article.
- Puig N, Camps P, Camacho M, Aguilera A, Jimenez F, Fernandez A, Marin R, Marti J, Sanchez JL, Jimenez E, Benitez S. Plasma sICAM-1 as a Biomarker of Carotid Plaque Inflammation in Patients with a Recent Ischemic Stroke. *TRANSLATIONAL STROKE RESEARCH*. 2022; 13(5). DOI:10.1007/s12975-022-01002-x. PMID:35237947. IF:6,800 (Q1/2D). Document type: Article.
- Ramdas S, Judd J, Graham SE, Kanoni S, Wang YX, Surakka I, Wenz B, Clarke SL, Chesi A, Wells A, Bhatti KF, Vedantam S, Winkler TW, Locke AE, Marouli E, Zajac GJM, Wu KHH, Ntalla I, Hui Q, Klarin D, Hilliard AT, Wang ZY, Xue C, Thorleifsson G, Helgadottir A, Gudbjartsson DF, Holm H, Olafsson I, Hwang MY, Han S, Akiyama M, Sakaue S, Terao C, Kanai M, Zhou W, et al. [Sabater-Lleal M]. A multi-layer functional genomic analysis to understand noncoding genetic variation in lipids. *AMERICAN JOURNAL OF HUMAN GENETICS*. 2022; 109(8). DOI:10.1016/j.ajhg.2022.06.012. PMID:35931049. IF:11,043 (Q1/1D). Document type: Article.
- Soria JM, Mojal S, Martinez A, Acosta FR, López S, Miqueleiz S, Rodriguez D, Quijada MA, Cardenas A, Vidal F, Remacha A, Antonijoan RM, Souto JC. A validated clinical-genetic score for assessing the risk of thrombosis in patients with COVID-19 receiving thromboprophylaxis. *HAEMATOLOGICA*. 2022; 107(9). DOI:10.3324/haematol.2022.281068. PMID:35545920. IF:11,047 (Q1/2D). Document type: Article.
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- Temprano G, Sitlani CM, Bone WP, Martin M, Voight BF, Morrison AC, Damrauer SM, de Vries PS, Smith NL, Sabater-Lleal M. Multi-phenotype analyses of hemostatic traits with cardiovascular events reveal novel genetic associations. *JOURNAL OF THROMBOSIS AND HAEMOSTASIS*. 2022; 20(6). DOI:10.1111/jth.15698. PMID:35285134. IF:16,036 (Q1/1D). Document type: Article.
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- Vitiello G, Soto B, Martínez MC, Targarona E. Resection of the aortic bifurcation in the treatment of locally recurrent colorectal cancer. *CIRUGIA ESPANOLA*. 2022; 100(3). DOI:10.1016/j.ciresp.2020.12.009. PMID:33468362. IF:2,242 (Q3/6D). Document type: Letter.
- Yengo L, Vedantam S, Marouli E, Sidorenko J, Bartell E, Sakaue S, Graff M, Eliasen AU, Jiang YX, Raghavan S, Miao JK, Arias JD, Graham SE, Mukamel RE, Spracklen CN, Yin XY, Chen SH, Ferreira T, Highland HH, Ji YJ, Karaderi T, Lin K, Lull K, Malden DE, Medina C, Machado M, Moore A, Rueger S, Sim X, Vrieze S, Ahluwalia TS, Akiyama M, Allison MA, Alvarez M, et al. [Sabater-Lleal M]. A saturated map of common genetic variants associated with human height. *NATURE*. 2022; 610(7933). DOI:10.1038/s41586-022-05275-y. PMID:36224396. IF:69,504 (Q1/1D). Document type: Article.

SCIENTIFIC DISSEMINATION

Conferences and scientific symposia organised:

- Personalized Medicine Forum (Fundació ActivaTT per la Salut – Foment del Treball – Fundació Grifols). 22/06/2022. Organizing committee: José Manuel Soria Fernández

Participation by invitation in scientific conferences and talks:

- "Molecular Medicine - Cardiometabolic and Infectious diseases". Karolinska Institutet. Stockholm, 2022. International. Invited Lecturer at the master's program: Maria Sabater-Lleal.
- "Entrepreneurship in the field of health: Personalized Medicine as an example". Escola Poble Nou, 08/03/2022. National. Invited Lecturer: José Manuel Soria.
- "New VTE risk biomarkers in cancer". ROVI Master Lesson VIII Venous Thromboembolism Forum. Madrid, 04/03/2022. National. Invited Lecturer: José Manuel Soria.
- "Modelling the risk of venous thromboembolism in different clinical situations". Round Table Congress of the Spanish Phlebology Chapter. Burgos, 01/04/2022. National. Invited Lecturer: José Manuel Soria.
- "Personalized and Predictive Medicine in venous thromboembolic disease. Multidisciplinary Clinical Session". Hospital Gómez Ulla, Madrid, 20/04/2022. National. Invited Lecturer: José Manuel Soria.

- "Genomics in the XXI century". Inaugural Session Master of Bioengineering of the UPC. 25/04/2022. National. Invited Lecturer: José Manuel Soria.
- Multifactorial Diseases: Basic concepts, models and tools for the genetic analysis of complex diseases ". 10/05/2022. Master of Assistance Genetics. National. Invited Lecturer: José Manuel Soria.
- Clinical application of biomarkers: predictive models. VTE Safety ZONE. Sanofi, Madrid, 17/06/2022. National. Invited Lecturer: José Manuel Soria.
- Personalized Medicine: modelling the risk of thrombosis in different clinical situations. Clinical session at Hospital Josep Trueta, Girona, 29/06/2022. National. Invited Lecturer: José Manuel Soria.
- Transcriptomics: what your genes can do for your health. Health days. Murcia, 24/09/2022. National. Invited Lecturer: José Manuel Soria.
- "Transcriptomics: beyond genomics". XX International Congress of Anti-aging Medicine. 01/10/2022. International. Invited Lecturer: José Manuel Soria.
- Inaugural Lecture: "Molecular bases of complex maladies". MASTER'S DEGREE IN BIOCHEMISTRY, MOLECULAR BIOLOGY AND BIOMEDICINE. Universitat Autònoma de Barcelona. 02/11/2022. National. Invited Lecturer: José Manuel Soria.
- " Thrombosis Alert. Hackaton UPC – Xartec Salut. 16/12/2022. National. Invited Lecturer: José Manuel Soria.

Outreach activities to society:

- "Genetics to study complex diseases". Isaac Albéniz High School, IIB Sant Pau. Badalona, 18/11/2022. Highschool students. National arena (Scientific disclosure day). Speaker: Maria Sabater-Lleal.
- "What does genomics say to understand cardiovascular diseases? How we can study the genetic risk to suffer these diseases?". IIB Sant Pau, Guinardó Community Centre. Barcelona, 12/01/2022. Civil society. National arena (Seminar). Speaker: Maria Sabater-Lleal.
- "Personalized Medicine. Biomedical Innovation at XXI Century". Foment del Treball, Fundación Victor Grifols, Activatt, Generalitat de Catalunya. Barcelona, 22/06/2022. Civil Society. National area. Speaker: José Manuel Soria Fernández.
- Participation in the elaboration of the digital disclosure content in video format: "Future of biomedical research on thrombosis", "Thrombosis' risk predictive models", "Thrombosis and COVID-19", "Thrombosis risk factors", "Thrombosis and cancer". Pharmaceutical Sanofi and Thrombosis TV. Citizens. Participant: José Manuel Soria Fernández.

REGULATORY MECHANISMS OF CARDIOVASCULAR REMODELING



Group leader
Rodriguez Sinovas, Cristina (IR)

Researchers
Almendra Pegueros, Rafael Antonio (IR)
Alonso Nieto, Judith (CIBERCV)
Ballester Servera, Carme (CSIC)
Cristobal Valero, Helena (CIBERCV)
Galan Arroyo, Maria (IR)
Martinez Gonzalez, Jose (CSIC)
Puertas Umbert, Lidia (IR)
Zamarreño Pastor, Cristina (CSIC)

Research technicians
Aguilo Nuñez, Silvia (IR)
Vaquez Sufuentes, Paula (CSIC)

Internship students
Macias Herranz, Manuel (UB)
Pulli , Hanna Riini Elina (Norwegian University, Norway)

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 myocardioal infarction. Our ultimate goal is to develop tools for early diagnosis and new therapeutic strategies for these diseases

MAIN LINES OF RESEARCH

Extracellular matrix (ECM) integrating and modifying proteins in CVDs (PI: Dr. C. Rodríguez).
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).
Molecular mechanisms and biomarkers in syndromic and nonsyndromic aortopathies (PI: Dr. M. Galán)

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 peripheral artery disease and vascular dysfunction.
Analysis of the molecular mechanisms involving nuclear receptors in the control of vascular calcification.
Identification and validation of novel pharmacological tools in cardiovascular diseases.
Development and characterization of new animal models in cardiovascular diseases

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS
Dr. Manel Tauron; Cardiac Surgery Service
Dr. Leif Hove-Madsen: Coordinator of the Regulation of Cardiac Rhythm and Contraction group (IIB Sant Pau)
Dr. José Luis Sánchez Quesada: Leader of the Cardiovascular Biochemistry (IIB Sant Pau).
Dr. Juan Antonio Arroyo Díaz: Group of Multiorganic Damage (IIB Sant Pau).
Dr. Noemí Rotllan: Group of Metabolic Bases of Cardiovascular Risk (IIB Sant Pau).
Dr. Mercedes Camacho, Dr JR Escudero: Group of Genomics of Complex Diseases (IIB Sant Pau)

EXTERNAL COLLABORATIONS

Dr. Francisco Vidal and Dr. Irene Corrales Insa (Banc de Sang i Teixits, Barcelona, members of our CIBERCV and SGR groups).
Dr. Roxana Carare (University of Southampton).

Dr. Thomas Braun (Max Planck Institute for Heart and Lung Research, Bad Nauheim, Germany).
Dr. Modar Kassan (University of Tennesse, USA).
Dr. Ziad Mallat, MD, PhD and Dra Meritxell Nus (University of Cambridge).
Dr. Vicente Andrés (Centro Nacional de Investigaciones Cardiovasculares, CNIC, Madrid).
Dr. Pablo García de Frutos (Instituto de Investigaciones Biomédicas de Barcelona, CSIC).
Dr. Francesc Jiménez Altayo (UAB).
Dr. A Rodríguez-Sinovas (Hospital del Valle Hebrón).
Dr. Marc Sirvent González (Hospital Germans Tries i Pujol)
Dr. Joan Carles Laguna Egea (Facultat de Farmàcia, UB)
Dr. Mercedes Salaices-Dra Ana Briones (Universidad Autónoma de Madrid; UAM)
Dr. Victoria Cachofeiro (Universidad Complutense de Madrid, UCM)
Dr. Pilar Martín (Centro Nacional de Investigaciones Cardiovasculares, CNIC, Madrid).
Dr. Francisco Sánchez Madrid (Director of Instituto de Investigación Sanitaria Hospital Universitario de La Princesa, Madrid).
Dr. María G Barderas (Hospital de Paraplégicos de Tolédo).
Dr. Sánchez-Infantes (Universidad Rey Juan Carlos, Madrid). • Dra Gema Ruiz Hurtado (Hospital 12 de Octubre, Madrid).
Dr. Gustavo Egea (Universidad de Barcelona; UB).
Dr. Francisco Nistal (Hospital Universitario Marqués de Valdecilla, Santander)
Dr. Dolors Serra Cucurull (Universitat de Barcelona)

ACTIVE GRANTS

- Almendra Pegueros, Rafael Antonio. Contractes predoctorals PFIS 2021. FI21/00125. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2025. 119.567,00 €
- Galan Arroyo, Maria. 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: 2021-2023. 145.200 €.
- Galan Arroyo, Maria. Contractes "Miguel Servet II" 2020. CPII20/00013 . Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 101.250,00 €.
- 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 €
- Rodriguez Sinovas, Cristina. Estrategias traslacionales basadas en la fosfodiesterasa PDE4B como nueva diana terapéutica en la enfermedad arterial periférica y el aneurisma de aorta abdominal. FEA 2020-1. Fundación Española de Arteriosclerosis. Duration: 2021-2022. 12.000,00 €
- Rodriguez 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 €
- Rodriguez Sinovas, Cristina. La fosfodiesterasa PDE4B en la enfermedad arterial periférica y el aneurisma de aorta abdominal: impacto sobre la fisiopatología y el manejo clínico. SEC 2020-2 . Societat Espanyola de Cardiologia. Duration 2020-2022. 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) (PID2021-1225090B-I00). MICIN. Duration: 2022-2025. 242.000,00 € (CSIC)
- Martinez Gonzalez, Jose. Ayuda Extraordinaria en el marco del Plan estatal de I+D+I (Referencia: 2021AEP073) . CSIC. Duration: 2021-2022. 40.000,00 € (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 Cardiol (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 €

GRANTS AWARDED

- Rodriguez 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 RODRIGUEZ PASCUAL 2022. Fundación Eugenio Rodríguez Pascual. Duration: 2023-2024. 24.990,00 €

DOCTORAL THESES

AWARDS

- Special Mention (Oral Communication): Carme Ballester Servera, Judith Alonso Nieto, Laia Cañes Esteve, Lídia Puertas Umbert, Manel Tauron Ferrer, Cristina Rodríguez Sinovas, José Martínez González. El receptor nuclear NOR-1 modula la calcificación de la íntima associada a la aterosclerosis y la calcificación valvular. XXXIV Congreso Nacional SEA. Madrid 2022
- Special Mention (Oral Communication): Lídia Puertas-Umbert, Saray Varona, Carme Ballester Servera, Judith Alonso Nieto, Mar Orriols, José Martínez González, Cristina Rodríguez Sinovas. Activación de la via WNT/BCatenina en el aneurisma de aorta abdominal impacto de la inhibicion de la Porcupina y de la CBP/BCatenina. XXXIV Congreso Nacional SEA. Madrid 2022.

SCIENTIFIC PRODUCTION

- Ballester C, Canes L, Alonso J, Puertas L, Tauron M, Rodriguez C, Martinez J. Nuclear receptor NOR-1 (Neuron-derived Orphan Receptor-1) in pathological vascular remodelling and vascular remodelling. *CLINICA E INVESTIGACION EN ARTERIOSCLEROSIS*. 2022; 34(4). DOI:10.1016/j.arteri.2022.03.002. PMID:35581107. Document type: Review.
- Ballesteros C, Rodrigues R, Beltran LM, Moreno R, Martinez E, Gonzalez M, Martinez J, Rodriguez C, Cachofeiro V, Salaices M, Briones AM. Microsomal prostaglandin E synthase-1 is involved in the metabolic and cardiovascular alterations associated with obesity. *BRITISH JOURNAL OF PHARMACOLOGY*. 2022; 179(11). DOI:10.1111/bph.15776. PMID:34877656. IF:9,473 (Q1/1D). Document type: Article. Document type: Article.
- Blanco R, de la Fuente H, Rodriguez C, Martin L, Sanchez R, Jimenez R, Rodriguez I, Curtabbi A, Garcia MM, Vera A, Rivero F, Cuesta J, Jimenez LJ, Cecconi A, Duran A, Tauron M, Alonso J, Bueno H, Villalba M, Enriquez JA, Robson SC, Alfonso F, Sanchez F, Martinez J, Martin P. CD69 expression on regulatory T cells protects from immune damage after myocardial infarction. *JOURNAL OF CLINICAL INVESTIGATION*. 2022; 132(21):e152418.

DOI:10.1172/JCI152418. PMID:36066993. IF:19,456 (Q1/1D). Document type: Article.

- González M, García AB, Jorge I, Zalba G, Becares M, Ruiz MJ, Rodríguez C, Bermeo H, Rodrigues R, Rios FJ, Montezano AC, Martínez J, Vázquez J, Redondo JM, Touyz RM, Guerra S, Salaices M, Briones AM. Interferon stimulated gene 15 pathway is a novel mediator of endothelial dysfunction and aneurysms development in angiotensin II infused mice through increased oxidative stress. *CARDIOVASCULAR RESEARCH*. 2022; 118(16). DOI:10.1093/cvr/cvab321. PMID:34672341. IF:13,081 (Q1/1D). Document type: Article.
- Jimenez F, Marzi J, Galan M, Dantas AP, Ortega M, Rojas S, Egea G, Schenke K, Jimenez E, Planas AM. Arachnoid membrane as a source of sphingosine-1-phosphate that regulates mouse middle cerebral artery tone. *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*. 2022; 42(1):0271678X211033362. DOI:10.1177/0271678X211033362. PMID:34474613. IF:6,960 (Q1/2D). Document type: Article.
- Jimenez M, Rodriguez C, Canes L, Ballester C, Vara A, Requena S, de la Fuente H, Martinez J, Sanchez F. CD69-oxLDL ligand engagement induces Programmed Cell Death 1 (PD-1) expression in human CD4+T lymphocytes. *CELLULAR AND MOLECULAR LIFE SCIENCES*. 2022; 79(8):468. DOI:10.1007/s00018-022-04481-1. PMID:35930205. IF:9,207 (Q1/2D). Document type: Article.
- Lehmann GL, Ginsberg M, Nolan DJ, Rodriguez C, Martinez J, Zeng SM, Voigt AP, Mullins RF, Rafii S, Rodriguez E, Benedicto I. Retinal Pigment Epithelium-Secreted VEGF-A Induces Alpha-2-Macroglobulin Expression in Endothelial Cells. *CELLS*. 2022; 11(19):2975. DOI:10.3390/cells11192975. PMID:36230937. IF:7,666 (Q2/3D). Document type: Article.
- Troncoso C, Petermann F, Lozano M, Perez A, Almendra R, Fernandez T, Nava EJ, Gamero A, Camacho S, Bonillal DA, Perez E, Navarrete EM. A qualitative look at the research in the Spanish Journal of Human Nutrition and Dietetics. *REVISTA ESPANOLA DE NUTRICION HUMANA Y DIETETICA*. 2022; 26(3). DOI:10.14306/renhyd.26.3.1723. Document type: Editorial material.
- Valls L, Puertas L, Varona S, Martinez J, Rodriguez C, Rodriguez A. Human Lysyl Oxidase Over-Expression Enhances Baseline Cardiac Oxidative Stress but Does Not Aggravate ROS Generation or Infarct Size Following Myocardial Ischemia-Reperfusion. *ANTIOXIDANTS*. 2022; 11(1):75. DOI:10.3390/antiox11010075. PMID:35052579. IF:7,675 (Q1/1D). Document type: Article.
- Vila A, Ramirez C, Apolinar E, Rojas P, Valera D, Almendra R, Navarrete EM. Factors Associated with Dietary Restriction and Emotional and Uncontrolled Eating in Adults from Spanish-Speaking Countries during the COVID-19 Confinement: Results of the CoV-Eat Project. *NUTRIENTS*. 2022; 14(22):4866. DOI:10.3390/nu14224866. PMID:36432551. IF:6,706 (Q1/2D). Document type: Article.

SCIENTIFIC DISSEMINATION

Conferences and scientific symposia organised :

- "Cardiovascular Diseases: Investigating tomorrow's therapies today." Course organized by the IIBB-CSIC and the BST (18/11/2022). Course organization: **Martínez-González J.**

Participation by invitation in scientific conferences and talks:

- ECCR-2022 Meeting. Session 1: New insights into vascular pathophysiology. "Novel pharmacological approaches in abdominal aortic aneurysm: Insights from NR4A3 transgenic mice". Monastier di Treviso (Italy), 30/09/2022. Speaker: Rodríguez C.
- Research Seminar; "Remodelling of the extracellular matrix in cardiovascular disease." Universidad Complutense Madrid, 10/02/2022. Speaker: Rodríguez C.
- Seminars of the Spanish Atherosclerosis Society. Vascular Biology: "Impact of Nor-1 on atherosclerosis and vascular calcification." 27/04/2022. Speaker: Rodríguez C.
- XXXIV NATINOAL CONGRESS SEA. MADRID, 2022. Chairperson: Rodríguez C.
- XXXIV NATINOAL CONGRESS SEA. MADRID, 2022. Chairperson: Martínez-Gonzalez J.
- IIBB-CSIC Seminar: "NOR-1 nuclear receptor modulates calcification of the intima associated with atherosclerosis and valve calcification." July 2022. Speaker: Ballester C
- Catalan Society of Pharmacology Conference: "Genes involved in the remodelling of the extracellular matrix: new therapeutic targets in cardiovascular disease." 30/11/2022. Speaker: Rodríguez C.
- Impact of NOR-1 and LOX on cardiovascular remodelling. CIBERCV Course: Cardiovascular Diseases: "Investigating tomorrow's therapies today." Organized by IIBB-CSIC and the BST. 18/11/2022. Speaker: Rodríguez C.
- Joint Seminar of the doctoral health programs of the URV and the IISPV: "Novel Pharmacological approaches in abdominal aortic aneurysm: Insights from NOR-1 transgenic mice". Reus, 29/11/2022. Speaker: Rodríguez C.
- NOR-1 and LOX in atherosclerosis and cardiovascular calcification. CIBERCV Course: "Cardiovascular Diseases: Investigating tomorrow's therapies today." Organized by IIBB-CSIC and BST. 18/11/2022. Speaker: Ballester-Servera C.
- New therapeutic targets in abdominal aortic aneurysm. CIBERCV Course: "Cardiovascular Diseases: Investigating tomorrow's therapies today." Organized by IIBB-CSIC and BST. 18/11/2022. Speakers: Puertas Umbert and Alonso J.
- Search for biomarkers for thoracic aortic aneurysm. CIBERCV Course: "Cardiovascular Diseases: Investigating tomorrow's therapies today." Organized by IIBB-CSIC and BST. 18/11/2022. Speaker: Almendra R.

Outreach activities to society:

- The mouse as a tool to fight the killer of Albert Einstein. BitsxlaMaratho; Cardiovascular Hackathon. Faculty of Computer Engineering. Universitat Polotècnica de Barcelona, 16/12/2022. Outreach activity for Graduate students and the general public within the framework of the Marató TV3 2022 call. Speaker: Rodríguez C, Puertas L.
- Having a heart that does not go to the pine is not always good. BitsxlaMarato: Cardiovascular Hackathon. Faculty of Computer Engineering. Universitat Politècnica de Barcelona, 16/12/2022. Outreach activity for Graduate students and the general public within the framework of the Marató TV3 2022 call.Speaker: Rodríguez C, Ballester Servera.

PATHOPHYSIOLOGY OF LIPID-RELATED DISEASES



Group leader
Blanco Vaca, Francisco (FGS)

Researchers
Borras Querol, Carla (IR)
Canyelles Vich, Marina (IR)
Escola Gil, Juan Carlos (IR)
Illana Camara, Francisco Jose (FGS)
Julve Gil, Josep (IR)
Martin Romero, Jesus (CSIC)
Muñoz Neculman, Juan Pablo (CIBERDEM)
Revilla Senra, Giovanna (IR)
Rotllan Vila, Noemi (IR)
Tondo Colomer, Mireia (FGS)

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

Internship students
Arranz San Pedro, Cristina (UAB)
Benbouhia Chouhaibi, Nora (UAB)
Diarte Añazco, Elena Maria Goretti (UAB)
Ferre Giraldo, Adriana (UAB)
Li , Changda (UAB)
Mercer Bibiloni, Aina (UAB)
Niño-Narvion Garcia, Julia (UAB)

DESCRIPTION

The Pathophysiology of Lipid-Related Diseases Group of the Sant Pau Hospital Research Institute is an interdisciplinary and translational research team that works in the field of cardiovascular diseases related to metabolic disorders such as dyslipidemia, diabetes mellitus, obesity, dementias, or hyperhomocysteinemia, among others. The purpose of the group's different studies and lines of research is to find new targeted therapies and / or biomarkers to reduce cardiovascular risk and Alzheimer's disease in patients with these metabolic disorders, as well as improve the diagnosis and control of patients.

MAIN LINES OF RESEARCH

Lipid and lipoprotein metabolism impairments in atherosclerotic cardiovascular risk, type 2 diabetes and cancer: identification of novel predictive biomarkers and therapeutic targets

Role of new microRNAs in regulating lipoprotein metabolism and the progression on atherosclerosis and to use an innovative therapeutic approach for targeting miRNAs in vivo (Dr. Noemi Rotllan Vila)

Cell Cholesterol Trafficking, Lipoproteins and Inflammation in Patients with Alzheimer's disease: development of biomarkers (Dr. Mireia Tondo)

SCIENTIFIC CHALLENGES

Evaluation of the cholesterol efflux alterations induced from physiological-relevant cell types by HDL, obtained from plasma or cerebrospinal fluid of well-characterized patients with cardiovascular disease or Alzheimer's disease

Evaluation of the impact of remnant lipoprotein cholesterol on cardiovascular risk and type 2 diabetes development

Elucidation of the potencial role of miRNAS as a novel therapeutic target in hyperhomocysteinemia-related atherosclerosis

Identification of protumorigenic mechanisms related to cholesterol metabolism, especially in breast and thyroid cancer

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS:

Dr. Jose Luis Sánchez Quesada
Dr. C. Vicenta Llorente Cortes
Dr. Dídac Mauricio
Dr. Dani Alcolea
Dr. Joan C Souto
Dr. Cristina Rodríguez

EXTERNAL COLLABORATIONS:

Dr. J. Pedro-Botet (Endocrinology and Nutrition Department, Hospital Universitario del Mar; Institut Hospital del Mar d'Investigacions Mèdiques (IMIM), Barcelona Spain)
Dr. Miquel Hueso (Department of Nephrology, Hospital Universitari Bellvitge and Bellvitge Research Institute (IDIBELL); Nephrology and Renal Transplantation Group, Infectious Disease and Transplantation Program, Institut d'Investigació Biomèdica de Bellvitge-IDIBELL, L'Hospitalet de Llobregat, Barcelona, Spain
Dr. C. Fernández-Hernando (Yale University)
Dr. A.R Ramiro (B Lymphocyte Biology Lab, Centro Nacional de Investigaciones Cardiovasculares (CNIC), Madrid, Spain)
Dr. J. Vázquez (Centro Nacional de Investigaciones Cardiovasculares Carlos III; CIBER de Enfermedades Cardiovasculares (CIBERCV), Madrid, Spain)
Dr. A. Bayés Genís (Heart Failure Clinic and Cardiology Service, University Hospital Germans Trias i Pujol; Department of Medicine, Universitat Autonoma de Barcelona, Barcelona, Spain; CIBERCV)
Dr. JL Martín Ventura (CIBER de Enfermedades Cardiovasculares (CIBERCV), Madrid, Spain; Vascular Pathology Lab, IIS-Fundación Jiménez Díaz-Universidad Autónoma, Madrid, Spain)
Drs. Miriam Lee-Rueckert and Petri Kovanen (Wihuri Research Institute, Helsinki, Finland)
Dr. J Franch-Nadal (DAP-Cat Group, Unitat de Suport a la Recerca Barcelona, Fundació Institut Universitari per a la Recerca a l'Atenció Primària de Salut Jordi Gol i Gurina (IDIAPJGol), Barcelona, Spain; and CIBERDEM)
Dr. Montse Fitó (Cardiovascular Risk and Nutrition Research Group, Regicor Study Group, IMIM (Hospital del Mar Medical Research Institute), Barcelona, Spain; and CIBERobn)
Dr. Daniell Maspoch (ICREA, ICN2, Barcelona, Spain)
Dr. Cristina Ramírez (IMDEA Research Institute of Food and Health Sciences, Madrid, Spain)
Dr. David de Gonzalo (Translational Research in Respiratory Medicine, University Hospital Arnau de Vilanova and Santa Maria, IRBLleida, Lleida, Spain) and CIBERES)
Dr. Ignacio Fita (Instituto de Biología Molecular de Barcelona (IBMB-CSIC), Parc Científic de Barcelona, Barcelona, Spain)
Dr. Achilleas S. Frangakis (Buchmann Institute for Molecular Life Sciences and Institute of Biophysics, Goethe University Frankfurt, Frankfurt, Germany)
Dr. Vanesa Esteban Vázquez (Department of Allergy and Immunology, IIS-Fundación Jiménez Díaz, UAM)
Dr. Sonia Fernández-Veledo (Department of Endocrinology and Nutrition, Research Unit, Institut d'Investigació Sanitària Pere Virgili (IISPV), Hospital Universitari de Tarragona Joan XXIII, Tarragona, Spain)
Drs. Josep Maria Mercader and Miriam S. Udler (Broad Institute of MIT and Harvard University, Cambridge, MA)

ACTIVE GRANTS

- Blanco Vaca, Francisco. TMAO y gammaBB y su relación con la disfuncionalidad de HDL y el riesgo de enfermedad coronaria en pacientes con hipercolesterolemia familiar y diabesidad.. PI18/00164. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2022. 123.420,00 €
- Blanco Vaca, Francisco. 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 €
- Borras Querol, Carla. 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. FPU20/07440. Ministerio de Educación, Cultura y Deporte (MECD). Duration: 2021-2025. 74.156,62 €
- Canyelles Vich, Marina. Rio Hortega. CM20/00033. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2022. 53.732,00 €
- 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: 2020-2023. 111.320,00 €
- 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 dibetes tipo 2. FI19/00007. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 82.400,00 €
- Rotllan Vila, Noemi. Papel del miR-590, miR-21 y/o miR-30d como dianas terapéuticas en la arteriosclerosis relacionada con hiperhomocisteinemia. FEA 2020-2. Fundación Española de Arteriosclerosis. Duration: 2021-2022. 12.000,00 €
- 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 €
- Rotllan Vila, Noemi. Proyecto asociado al contrato Ramón y Cajal. RYC-2017-22879(P). Ministerio de Ciencia, Innovación y Universidades (MICIU). Duration: 2019-2023. 40.000,00 €

GRANTS AWARDED

- Canyelles Vich, Marina. Juan Rodés. JR22/00003. Instituto de Salud Carlos III (ISCIII) Duration: 2023-2026. 180.000,00 €
- Garcia Rodriguez, 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 €

DOCTORAL THESES

- Canyelles Vich, Marina. Trimethylamine-n-oxide (TMAO) and hdl dysfunction in patients at high cardiovascular risk. 22/04/2022.

Universitat Autonòma de Barcelona. Supervisors: Blanco Vaca, Francisco; Escolà Gil, Juan Carles; Tondo Colomer, Mireia; Blanco Vaca, Francisco. http://hdl.handle.net/10803/675845

- Diarte Añazco, Elena Maria Goretti. Efecto de FTY720/Fingolimod sobre el desarrollo de cardiomiopatía diabética e identificación de nuevos candidatos a biomarcadores derivados del metabolismo de esfingolípidos en un modelo experimental (ratones db/db). 08/11/2022. Universitat Autònoma de Barcelona. Supervisors: Julve Gil, Josep; Blanco Vaca, Francisco. http://hdl.handle.net/10803/688060.

AWARDS

- Canyelles Vich, Marina. Becas Internacionales de la Fundación José Luis Castaño-SEQC, Sociedad Española de Medicina del Laboratorio (SEQC-ML). Enero 2022. 4.500,00 €
- Canyelles Vich, Marina. Accions Mobilitat Internacional. CIBERDEM. Maig 2022. 5.000,00 €

SCIENTIFIC PRODUCTION

- Antonio V, Franch J, Moreno A, Real J, Orcau A, Mauricio D, Mata M, Julve J, Mendez EN, Treserra RP, de la Puente JB, Millet JP, Garcia JLD, Vlacho B, Cayla JA. Subjects With Diabetes Mellitus Are at Increased Risk for Developing Tuberculosis: A Cohort Study in an Inner-City District of Barcelona (Spain). *FRONTIERS IN PUBLIC HEALTH*. 2022; 10:789952. DOI:10.3389/fpubh.2022.789952. PMID:35677764. IF:6,461 (Q1/1D). Document type: Article.
- Blanco F, Rotllan N, Canyelles M, Mauricio D, Escola JC, Julve J. NAD plus -Increasing Strategies to Improve Cardiometabolic Health?. *FRONTIERS IN ENDOCRINOLOGY*. 2022; 12:815565. DOI:10.3389/fendo.2021.815565. PMID:35173682. IF:6,055 (Q1/3D). Document type: Review.
- Borras C, Mercer A, Sirisi S, Alcolea D, Escola JC, Blanco F, Tondo M. HDL-like-Mediated Cell Cholesterol Trafficking in the Central Nervous System and Alzheimer's Disease Pathogenesis. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(16):9356. DOI:10.3390/ijms23169356. PMID:36012637. IF:6,208 (Q1/3D). Document type: Review.
- Canyelles M, Perez A, Junza A, Minambres I, Yanes O, Sarda H, Rotllan N, Julve J, Sanchez JL, Tondo M, Escola JC, Blanco F. Divergent Effects of Glycemic Control and Bariatric Surgery on Circulating Concentrations of TMAO in Newly Diagnosed T2D Patients and Morbidly Obese. *DIAGNOSTICS*. 2022; 12(11):2783. DOI:10.3390/diagnostics12112783. PMID:36428843. IF:3,992 (Q2/4D). Document type: Article.
- Canyelles M, Plaza M, Rotllan N, Llobet D, Julve J, Mojal S, Diaz M, Soria JM, Escola JC, Tondo M, Blanco F, Souto JC. TMAO and Gut Microbial-Derived Metabolites TML and gamma BB Are Not Associated with Thrombotic Risk in Patients with Venous Thromboembolism. *JOURNAL OF CLINICAL MEDICINE*. 2022; 11(5):1425. DOI:10.3390/jcm11051425. PMID:35268516. IF:4,964 (Q2/4D). Document type: Article.
- Climent E, Bea AM, Benaiges D, Brea A, Pinto X, Suarez M, Perea V, Plana N, Blanco F, Pedro J. LDL Cholesterol Reduction Variability with Different Types and Doses of Statins in Monotherapy or Combined with Ezetimibe. Results from the Spanish Arteriosclerosis Society Dyslipidaemia Registry. *CARDIOVASCULAR DRUGS AND THERAPY*. 2022; 36(2). DOI:10.1007/s10557-020-07137-z. PMID:33555511. IF:3,947 (Q2/5D). Document type: Article.
- Dato VA, Benitez A, Garcia E, Claudi L, Lhoest MTL, Iborra A, Guerra JM, Escola JC, Samouillan V, Enrich C, Chiabrando G, Llorente V. Targeting cholesteryl ester accumulation in the heart improves cardiac insulin response. *BIOMEDICINE & PHARMACOTHERAPY*. 2022; 152:113270. DOI:10.1016/j.biopha.2022.113270. PMID:35709652. IF:7,419 (Q1/1D). Document type: Article.
- Delaby C, Estelles T, Zhu NU, Arranz J, Barroeta I, Carmona M, Illan I, Santos MA, Altuna M, Sala I, Sanchez MB, Videla L, Valldeneu S, Subirana A, Tondo M, Blanco F, Lehmann S, Belbin O, Blesa R, Fortea J, Lleo A, Alcolea D. The A beta 1-42/A beta 1-40 ratio in CSF is more strongly associated to tau markers and clinical progression than A beta 1-42 alone. *ALZHEIMERS RESEARCH & THERAPY*. 2022; 14(1):20. DOI:10.1186/s13195-022-00967-z. PMID:35105351. IF:8,823 (Q1/1D). Document type: Article.
- Farras M, Swann JR, Rowland I, Rubio L, Subirana I, Catalan U, Motilva MJ, Sola R, Covas MI, Blanco F, Fito M, Mayneris J. Impact of Phenol-Enriched Olive Oils on Serum Metabonome and Its Relationship with Cardiometabolic Parameters: A Randomized, Double-Blind, Cross-Over, Controlled Trial. *ANTIOXIDANTS*. 2022; 11(10):1964. DOI:10.3390/antiox11101964. PMID:36290685. IF:7,675 (Q1/1D). Document type: Article.
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SCIENTIFIC DISSEMINATION

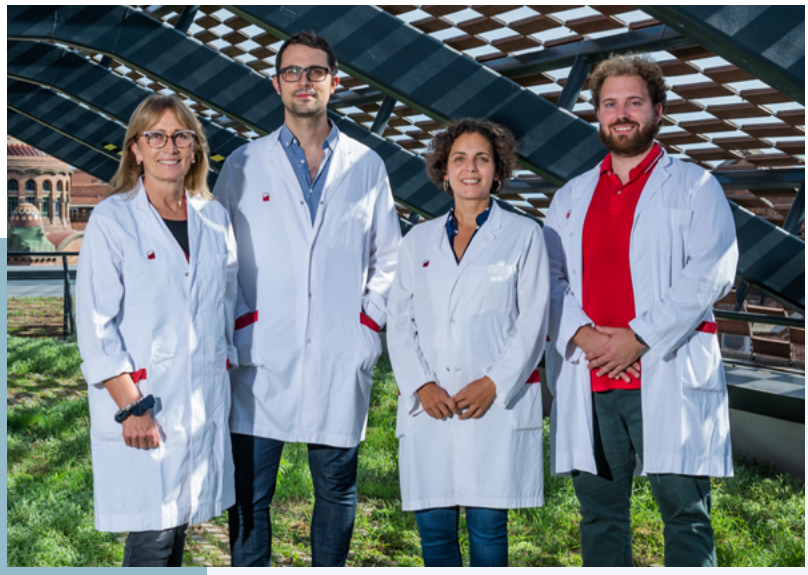
Participation by invitation in scientific conferences and talks:

- "HDL Functionality and Type 2 Diabetes: A Bystander?" XXXIII National Congress of the SED, Las Palmas, 27-29/04/2022. Round table MOLECULAR BASES OF ATHEROSCLEROSIS. Speaker: Joan Carles Escolà Gil.
- "Reverse cholesterol transport: molecular mechanisms and pathophysiological relevance." XXXIV Congress of the Spanish Arteriosclerosis Society. Madrid, 06/8-10/2022. Round table CHALLENGES IN THE TREATMENT OF DIABETES. Speaker: Joan Carles Escolà Gil.
- "Amino acid metabolism is activated under mitochondrial dynamics disturbances." BIOLOGIA Y MEDICINA REDOX RED DE INVESTIGACIÓN RED2018-102576-T, MCINN 1st Face-to-face meeting. Madrid, 9/05/2022. Speaker: Juan Pablo Muñoz.
- IX Meeting of the Spanish RNA Thematic Network, RiboRed 2022. "MiR-125b downregulates macrophage scavenger receptor type B1 and reverse cholesterol transport". International. Madrid, 26/05/2022. Oral presentation. Speaker: Noemi Rotllan.
- 9th EU-Cardiooprotection Cost Action Meeting. "MiR-125b downregulates macrophage scavenger receptor type B1 and reverse cholesterol transport". International. Coimbra (Portugal), 03/04/2022. Oral presentation (on-line). Speaker: Noemi Rotllan.
- "Antagonism of miR-148a attenuates the progression of atherosclerosis in *ApoB^{TG} Apobec-/- Ldlr+/-* mice". Oral presentation. 90th EAS Congress, Milan, Italy, 22-25/05/2022. Speaker: Noemi Rotllan.
- "Study of free tumor DNA in plasma by massive sequencing: clinical utility in a series of patients with metastatic colorectal cancer." XVI National Congress of the Clinical Laboratory. October de 2022. (2° Prize LabClin 2022). Speaker: Francisco Illana.
- "Abeta and familial hypobetalipoproteinemia: clinical, genetic and biochemical aspects." European Atherosclerosis Society (EAS) Advanced Course in Rare Lipid Disorders Endorsed by the Sociedad Española de Arteriosclerosis (SEA). Speaker: Francisco Blanco Vaca.
- "HDL: update 2022." XXXIV Congress of the Spanish Arteriosclerosis Society , Madrid, 8-10/06/2022. Speaker: Francisco Blanco Vaca.

Outreach activities to society

- Two talks: "Women and Science: a long-life experience" to students of 1st of Batxillerat in the framework of the celebration of the International Day of the Woman and Girl in Science. Institut Guindàvols, Lleida, 8-10/02/2022 (on-line). Speaker: Noemi Rotllan.
- Talk to ESO students in the frame of the ESCOLAB activities at the IIB Sant Pau. 30/04/2022. Title: "What does the scientific career consist of and what is the role of women in research". Speaker: Noemi Rotllan.
- Participation with 1 Clinical Case in the online course "Cases of Neurology" of the SEQC. Patient with Down's Syndrome with recurrent occasional confusion in the last year. Authors: Mireia Tondo and Laura Videla. Course 2021/2022.

CLINICAL RESEARCH IN TRANSFUSION MEDICINE



Group leader
Salinas Argente, Ramon (BST)

Researchers
Bosch Llobet, M. Alba (BST)
Casanovas Lopez, Enric Lluis (BST)
Ene, Gabriela Simona (BST)
Ferrer Garrido, Gonzalo Jose (BST)
Medina Marrero, Laura (BST)
Subira Casellas, Maricel (BST)

MAIN LINES OF RESEARCH

Antithrombotic therapy.
Thrombotic pathology and cardiovascular risk.
Platelets and bleeding disorders.
Clinical Transfusion and Adverse events.
Patient Blood Management.
Systems suporting Safe Transfusion.
Blood products: quality management / overall quality, regulatory knowledge and improved patient safety.
Cellular Therapies.
Enligthening studies in Theapeutic apheresis: therapeutic plasma exchange, cell exchange, extracorporeal photopheresis, LDL-apheresis, and therapeutic cytapheresis.

SCIENTIFIC CHALLENGES

Enhance cooperation with other groups in the framework of transfusion and cellular therapy research.
Progress as a productive translational research group in the field of blood transfusion and cellular therapy.
Analyze the effective use of blood transfusion and the main causes of its variability.

SCIENTIFIC PRODUCTION

- Fernandez J, Cid J, Azqueta C, Valdivia E, Martorell L, Codinach M, Marsal J, Mussetti A, Esquirol A, Trabazo M, Benitez MI, Ferra C, Fox ML, Linares M, Alonso E, Garcia E, Garcia N, Medina L, Castillo N, Vall F, Garcia A, Pinacho A, Talarn C, Arroba JG, Coll R, Santos M, Valero O, Carreras E, Lozano M, Querol S. Post thawing viable CD34+Cells dose is a better predictor of clinical outcome in lymphoma patients undergoing autologous stem cell transplantation. *BONE MARROW TRANSPLANTATION*. 2022; 57(8). DOI:10.1038/s41409-022-01722-6. PMID:35614316. IF:5,174 (Q2/3D). Document type: Letter.
- Fernandez J, Horton R, Cid J, Azqueta C, Garcia A, Valdivia E, Martorell L, Rubio N, Codinach M, Aran G, Marsal J, Mussetti A, Martino R, Diaz C, Ferra C, Valcarcel D, Linares M, Ancochea A, Garcia E, Garcia N, Medina L, Carreras E, Villa J, Lozano M, Gibson D, Querol S. Leukocytapheresis variables and transit time for allogeneic cryopreserved hpc: better safe than sorry. *BONE MARROW TRANSPLANTATION*. 2022; 57(10). DOI:10.1038/s41409-022-01750-2. PMID:35804055. IF:5,174 (Q2/3D). Document type: Article.
- Medina L, et al. (2022) Capítulo 2.6: Obtención de PH de sangre periférica. In: Carreras E, Rovira M, Válcarcel E (eds.). Manual de Trasplante Hematopoyético. Editorial Escofet. 6a edició. ISBN:9788496928008. 1ª signant. Document type: Book chapter.

SCIENTIFIC DISSEMINATION

Participation by invitation in scientific conferences and talks:

- Epidemiological study of blood transfusion in Catalonia. Institut de Recerca Sant Pau (IIB- Sant Pau) - IR Sant Pau. 20 /12/2022. National. Speaker of the Clinical Research and Transfusion Medicine Research Group Seminar session. Speaker: Maricel Subirà Casellas. Doctor specializing in Haematology and hemotherapy.
- "Transfusion Errors: Incidents and Near-Incidents. 18 years of Hemovigilance in Catalonia". Department of Health. 29/11/2022. XV Conference for Patient Safety in Catalonia: "18 years of Hemovigilance in Catalonia". Speaker: Mª Alba Bosch Llobet. Doctor specializing in Haematology and hemotherapy.
- "Patient Blood Management (PBM) and optimal use of transfusion: Importance of Benchmarking in patient safety." Spanish Society of Blood Transfusion and Cellular Therapy (SETS). Toledo National Congress. 9-11/06/2022. 32nd National Congress of the Spanish Society of Blood Transfusion and Cellular Therapy. Speaker: Mª Alba Bosch Llobet. Doctor specializing in Haematology and hemotherapy.
- Moderator at the transfusion and cell therapy presentation table. Spanish Society of Blood Transfusion and Cellular Therapy (SETS). Toledo National Congress. 9-11/06/2022. 32nd National Congress of the Spanish Society of Blood Transfusion and Cellular Therapy. Table moderator: Mª Alba Bosch Llobet. Doctor specializing in Haematology and hemotherapy.

Hospital Sant Pau:

- "Transfusion activity 2021". Transfusion Hospital Commission, 26/01/2022. Speaker: Gonzalo Ferrer.

- Session of Clinical Haematology Service Protocols: "Second consensus protocol. Diagnosis and clinical management of thrombotic thrombocytopenic purpura". 05/09/2022. Speaker: Gonzalo Ferrer.
- Project "Re-impelling simulation and clinical skills": Massive Transfusion Simulation.21/09/2022 and 12/12/2022. Speaker: Gonzalo Ferrer.
- Project "Re-impelling simulation and clinical skills": Massive Transfusion Simulation. 21/09/22 and 12/12/22. Speaker: Laura Medina.
- "FDA recommendation on convalescent plasma Covid-19 in immunosuppressed". Transfusion Hospital Commission. 26/01/2022. Speaker: Laura Medina.
- "Hemovigilance and Paediatric Safety Plan". Transfusion Hospital Commission.23/03/2022. Speaker: Laura Medina.
- "Analysis of the latest transfusion safety incidents and review of safe practices in Sant Pau". Transfusion Hospital Commission. 28/09/2022. Speaker: Laura Medina.

Banc de Sang i Teixits:

- Accredited session of the "1st Update Course in Hemotherapy" at BST Sant Pau: "Anaemias, interpretation of blood counts and basic analytical values."07/11/2022. Speaker: Enric Casanovas.
- Immunohematology clinical sessions "Follow-up of Non-anti-D Aloinimmunized Pregnant Women". 14/02/2023. Speaker: Gonzalo Ferrer.
- Accredited session of the "1st Hemotherapy Update Course" at BST Sant Pau: "Direct Coombs & autoimmune haemolytic anaemia". 30/05/2022. Speaker: Gonzalo Ferrer.
- "The reason for Bone Marrow Donation. What is it? What to expect? When is it used?" Internal Training Mobile Equipment of the **Banc de Sang i Teixits.** 04, 05 and 18/10/2022). Speaker: Laura Medina.

EBMT

- Invited as Chair for Center's Session", Quality Management Sessions at **EBMT** Congress 2022. 22/03/2022. Speaker: Laura Medina.

05.1.2

ONCO-HEMATOLOGICAL DISEASES



Area Director:
Javier Briones

A broad range of translational cancer research is conducted in this area, particularly in sarcomas, head-and-neck, breast, ovarian, endometrial, colorectal and haematological 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
  Agustí Barnadas
- Oncogenesis and Antitumour Drugs
  Ramon Mangues
- Haematological Diagnosis
  Josep Nomdedéu
- Molecular Pathology of Gynaecologic Cancer
  Enrique Lerma
- Ear, Nose and Throat Cancers
  Miquel Quer
- Oncology/Haematology and Transplantation
  Jordi Sierra
- Cancer predisposition and DNA repair syndromes
  Jordi Surrallés
- Gynecologic and Peritoneal Oncolog
  Maria Virtudes Céspedes

CLINICAL ONCOLOGY



Group leader
Barnadas Molins, Agusti (FGS)

Researchers
Anguera Palacios, Georgia (FGS)
Arqueros Nuñez, Cristina (FGS)
Barba Joaquin, Andres (FGS)
Boronat Ruiz, Laia (FGS)
Calvo Verges, Nuria (FGS)
Cerda Serda, Paula (FGS)
Escuin Borras, Daniel (IR)
Gallego Rubio, Oscar Salvador (FGS)
Juan Linares, Eva (FGS)
Lopez Pousa, Antonio (FGS)
Majem Tarruella, Margarita (FGS)
Maroto Rey, Jose Pablo (FGS)
Martin Lorente, Cristina (FGS)
Martin Richard, Marta (FGS)
Paez Lopez-Bravo, David (FGS)
Ramon Y Cajal Asensio, Teresa (FGS)
Salazar Blanco, Juliana (IR)
Sebio Garcia, Ana (FGS)
Sullivan , Ivana Gabriela (FGS)
Teres Lleida, Raul (FGS)
Tibau Martorell, Ariadna (FGS)
Virgili Manrique, Anna Cristina (FGS)

Research technicians
Alfonso Ruiz, Rosa (IR)
Andres Nieto, Marta (IR)
Bell Ramirez, Olga Lidia (IR)
Calero Perez, Maria Del Pilar (IR)
Casanova Bombardo, Claudia (IR)
Castells Tello, Diana (IR)
Garcia Belinchon, Merce (IR)
Gisbert Beamud, Alexandra (IR)
Gomez Tenorio, Cristina (IR)
Gonzalez Guerrero, Laura (IR)
Hernandez Garcia, Ricardo (IR)
Lavernia Rosell, Laia (IR)
Layana Antepara, Michelle Elizabeth (IR)
Llobet Busquets, Mireia (IR)
Lopez Sanmartin, Consuelo (FGS)
Menendez Cuervo, Dulce Maria (IR)
Molina Bayona, Silvia (IR)
Moreno Gomez, Laura (IR)
Perez Gorrini, Tiziana Giselle (IR)
Ramirez Garcia, Ona (IR)
Ribas Carbonell, Romina (IR)
Roca Sola, Marc (IR)
Serra Lopez, Jorgina (FGS)
Sola Vazquez, Eduard (IR)
Vall Montero, Gaudi (IR)

CLINICAL RESEARCH
development of new therapeutic strategies; evaluation of the effectiveness of target treatments; description of the tumor staging; detection of residual disease; design of clinical trials; development of phase I clinical trials; active participation with the Fundació Kàlida to improve the quality of life of patients and their families.

TRANSLATIONAL RESEARCH
development 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. The objective is to translate this knowledge to (1) predict those patients with a higher risk of recurrence, (2) select those patients more likely to benefit from specific treatments according to the molecular characteristics of their tumors; 3) assess the risk of toxicity of treatments according to the genetic characteristics of patients.

MAIN LINES OF RESEARCH
Our main lines of research are organized by tumor types as follows:
- Breast Tumors: Dr. Barnadas, Dr. Ramón y Cajal, Dr. Tibau, Dr. Arqueros, Dr. Boronat and Dr. Escuin
- Lung Tumors and melanomas: Dr. Majem, Dr. Sullivan, Dr. Barba
- Neuroendocrine Tumors: Dr. Sullivan
- Head and Neck Tumors and central nervous system tumors: Dr. Gallego, Dr. Sebio.
- Hereditary and familial cancer: Dr. Ramón y Cajal, Dr. Terés
- Digestive Tumors: Dr. Páez, Dr. Sebio, Dr. Virgili, Dr. Pelegrin
- Urologic Tumors: Dr. Maroto, Dr. Anguera
- Sarcomas Unit: Dr. Sebio, Dr. Virgili, Dr. Terés, Dr. Cerdà
- Laboratory of translational oncology: Dr. Escuin

SCIENTIFIC CHALLENGES
- Identification of the critical tumor molecular alterations their subsequent evolutionary course. The possibility to identify these alterations and to use specific target therapies would improve clinical responses. Currently, this is possible for some neoplasms and target therapies are administered to patients who present advanced disesase with acceptable results in terms of survival and tolerance. In the past few years we have

initiated the use of massive sequence mutations panels in certain tumors (lung, sarcomes, melanoma, etc.) to detect those patients with alterations that are elligible to specific target treatments. Our challenge is to expand this strategy to other neoplasias, to incoporate bioinformatics in the clinical practice to extract the maximum benefit from the information obtained in order to advance towards a Precision Oncology.

- The duration of treatment response is not excessively long in certain cancers, due to the heterogeneity of the tumors itself and the development of tumor clones that are resistant to the initial treatment. It is essential to accurately identify the initial genetic alterations and those that develop secondarily to the treatment, in order to identify the mechanisms of resistance to systemic therapy and define therapeutic strategies based on this information.
- The use liquid biopsy will allows us to identify molecular alterations early on, to evaluate the tumor load and to monitor the response to systemic treatment. Our challenge is to setup a prospective sample collection strategy in some patient profiles to assess the early effect of certain treatments.
- To determine the immunological response of oncologic patients, to identify which treatments can potentiated this response in the tumor cells and how to monitor this effect.

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS *:*

Pathological Anatomy Service (Dr. Lerma, Dr. Gallardo, Dr. López-Vilaró)
General and Digestive Surgery Service (Dr. Moral, Dr. Clos, Dr. Pérez)
Image Diagnostic Service
Genetics Service
Gynaecology Service (Dr. García-Valdecasas, Dr. Capdevila)
Nuclear Medicine Service
Otolaryngology Service
Radiation Oncology Service
Traumatology Service
Thoracic surgery and Pneumology Services
Oncogenesis and Antitumour Drugs Group – Dr. R Mangues
Inflammatory Diseases Group – Dra. S Vidal
Otorhinolaringology and Head and Neck Cancer Group – Dr. M Quer
Molecular Pathology of Gynaecologic Cancer Group – Dr. E lerma
Pathophysiology of Lipid-related Disease Group – Dr. V LLorente

EXTERNAL COLLABORATIONS:

Dr. Eitan Amir, Princess Margaret Cancer Centre and University of Toronto, Toronto, Ontario, Canada.
Dr. Plancard, Institut Gustave Roussy,París, França
Dr. Norris, Comprehensive Cancer Center, Keck School of Medicine, University of Southern California, Los Angeles, CA, USA.
Dra. Angela George. The Royal Marsden, London, UK
Dra. Joanne Kotsopoulos, Women's College Research Institute, Toronto, Canada
Pere Gascón Vilaplana, Fundación Clínic per a la Recerca Biomèdica, Barcelona.
Miguel Martín Jiménez, Hospital Universitario Gregorio Marañón, Madrid.
Dr. Rosell, Institut Oncològic Dr Rosell, Barcelona
Fundació Societat Espanyola Oncologia Mèdica (SEOM). Tots els investigadors del grup.
Grup Espanyol d'Investigació en Càncer de Mama (GEICAM). Agustí Barnadas, Ariadna Tibau, Cristina Teresa Ramón y Cajal, Cristina Arqueros, Laia Boronat.
Grup Espanyol de Càncer de Pulmó (GECP). Margarita Majem, Ivana Sullivan, Andrés Barba, Sergio Martinez.
Grup Espayol d'Ivestigació en Neurooncologia (GEINO). Óscar Gallego.
Grup Espanyol d'Investigació en Sarcomes (GEIS). Antonio Lopez Pousa Ana Sebio, Raul Teres.
Grup Espayol Multidisciplinar en Càncer Digestiu (GEMCAD). David Páez, Anna Virgili.
Grup Espayol Multidisciplinar de Tumors Neuroendocrins i endocrins (GETNE). Teresa Ramón y Cajal, Ivana Sullivan, David Paez.
Grup Espanyol d'Investigació en Tumors Genitourinaris (SOGUG). José Pablo Maroto, Georgia Anguera, Cristina Martin Lorente.
Grup Germinal (GG) José Pablo Maroto, Cristina Martin Lorente, Georgia Anguera.
Grup Espanyol per al tractament de Tumors de Cap i Coll (TTCC). Antonio Lopez Pousa, Oscar gallego.
Grup espanyol Cancer d'Ovari (GEICO); Cristina Martin Lorente
Grup de Tractament de Tumors Digestius (TTD). David Páez, Anna Virgili, Paula Cerda, Raul Teres, Fran Pelegrin.
Associació per a la investigació en càncer de pulmó en la dona (ICAPEM). Margarita Majem, Ivana Sullivan.

ACTIVE GRANTS

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SCIENTIFIC DISSEMINATION

Conferences and scientific symposia organised *:*

- II Workshop on Neuroendocrine tumors. Organizer: I Sullivan. Hopsital de la Santa Creu i Sant Pau. Barcelona, 15/06/2022.
- Course in Advanced therapies: immunotherapy in oncologic patients. Addressed to nurses. Hospital Santa Creu i Sant Pau. Barcelona, 9/11/2022. Organizers: M Majem and A Barnadas.
- Worshop: Early Lung Cancer. Hopsital Santa Creu i Sant Pau. Barcelona, 16/11/2022. Organizers: I Sullivan and JC Trujillo.
- Workshop: Funcional hepatocarcinoma Unit. Hopsital de la Santa Creu i Sant Pau. Barcelona, 23/11/2022. Organizers: P. Cerda, A Gallego

Participation by invitation in scientific conferences and talks:

- "Advanced kidney cancer treatment. Toxicity manegement." EORTC. Oporto, 02/03/2022. Speaker: P Maroto.
- "Immunotherapy in cancer." Third centenary anniversary of Reial Academia de Medicina i Cirurgia de Catalunya. Barcelona, 04/05/2022. Speaker: A Barnadas.
- "CNS progression following surgery in patients with NSCLC and EGFR Mutation". European Society Thoracic Surgery. La Haya, 20/06/2022. Speaker: M Majem.
- "Update in renal cancer treatment." European Society of Urology Congress. Amsterdam, 30/06/2022. Speaker: J Maroto.

Outreach activities to society *:*

- Interview. "When the patient is the doctor." Diari La Vanguardia, 04/02/2022. Dr. Terés.
- Member of the Stteering Committee of: Jornada Entre Dones. Breast Cancer Track. Recinte Modernista Hospital de Sant Pau, 12/05/2022.

ONCOGENESIS AND ANTITUMOUR DRUGS



Group leader
Mangues Bafalluy, Ramon (IR)

Researchers
Alamo Vargas, Patricia Virginia (IR)
Alba Castellon, Lorena (IR)
Carrasco Diaz, Luis Miguel (IR)
Casanova Rigat, Isolda (CIBERBBN/IJC)
Falgas Comamala,
Aida (Inst. Josep Carreras)
Mendoza Fernandez,
Julian Ignacio (CIBERBBN)
Nuñez Amela, Yaiza (IR)
Rioja Blanco, Elisa (IR)
Rueda Matas, Ariana (IR)

Research technicians
Garcia Leon, Annabel (CIBERBBN)
Huaca Manchego, Vanessa (IR)
Imedio Iribarren, Laura (IR)
Miranda Tovar, Eva (IR)
Navas Jimenez, Luis Carlos (IR)
Seira Oriach, Clara (IR)

Internship students
Ceron Sola, Marina (UAB)
Mallorquin Alcala, Sofia (UAB)

DESCRIPTION

GOA develop protein-only nanoparticles and drug-nanoconjugates to attain selective and receptor-mediated drug delivery to cancer stem and metastatic cells. Both nanoparticle types achieve high tumor uptake and potent anticancer effect, without toxicity, in solid and hematological disseminated cancer models; however, shortly after treatment the cancer recidivate. We are now testing nanoimmunotherapies that induce immunogenic cell death and immune memory, in immunocompetent cancer models, to increase the percent of cures and their translation to cancer patients, through industrial transfer.

MAIN LINES OF RESEARCH

Development of novel animal models of disseminated disease in solid tumors and hematological neoplasms used to study the mechanisms of metastases and for the preclinical development of nanomedicines.
Design, production and development of protein-based nanoparticles or drug-nanoconjugates for targeted delivery of anticancer agents, aiming at the selective killing of metastasis stem cells and induction of antimetastatic effect in the absence of systemic toxicity
Development of protein-based drug delivery systems for the sustained release of cell-targeted protein nanoparticles and nanoconjugates.
Improvement of the potency and selectivity of our nanomedicines by developing nanoparticles able to prompt T cell infiltration in tumor tissue and engagement of cytotoxic T cells and B cells to cause immunogenic cell death and immunological memory.

SCIENTIFIC CHALLENGES

Obtain funding to ensure stable employment of senior researchers, attract international postdoctoral fellows and reinforce current collaborations with clinicians.
Enhance international collaborations and participation in EU networks and industrial projects
Develop anticancer drugs selectively targeted to cancer stem cells to achieve antitumor activity and antimetastatic effect in chemotherapy-resistant tumors in solid tumors and hematological neoplasms.
Develop molecular markers for therapeutic decision-making and personalized medicine.

Reach clinical translation of our nanomedicines through the implementation of Phase 1/2 basket trial at the Sant Pau Hospital and additional Hospitals
Increase the number of licenses of novel patents to Biotechnology and Pharmaceutical Companies to increase future royalties to the Institutions and the Group

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS:

- Collaboration between the Medical Oncology Department (Drs. López-Pousa and David Páez), the Pharmacy Department (Dr. Pau Riera) and the Pathology Department (Dr. Alberto Gallardo) of the Hospital Sant Pau with the GOA group (Drs. Ugutz Unzueta, Lorena Alba-Castellón, and Elisa Rioja) in the ISCIII project PI20/00400, leaded by Dr. Ugutz Unzueta.
- Collaboration between the Clinical Hematology Department and Research Group of the Hospital Sant Pau (Drs. Jordi Sierra, Anna Garrido and Montserrat Hoyos) and the GOA group (Drs. Isolda Casanova and Annabel García-León in the La Marató de TV3 517C/20190318/1330 project, leaded by Dr. Jordi Sierra
- Collaboration between the Otorhinolaryngology Department and Research Group (Drs. Xavier León, Montserrat López-Vilas) and the Pathology Department (Drs. Alberto Gallardo and Katarina Majercokava) of the Hospital de Sant Pau and the GOA group (Drs. Patricia Alamo and Elisa Rioja) in the ISCIII project PI19/01661, leaded by Dr. Xavier León.
- Collaboration between the Otorhinolaryngology Department and Research Group (Drs Miquel Quer, Maria del Prado Venegas, Laura Lopez, Maria Casasayas) of the Hospital de Sant Pau and the GOA group (Drs. Lorena Alba, Aïda Falgas, Elisa Rioja) in the ISCIII project PI21/00232, leaded by Dr. Miquel Quer.
- Collaboration between the Department of Pathology of the Hospital Sant Pau (Dr. Alberto Gallardo) and the GOA Group (Drs. Ugutz Unzueta and Lorena Alba-Castellón) within the MICINN RETOS project RTC-2017-6125-1 project. PI (Ramon Mangues, IIB Sant Pau), in collaboration with Nanoligent, leaded by Dr Manuel Rodriguez Mariscal.
- Collaboration between the Medical Oncology Department and Research Group (Drs. Antonio López-Pousa and Dr. David Páez) and the Pathology Department (Dr. Victoria Fusté) of the Hospital de Sant Pau and the GOA group (Drs. Patricia Alamo, Isolda Casanova and Ugutz Unzueta) within the ISCIII project PI18/00650, leaded by Dr. Ramon Mangues
- Collaboration between the Medical Oncology Department HSCSP and Research Group (Drs. Antonio Lopez-Pousa and Dr. David Páez) and the Pathology Department (Dr. Alberto Gallardo); UAB (IP: Antonio Villaverde, Esther Vázquez; and the Nanoligent Company (Drs Manuel Rodríguez-Mariscal, Montserrat Cano, Naroa Serna) with the GOA's Group (Isolda Casanova, Ugutz Unzueta, Lorena Alba-Castellón) in the project CPP2021-8946, leaded by Dr. Ramon Mangues.

• EXTERNAL COLLABORATIONS:

National collaborations

- Antonio Villaverde, Department of Applied Microbiology, Autonomous University of Barcelona, UAB)
- Esther Vazquez, Nanobiotechnology Group, Institut de Biotecnologia i Biomedicina, UAB
- Ramon Eritja, Nucleic acids chemistry group, Instituto de Química Avanzada de Cataluña
- Francesc Godia, Grupo de Ingeneriía tissular y bioprocesos, Universitat Autònoma de Barcelona.
- Joaquin Seras, Drug Delivery & Targeting Group, Vall d'Hebron Institute of Research (VHIR)
- Manuel Rodriguez-Mariscal and Motserrat Cano, Nanoligent SL
- Eduard Batlle, Biomedical Research Instit ute Band Barcelona Scientific Park (PCB)
- Ramon Mangues is a Member or the Executive Committee and Coordinator of Clinical Translation of the CIBER-BBN
- Lourdes Farré, Institut Català d'Oncologia - IDIBELL Institut d'Investigació Biomèdica de Bellvitge
- Network Consortium for Biomedical Research in Biomaterials, Bioengeeniering and Nanomedicine (CIBER-BBN)
- Ramon Mangues, Panel Member at the Scientific and Technical Committee on Biotechnology of the Agencia Estatal de Investigación in Spain
- Network ConnectEU. Biocat. Generalitat de Catalunya
- NanoBioMed. Member of the Catalonian Network on Nanobiotechnology, Xarxa Connect-EU. Biocat

International collaborations

- Jan Paul Medema, University of Amsterdam, Center for Experimental and Molecular Medicine and Oncode Institute, Amsterdam, Netherlands
- Arne Östman, Cancer Center Karolinska, Karolinska Institutet, Stockholm (Sweden).
- Alberto Bardelli, University of Torino, Medical School, Turin (Italy).
- Ario de Marco, University of Nova Gorica, Slovenia.
- Verónica Nolan, Universidad Nacional de Córdoba, Argentina.
- Irina Gutsche, Institut de Biologie Structurale, Grenoble (France)
- Jason P. Holland, Department of Chemistry, University of Zurich, Switzerland
- Member of the COST Action CA17140. Nano2Clinic. Cancer Nanomedicine - from the bench to the bedside (Nano2Clinic) (http://www.cost.eu/actions/CA17140)
- Ramon Manques collaborates with the French Institut National du Cancer (INCa) as Member of the Scientific Evaluation Committee of the Translational Cancer Research Programme (PRT-K) since 2016, Ministry of Health (DGOS)
- ATMP-EATRIS, European Union. Member of the Working Group on Advanced therapies and biologicals of AMP (Advanced Therapy Medicinal Products), EATRIS (European Infrastructure for Translational Medicine Network
- EP Nanomedicine, European Union, Member of the European Technology Platform on Nanomedicine.
- TME-AACR member. Member of the Tumor microenvironment Working Group, American Association for Cancer Research (AACR).
- OITB Pathway Association Member. Bring Health Technologies into Development and Implementation in Healthcare (President: Dr HP Dauben), Support of Safe-N-Medtech European EU H2020 Project, Open Innovation Test Beds for Safety Testing in Health

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: 2020-2024. 98.333,33 €
- Carrasco Diaz, Luis Miguel. Nanopartículas dirigidas en combinación para la eliminación selectiva de células madre mestatáticas CXCR4+ en Cáncer Colorectal. FI19/00148. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 82.400,00 €

- Casanova Rigat, Isolda. Preclinical development of protein-based nanomedicines and drug-nanoparticle conjugates, for therapy of solid tumors and hematological neoplasias. PDR. RM.23. Senior Postdoctoral Position. Competitive Contract. Josep Carreras Leukemia Research Institute. Duration: 2022-2025. 168.000,00 € (IJC)
- Comamala Falgas, Aida. Preclinical development of nanomedicines in experimental models of acute myeloid leukemia. IJC.202104. Postdoctoral Researcher Competitive Contract. Josep Carreras Leukemia Research Institute. Duration: 2021-2022. 60.800,00 € (IJC)
- Garcia Leon, Annabel. Preclinical development of humanized nanoconjugates for the selective trageting CXC4+ cells in murine models of Acute Myeloid Leukemia. CNV-2199. Predoctoral Student Graduat Level A. Competitive Contract. Consorcio Centro de Investsigación Biomédica en Red CIBER-BBN. ISCIII. 2022-2025. 109.500,00 € (CIBER)
- Mangues Bafalluy, Ramon. Humanized nanomedicines selectively killing CXCR4+ cancer cells for Acute Myeloid Leukemia therapy.. MARATO 201941-30. Fundació La Marató de TV3. Duration: 2020-2023. 181.155,44 €
- Mangues Bafalluy, Ramon. Nanopartículas Dirigidas en Combinación para la Eliminación Selectiva de Células Madre Mestatáticas y Fibroblastos Asociados a Metástasis en Cáncer Colorectal.. PI18/00650. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 273.157,50 €
- Mangues Bafalluy, Ramon. Eliminación selectiva de células madre de cáncer de colon mediante nanopartículas inductoras de poro, inflamación crónica e immunidad antineoplásica (IMMUNO-FIRING).. PI21/00150. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 244.420,00 €
- Mangues Bafalluy, Ramon. Safety testing in the life cycle of nanotechnology-enabled medical technologies for health. Nanotoxicology Unit of the ICTS Nanbiosis/CIBER-BBN Platform, SAFE-N-MEDTECH. EU H2020 Project. Proposal 814607. EU Horizon 2020. Topic: DT-NMBP-02-2018. Coordinator: Biopraxis Research AIE. Euroscan International Network. 28 Partners and 7 Companies. Duration: 2019-2022. CIBER-BBN/Nanbiosis Budget: 968.000,00 € (CIBER)
- Mendoza Fernandez, Julian. Support to the Protein Production Platform of the Oncogenesis and Antitumor Drug Group. CNV-2236. Postdoctoral Position Level A of Capacitation. Competitive Contract. Consorcio Centro de Investigación Biomédica en Red CIBER-BBN. ISCIII. Duration: 2022-2025. 150.000,00 € (CIBER)
- Nuñez Amela, Yaiza. Desarrollo de nanopartículas para la entrega dirigida de fármacos a células madre leucémicas CXCR4+.. FI18/00268. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 90.983,33 €
- Rioja Blanco, Elisa. Role of CXCR4 in the metastatic dissemination of head and neck squamopus cell carcinoma. 2018 FI_B 00320. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2019-2022. 86.189,92 €.
- Rueda Matas, Ariana. Contractes predoctorals PFIS 2021. FI21/00012. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2025. 119.567,00 €
- Unzueta Elorza, Ugutz. Improved colorectal cancer therapy by targeting the CXCR4 receptor using functional protein nanoparticles with enhanced cytosolic release. CP19/00028. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 202.500,00 €
- Unzueta Elorza, Ugutz. Improved colorectal cancer therapy by targeting the CXCR4 receptor using functional protein nanoparticles with enhanced cytosolic release. CP19/00028(P). Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 40.000,00 €
- Unzueta Elorza, Ugutz. Conjugación dirigida de nanomedicinas proteicas inteligentes para la mejora de la terapia selectiva del cáncer metastasico de colon. PI20/00400. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 171.820,00 €

GRANTS AWARDED

- Alamo Vargas, Patricia. Multivalent presentation for enhanced drug-internalization and cytotoxicity of nanoparticles targeting CXCR4-overexpressing tumors. PTQ2021-011781 B6697. Ayudas Torres Quevedo 202., Industrial Postdoctoral Position. Competitive Project. AEI - MICINN. Duration: 2022-2025. 110.880,00 €. (Nanoligent SL)
- Mangues Bafalluy, Ramon. ONCOGENESI I ANTITUMORALS. 2022 INV-1 00048. Miranda Tovar, Eva. Contract for the technical supoort personnel for research, development and innovation. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 66.217,84 €
- Mangues 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 €

DOCTORAL THESES

- Rioja Blanco, Elisa. Antineoplastic effect of CXCR4-targeted protein nanoparticles in head and neck squamous cell carcinoma mouse models. 03/06/2022. Universitat Autònoma de Barcelona. Supervisors: Mangues Bafalluy, Ramon; Alba Castellón, Lorena. http://hdl.handle.net/10803/675758.

AWARDS

- Mangues Bafalluy, Ramon. Membership Nomination at the Scientific Committee of the European Research Council (ERC), 24.11.22, Directorate-General for Research & Innovation, European Commission.

SCIENTIFIC PRODUCTION

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- Sala R, Rioja-Blanco E, Serna N, Sánchez-García L, Alamo P, Alba-Castellón L, Casanova I, Lopez A, Unzueta U, Cespedes MV, Vazquez E, Villaverde A, Mangues R. GSDMD-dependent pyroptotic induction by a multivalent CXCR4-targeted nanotoxin blocks colorectal cancer metastases. *DRUG DELIVERY.* 2022; 29(1). DOI:10.1080/10717544.2022.2069302. PMID:35532120. IF:6,819 (Q1/2D). Document type: Article.
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- Volta-Duran E, Sanchez JM, Parlade E, Serna N, Vazquez E, Unzueta U, Villaverde A. The Diphtheria Toxin Translocation Domain Impairs Receptor Selectivity in Cancer Cell-Targeted Protein Nanoparticles. *PHARMACEUTICS.* 2022; 14(12):2644. DOI:10.3390/pharmaceutics14122644. PMID:36559138. IF:6,525 (Q1/2D). Document type: Article.

SCIENTIFIC DISSEMINATION

Conferences and scientific symposia organised:

- 2022 CIBER-BBN CONFERENCE , 7-8/11/2022, Palacio de Exposiciones y Congresos, A Coruña (PALEXCO), National, Organizer and Chairman of a Scientific Session on Collaborative Project between CIBERDEM and CIBERBBN. Speaker: RAMON MANGUES BAFALLUY.

Participation by invitation in scientific conferences and talks

- Global Summit on Gastroenterology and Hepatology (GSGH2022), Online Presentation, CXCR4-targeted nanoparticles ablate colon cancer stem cells to block tumor growth and metastases, Dubai, UAE, 17-19/03/2022: Speaker: RAMON MANGUES BAFALLUY.
- 14th Annual World Cancer Congress (WCC.2022), Barcelona, July 25-27, 2022, Barcelona. Nanostructure Empowers Active Tumor

Targeting in Ligand-Based Molecular Delivery, July 25-27, 2022, Barcelona. Speaker: RAMON MANGUES BAFALLUY.

- Engineering a human GFP-like protein as scaffold nanomaterial for targeted drug delivery, International Conference on Materials Science (3d-ICOMAS), Verona (Italy), 26-28/10/2022. Invited oral presentation. Speaker: UGUTZ UNZUETA ELORZA
- Site-directed conjugation of multivalent protein nanomaterials for precision medicine of cancer, XVI Annual conference of CIBER-BBN, A Coruña (Spain), 7-8/11/2022. Invited oral presentation. Speaker: UGUTZ UNZUETA ELORZA

Outreach activities to society:

- "New drug that blocks cancer cells of Acute myeloid Leukaemia without toxicity on healthy cells." Mediateca, Institute Josep Carreras Against Leukaemia, 10/09/2022. Speaker: RAMON MANGUES BAFALLUY.
- "Cancer and metastasis; when not everything depends on the tumor cells." Scientific talk open to citizens. "Aula 141", Civic Center Guinardó, Barcelona, 09/11/2022. Speaker: LORENA ALBA CASTELLON.
- Claudia Alonso i Joana Buenaventura. Institut Leonardo da Vinci, Sant Cugat del Vallés. Curs 2021-2022. Speaker: UGUTZ UNZUETA ELORZA.

HAEMATOLOGICAL DIAGNOSIS



Group leader
Nomdedeu Guinot, Josep Francesc (FGS)

Researchers
Blanco , Maria Laura (FGS)
Martinez Valverde, Clara Maria (FGS)
Pratcorona Canela, Marta (FGS)
Remacha Sevilla, Angel Francisco (FGS)
Sanchez Garcia, 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)
Fernandez Rosales, Maria Nieves (FGS)
Fuentes Hernandez, Francisca (FGS)
Gine Vilalta, Anna (IR)
Martinez Sanchez, Elisabeth (FGS)
Ortin Quilez, Rosa (FGS)
Serra Ferrer, Marta (FGS)
Ubeda Rodenas, Jose (FGS)

Internship master and degree students
Gonzalez Hernandez, Mar (UDG)

Internship secondary school students
Molina Leon, Ana (Centre Alfonso X El Sabio)
Roca Cano, Indra (Centre Alfonso X El Sabio)

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 hematològic 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.

COLLABORATIONS
• IIB SANT PAU RESEARCH GROUPS:
Dr. Jordi Sierra
Dr. Ramon Mangues/Dra. Isolda Casanova

• EXTERNAL COLLABORATIONS:
Dr. Manel Esteller (IJC, Badalona)
Dr. Anna Bigas (Parc de Salut Mar, BCN)

ACTIVE GRANTS
· Nomdedeu Guinot, Josep Francesc. Nuevas aproximaciones al análisis molecular de WT1 en neoplasias mieloides. Utilidad del

estudio de célula única. PI20/00867. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 67.760,00 €

SCIENTIFIC PRODUCTION

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- Diaz J, Rodriguez R, Coll R, Osca G, Pratcorona M, Gonzalez M, Garrido A, Angona A, Talarn C, Tormo M, Arnan M, Vives S, Salamero O, Tuset E, Lloveras N, Diez I, Zamora L, Bargay J, Sampol A, Cruz D, Vila J, Sitges M, Garcia A, Vall F, Esteve J, Sierra J, Gallardo D, Cooperativo Estudio Tratamient GRP. 5 '-nucleotidase, cytosolic II genotype, and clinical outcome in patients with acute myeloid leukemia with intermediate-risk cytogenetics. *EUROPEAN JOURNAL OF HAEMATOLOGY*. 2022; 109(6). DOI:10.1111/ejh.13862. PMID:36063368. IF:3,674 (Q3/6D). Document type: Article.
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- Onate G, Bataller A, Garrido A, Hoyos M, Arnan M, Vives S, Coll R, Tormo M, Sampol A, Escoda L, Salamero O, Garcia A, Bargay J, Aljarilla A, Nomdedeu JF, Esteve J, Sierra J, Pratcorona M. Prognostic impact of DNMT3A mutation in acute myeloid leukemia with mutated NPM1. *BLOOD ADVANCES*. 2022; 6(3). DOI:10.1182/bloodadvances.2020004136. PMID:34516636. IF:7,637 (Q1/3D). Document type: Article.
- Ramos M, Trincado JL, Blanco J, Bueno C, Rodriguez VC, Bataller A, Lopez B, Schwab C, Ortega M, Velasco P, Blanco ML, Nomdedeu J, Ramirez M, Minguela A, Fuster JL, Cuatrecasas E, Camos M, Ballerini P, Escherich G, Boer J, DenBoer M, Hernandez JM, Calasanz MJ, Cazzaniga G, Harrison CJ, Menendez P, Molina O. Clonal heterogeneity and rates of specific chromosome gains are risk predictors in childhood high-hyperdiploid B-cell acute lymphoblastic leukemia. *MOLECULAR ONCOLOGY*. 2022; 16(16). DOI:10.1002/1878-0261.13276. PMID:35726693. IF:7,449 (Q1/3D). Document type: Article.
- Ramos S, Puiggros A, Bea S, Bougeon S, Larrayoz MJ, Costa D, Parker H, Rigolin GM, Ortega M, Blanco ML, Collado R, Salgado R, Baumann T, Gimeno E, Moreno C, Bosch F, Calvo X, Calasanz MJ, Cuneo A, Strefford JC, Nguyen F, Oscier D, Haferlach C, Schoumans J, Espinet B. Chromosome banding analysis and genomic microarrays are both useful but not equivalent methods for genomic complexity risk stratification in chronic lymphocytic leukemia patients. *HAEMATOLOGICA*. 2022; 107(3). DOI:10.3324/haematol.2020.274456. PMID:33691382. IF:11,047 (Q1/2D). Document type: Article.
- Ramos S, Puiggros A, Kamaso J, Bea S, Bougeon S, Larrayoz MJ, Costa D, Parker H, Rigolin GM, Blanco ML, Collado R, Ancin I, Salgado R, Moro MA, Baumann T, Gimeno E, Moreno C, Salido M, Calvo X, Calasanz MJ, Cuneo A, Nguyen F, Oscier D, Haferlach C, Strefford JC, Schoumans J, Espinet B. TP53 Abnormalities Are Underlying the Poor Outcome Associated with Chromothripsis in Chronic Lymphocytic Leukemia Patients with Complex Karyotype. *CANCERS*. 2022; 14(15):3715. DOI:10.3390/cancers14153715. PMID:35954380. IF:6,575 (Q1/3D). Document type: Article.
- Soria JM, Mojal S, Martinez A, Acosta FR, López S, Miqueleiz S, Rodriguez D, Quijada MA, Cardenas A, Vidal F, Remacha A, Antonijoan RM, Souto JC. A validated clinical-genetic score for assessing the risk of thrombosis in patients with COVID-19 receiving thromboprophylaxis. *HAEMATOLOGICA*. 2022; 107(9). DOI:10.3324/haematol.2022.281068. PMID:35545920. IF:11,047 (Q1/2D). Document type: Article.
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- Vives JL, Krishnevskaya E, Hernandez I, Payan S, Sevilla A, Badell I. Red cell ektacytometry in two patients with chronic hemolytic anemia and three new alpha-spectrin variants. *ANNALS OF HEMATOLOGY*. 2022; 101(3). DOI:10.1007/s00277-021-04723-5. PMID:34845540. IF:4,030 (Q2/5D). Document type: Article.

SCIENTIFIC DISSEMINATION

Outreach activities to society:

- Clinical application of molecular diagnosis in myeloid disorders: recommendations to implement a common strategy in Spanish centers. Sangre. 2022;41(1):27-28. Authors: Pratcorona M, Chillón MC, Calasanz MJ, Gómez Casares M, Barragán E, Bellosillo B, Ayala R, Sierra J, García Sanz R.
- Member of the European Leukemia Net (DAVID group) for standardization of Minimal Residual Disease. Nomdedéu J.
- Vice-President SCHH Societat Catalana d´Hematologia. Nomdedéu J.
- Member SEHH Sociedad Española de Hematologia. Nomdedéu J. Board

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)
Lopez Vilaro, Laura (FGS)
Mozos Rocafort, Ana (FGS)
Orellana Fernández, Ruth (FGS)
Szafranska , Justyna (FGS)

Research technicians
Catasus Cols, Lluis (FGS)
Clua Gonzalez, Agustin (FGS)
Ferre Figa, Malena (FGS)
Gonzalez Vidal, Alan (FGS)
Gutierrez Montalban, Raquel (FGS)

Internship students
Urdiales Santidrián, Diego (UAB)

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 gynaecological 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 tumour markers.
Molecular biology of uterine and extra- uterine sarcomas.

SCIENTIFIC CHALLENGES

Progress as a productive translational gynaecological 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.

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS:
Metabolic bases of cardiovascular risk Group. Collaborator: Dr Victòria Fusté, Dr Enrique Lerma.
Project: PI19/00136 Adiposity, inflammation and cholesterol deregulation in epitelial thyroid carcinoma. Evaluation of cholesterol-lowering and LXR-based therapies.

Oncogenesis and antitumour drugs group. Collaborator: Dr Alberto Gallardo.

Project: PI20/00400. Site-directed conjugation of Smart protein nanomedicines to improve targeted therapy of metastatic colorectal cancer. Ugutz Unzueta Elorza (IIB-SANT PAU. INSTITUTO DE INVESTIGACIÓN HOSPITAL SANTA CREU I SANT PAU). 01/01/2021-01/01/2023.
PI19/01661. Evaluation of nanoparticles in targeted therapy against CXCR4+ cells in vitro and mouse models of Head and Neck Squamous Cell Carcinoma.
2014 PROD 00055. Producte. Desenvolupament d'un nanoconjugat antimetastàtic dirigit a cèl·lules mare metastàtiques CXCR4+, l'obtenció de prototipus i a la valorització i transferència dels resultats d'investigació generada per equips de recerca de Catalunya (PRODUCTE). AGAUR.

Marató 416/C/2013-2030. Projecte coordinat.
Genotoxic Nanoparticles targeting colorectal cancer steam cells.

Gynaecological and peritoneal oncology group. PI: MV Cespedes. Colaborador: Dr. Alberto Gallardo.

PI20/00623 "Innovative nanotherapy for highly-metastatic peritoneal cancers:
activating neuroreceptors to kill cancer stem cells". PI: MV Cespedes. Instituto de Salud Carlos III
2021-2024.

550_C_20190314_1702. "Genomic signatures for the prediction of recurrence and metastasis in Endometrial Cancers". IP: Maria Virtudes Céspedes
(Coordinadora) IIB. Sant Pau, Hospital de La Santa Creu i Sant Pau; Dra. María
Macías (Institut de Recerca Biomèdica de Barcelona, IRB) La Marató TV3.
2020-2024

Neuromuscular diseases group. Collaborator: Dr. Alberto Gallardo.

Chronic respiratory diseases group. Collaborator: Dr. Laura López Vilaró.

Clinical Oncology. Collaborators: Dr. Enrique Lerma, Dr. Laura López, Dr. Alberto Gallardo.

Ear, nose and throat cancer group. Collaborators: Dr Laura López, Dr Alberto Gallardo, Dr Justyna Szafranska.

PI19/01661. Evaluation of nanoparticles for targeted drug delivery against CXCR4+ cancer cells in vitro and mouse models of Head and Neck Squamous Cell Carcinoma. Xavier León Vintró. 01/01/2020 - 01/12/2022

Cancer predisposition and DNA repair syndromes group.

• EXTERNAL COLLABORATIONS:
Beca SEOM/GSK Para Proyectos de Investigación en cáncer ginecológico para el Dr. Joan Brunet i Vidal del Hospital Universitari Dr. Josep Trueta (ICO), Girona por el proyecto titulado "Validación de la utilidad clínica de la evaluación de la inestabilidad de microsatélites con alta sensibilidad en la mejora del diagnóstico precoz de cáncer de endometrio y en el establecimiento de estrategias de seguimiento ginecológico personalizadas en síndrome de Lynch".

SCIENTIFIC PRODUCTION

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EAR, NOSE AND THROAT CANCERS



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De Juan Beltran, Julia (FGS)
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Kolanczak , Katarzyna Alicj (FGS)
Leon Vintro, Xavier (FGS)
Lopez Vilas, Montserrat (FGS)
Orus Dotu, Cesar (FGS)
Pujol Olmo, Albert (FGS)
Valero Mayor, Cristina (FGS)
Venegas Pizarro, Maria Del Prado (FGS)

DESCRIPTION

Our group is dedicated to research related to Otolaryngology and head and neck tumors, both at a clinical and translational level. The main areas are clinical studies in the field of head and neck cancer, as well as the study of genetic, molecular, or inflammatory factors that are relevant to prognosis and/or response to different treatments. In addition, we are dedicated to clinical studies in endoscopic nasal and skull base surgery, as well as all otological aspects, mainly internal ear.

MAIN LINES OF RESEARCH

Genetic and molecular predictors of response to head and neck cancer (Dr. León)
Molecular mechanisms of inflammation in head and neck cancer (Dr. León)
Nasosinusal endoscopic surgery: innovations in skull base techniques (Dr. Gras)
Internal ear: aspects related to severe deafness, cochlear implants and otoneurological surgery of tumours (Dr. Orús)

SCIENTIFIC CHALLENGES

Promote clinical and translational research into head and neck cancer with a very large database of head and neck cancers.
Study relevant clinical issues in depth (second- third neoplasms, staging concerns, prognostic factors, etc) and investigate translational aspects such as genetic and molecular predictors.

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS:
Oncogenesis and antitumour drugs. Dr. Ramon Mangues
Genomics of Complex Diseases. Dr. Mercedes Camacho

• EXTERNAL COLLABORATIONS:
Epidemiology Service ICO. Dr. Alemany.
Universitat Rovira i Virgili. Dr. Francesc Xavier Aviles.
Memorial Sloan Ketering Group, USA. Dr. Patel.

ACTIVE GRANTS

- Leon Vintro, Xavier. Evaluación de nanopartículas para la entrega dirigida de fármacos contra células tumorales CXCR4+ en modelos in vitro y murinos de Carcinoma Escamoso de Cabeza y Cuello. PI19/01661. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 125.840,00 €
- Quer Agusti, 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

- Sansa Perna, Aina. Capacidad pronóstica de los parámetros analíticos pretratamiento en los pacientes con carcinomas escamosos de cabeza y cuello. 15/07/2022. Universitat Autònoma de Barcelona. Supervisors: León Vintró, Xavier; García Lorenzo, Jacinto; Orús Dotu, César. http://hdl.handle.net/10803/675210.

SCIENTIFIC PRODUCTION

- Aibar JA, Oladotun M, Asencio C, Valassi E, Webb S, Gras JR, Monserrat J, Ribo PT, Munoz F. Complication Rates after Endoscopic Transsphenoidal Surgery for ACTH-Secreting Pituitary Adenomas: A Comparative Analysis with GH and Nonfunctioning Adenomas. *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*. 2022; 83. DOI:10.1055/s-0041-1725029. PMID:35832977. IF:1,407 (Q4/9D). Document type: Article.
- Alias L, de Heredia ML, Luna S, Cliville N, Gonzalez L, Gallano P, de Juan J, Pujol A, Diez S, Boronat S, Orus C, Lasa A, Venegas MD. Case report: De novo pathogenic variant in WFS1 causes Wolfram-like syndrome debuting with congenital bilateral deafness. *FRONTIERS IN GENETICS*. 2022; 13:1024742. DOI:10.3389/fgene.2022.998898. PMID:36330437. IF:4,772 (Q1/3D). Document type: Article.
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- Casasayas M, Sansa A, Garcia J, Venegas MD, Quer M, Leon X. Pharyngocutaneous fistula in irradiated patients: systematic review and our experience. *JOURNAL OF LARYNGOLOGY AND OTOLOGY*. 2022; 136(11):PII S0022215121004370. DOI:10.1017/S0022215121004370. PMID:35791885. IF:2,187 (Q3/7D). Document type: Review.
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ONCOLOGY HAEMATOLOGY AND TRANSPLANTATION





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Reyes Vilasalo, Judith (IR)
Rodriguez Fernandez, Diana (IR)
Rosal Muntadas-Prim, Maria Josefa (IR)
Sanmartin Montserrat, Francisco Javier (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 PI is an internationally recognized opinion leader on acute myeloid leukemia diagnosis and treatment. The group also includes other well known clinician and scientists with prominent roles in International research groups.

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

MAIN LINES OF RESEARCH

Study of the prognostic value of clinical and biological parameters in haematological malignancies. J. Sierra, A. Garrido, G. Oñate

Study of the molecular and cellular pathophysiology of haematological cancers, particularly focusing on CLL, lymphoma

and myeloma. C. Moreno, S. Novelli, J. López, M. Argüello, S. Saavedra.
Design of new modalities of chemotherapy, biotherapy and drug treatment targeting molecular mechanisms. J, Sierra, J. Briones, C. Moreno, S. Novelli, J. López, M. Argüello, S. Saavedra.
Design of new modalities of haematopoietic stem-cell transplantation. R. Martino, I. García Cadenas, A. Esquirol, S. Redondo.
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)
Preclinical development of fourth-generation CART cells for hematological malignancies (E. Escudero/J. Briones)

SCIENTIFIC CHALLENGES

Identify new prognostic parameters for risk and therapeutic stratifications.
Molecularly characterize acute myeloid leukaemia and determine the prognostic value of known genes and other genes of uncertain significance (with the Haematology Laboratory).
Evaluate targeted therapy in cell lines and animal models (with the Oncogenesis and Antitumour Drugs group).
Reduce toxicity and increase availability of allogeneic transplants.
Development of non-comercial CAR-T cell therapies.
Novel CART generation with enhanced antitumor efficacy
Implementation and fully development of Phase I/II clinical trials with In-House created CART cells

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS

Oncogenesis and Antitumour Drugs (Dr. Ramon Mangues).
Haematological Diagnosis (Dr. Josep Nomdedéu).
Clinical Pharmacology
Immunology group

• EXTERNAL COLLABORATIONS

European Research Initiative on Chronic Lymphocytic Leukemia (ERIC): C. Moreno, coordinator.
Spanish lymphoma transplantation groups (GELTAMO): J. Briones, S. Novelli
Spanish haematologic malignancies consortium (PETHEMA): J. Sierra
Spanish CETLAM acute myeloid leukaemia and myelodysplasia group hospitals.
EureCart Consortium (H2020): Universities of Milan, Wurzburg, Hospital Bambino Gessú, Rome.
Ulm University and German Austrian AML Study Group.
Erasmus University Rotterdam and HOVON Cooperative Group.
European Haematology Association (EHA)
European Blood and Marrow Transplantation Group
T2 Evolve Consortium (H2020) with European researchers on CAR-T cell therapies
Hematology group: Hospital Virgen Rocío , Sevilla

ACTIVE GRANTS

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SCIENTIFIC DISSEMINATION

Conferences and scientific symposia organised:

- ESH 3rd How to Diagnose and Treat Acute Leukaemias, March 10-13, 2022 – E-conference. Speakers: Jorge Sierra. Chair (Co-Chairs: Hervé Dombret, Gert Ossenkoppele, Wendy Stock),

Participation by invitation in scientific conferences and talks:

- "International Academy of Clinical Hematology: How I treat newly diagnosed AML". *Paris, 26*/09/2022. Speaker: Jorge Sierra.
- "Euroleuk2022: News on AML: International Consortium Classification and European LeukemiaNet guidelines 2022". Copenhage (Denmark): 1-3/11/2022. Speaker: Jorge Sierra.
- "2nd European Blood and Marrow Transplant (EBMT) Group and China Scientific Forum: European LeukemiaNet guidelines 2022", 18/11/2022. Speaker: Jorge Sierra.
- Invited speaker at conference: "Development and results of the academic CART30. Refresher course in Cellular and Advanced Therapy." BST and Generalitat Catalunya. December. Speaker: Javier Briones.
- Invited speaker at conference: "CART therapy vs. autologous transplantation in diffuse large cell lymphoma in recurrence." Annual Meeting of the Chilean Society of Hematology. Chile. November 2022. Speaker: Javier Briones.
- Invited speaker at conference: "CART cells for the treatment of Hodgkin lymphoma." Course: Advanced Therapies: Scientific basis and Clinical uses. Murcia, July 2022. Speaker: Javier Briones.
- Invited speaker at conference: "CART therapy. Immunology course for hematologists." SEHH/Novartis. October 2022. Speaker: Javier Briones.
- Invited speaker at conference: "CART therapy: from the laboratory to the patient. Development of an academic CART." XXXI Congress of the Society of Clinical Pharmacology. June 2022. Speaker: Javier Briones.

CANCER PREDISPOSITION AND DNA REPAIR SYNDROMES



Group leader
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Pujol Calvet, Roser (CIBERER)
Ramirez De Haro, Maria Jose (CIBERER)
Rodriguez Santiago, Benjamin (FGS)
Steigerwald , Daniela (UAB)
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Fornasier , Nicole Amatista (Univ. Degli Studi di Trieste,Italy)
Jaurrieta Castany, Iker (UAB)
Piegl Sanchez, Tara (UAB)

Secondary school Internship student
Jareño Rey, Dolores (Centro Alfonso X El Sabio)

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 a number of novel 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 an adequate genetic counselling 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 in familiar breast cancer and Fanconi Anemia and related chromosome fragility syndromes.

Genetic characterization of Fanconi patients and identification of new genes involved in the disease and into hereditary cancer syndromes.

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 target against cancer. Development of DNA repair inhibitor against cancer by synthetic lethality.

SCIENTIFIC CHALLENGES

Optimization of our drug candidate to inhibit FA pathway in a valorisation process under the finantial help of a Proof of Concept Grant by the Spanish Ministry. We are in contact with an important pharma company from UK interested in our asset.
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 to treat Fanconi anaemia patients with head-and-neck cancer.
Performing a drug screening to find drugs reactivating the Fanconi pathway in cells expressing a FANCA mutant protein.
Develop preconceptional genomic medicine to prevent newborns with genetic disorders by the detection of couple at risk.
Validation of gene candidates indentified and priorizated in a genome wide CRISPR-Cas screen to indentify synthetic lethal and viable interactions with the Fanconi/BRCA pathway.
Identification of a novel Fanconi anaemia gene in a novel family without mutations in any of the known FA genes

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS:

Dr Pia Gallano's team, Genetics Department, Hospital de la Santa Creu i Sant Pau.
Dr Isabel Badell, Director, Unit of Hematology, Oncology and Hematopoietic Stem Cell Transplant, Pediatrics Service, Hospital de la Santa Creu i Sant Pau.
Dr Enrique Lerma, Anatomic Pathology Department, Hospital de Sant Pau.
Dr Oscar Gallego, Georgia Anguera, Medical Oncology Department, Hospital de la Santa Creu i Sant Pau.

• EXTERNAL COLLABORATIONS:

International collaborations

- Eunike Velleuer, Department of Pediatrics, Hospital Neuwerk Maria von den Aposteln, Mönchengladbach, Germany.
- Jonathan Schwartz, Rocket Pharma, New York, NY, USA.
- Parinda Mehta, Division of Bone Marrow Transplantation and Immune Deficiency, Cincinnati Children's Hospital Medical Center, Department of Pediatrics, College of Medicine, University of Cincinnati, Cincinnati, OH, USA.
- Akiko Shimamura, Pediatric Hematology-Oncology, Boston Children's Hospital, Pediatric Oncology, Dana-Farber Cancer Institute, Department of Pediatrics, Harvard Medical School, Boston, MA, USA
- Fergus J Couch, Department of Laboratory Medicine and Pathology, Mayo Clinic, Rochester, MN 55901, USA.
- Peter J Campbell, Laboratory of Genome Maintenance, Rockefeller University, New York, NY, USA.
- Agata Smogorzewska, Laboratory of Genome Maintenance, Rockefeller University, New York, NY, USA.

National collaborations

- Juan A. Bueren, CIEMAT, Madrid.
- Luis A. Perez Jurado, UPF, Barcelona.
- Joaquín Dopazo, Computational Medicine Platform, Andalusian Public Foundation Progress and Health-FPS and Institute of Biomedicine of Seville, IBiS, University Hospital Virgen del Rocío/ CSIC/University of Seville, Seville, Spain.
- Cristina Diaz de Heredia, H. Vall Hebron, Barcelona.
- Albert Català, H. Sant Joan de Deu, Barcelona.
- Judith Balmaña, H. Vall Hebron, Barcelona.
- Jose Luís Garcia, GENYO, Granada.
- Ramón Garcia-Escudero, CIEMAT, Madrid.
- Conxi Lázaro, Miquel A. Pujana, Bellvitge Institute for Biomedical Research (IDIBELL), L'Hospitalet del Llobregat.
- Andrés Aguilera and Ivan Rosado, Centro Andaluz de Biología Molecular y Medicina Regenerativa (CABIMER) and University of Seville.
- Mercedes Robledo, Human Cancer Genetics Program, Spanish National Cancer.

ACTIVE GRANTS

- Cavero Moreno, Debora. PRE2019-091044. Ministerio de Ciencia e Innovación (MICINN). Duration: 2020-2024. 95.450,00 €
- Moliner Abos, Carlos. Contractes Rio Hortega 2021. CM21/00245. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 65.000,00 €
- Rodriguez Santiago, Benjamin. Catalan Interhospital Network of Genetic Variants to Improve Genetic Diagnosis in Rare Diseases. MARATO 202040-33. Fundació La Marató de TV3. Duration: 2021-2024. 26.625,00 €
- Surralles Calonge, Jordi. La ruta anemia de Fanconi/BRCA: investigación genética y terapéutica.. RTI2018-098419-B-I00. Ministerio de Ciencia, Innovación y Universidades (MICIU). Duration: 2019-2022. 314.600,00 €
- Surralles Calonge, Jordi. EHDEN. Unión Europea. Duration: 2022-2023. 100.000,00 €
- Tejero Laguna, Eudald. Desarrollo y diseño de herramientas bioinformáticas para el tratamiento de datos de secuenciación masiva en el ámbito biomédico. FPU17/04141. Ministerio de Educación, Cultura y Deporte (MECD). Duration: 2018-2025. 123.184,80 €
- The mechanism of synthetic lethality between BRCA1/2 and Fanconi anaemia E3 ligase activity (2019-2022). Grant number - GNT1156343. Funding agency The (Australian) National Health and Medical Research Council (NHMRC). Surrallés team budget: 45.000,00 €
- FANCONINIB: a new inhibitor of DNA damage repair for cancer therapy."La Caixa" Banking Foundation CaixaImpulse Validate 2020-2022 Call. IP Jordi Minguillón, Jordi Surrallés. 70.000,00 €
- Terapia de lesiones cancerosas de la mucosa oral de pacientes con anemia de Fanconi mediante sustitutos autólogos bioingenierizados corregidos genéticamente (ER21P7AC745). ACCI20. CIBERER Acciones Cooperativas y Complementarias Intramurales. (01/09/2021 - 31/12/2022). 10.500,00 € grupo Surrallés. (CIBER)
- 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. Presupuesto global 7.249.990 euros.

- Afatinib therapy for Head and Neck Squamous Cell Carcinomas in Fanconi anemia. FARF 2022. Fanconi Anemia Research Fund (FARF). Research Grant Award Program supplemental funding. 2021. PI: Jordi Minguillón, PhD; Jordi Surrallés, PhD (CO-PI). 60,000$.
- Tejero Laguna, Eudald. Desarrollo y diseño de herramientas bioinformáticas para el tratamiento de datos de secuenciación masiva en el ámbito biomédico. FPU17/04141. Ministerio de Educación, Cultura y Deporte (MECD). Duration: 2018-2025. 123.184,80 €

GRANTS AWARDED

- Marsal Olivan, Aina. FI_B00262. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2025. 69.508,40 €
- Surralles Calonge, Jordi. The Fanconi Anemia/BRCA Pathway: Genomic Medicine and Advanced Therapies. PID2021-1224110B-I00. Ministerio de Ciencia e Innovación (MICINN). Duration: 2022-2025. 417.450,00 €
- Surralles Calonge, Jordi. 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 sintética. PDC2022-133233-I00. Ministerio de Ciencia e Innovación (MICINN). Duration: 2022-2024. 149.500,00 €
- Surralles Calonge, Jordi. Reposicionamiento de afatinib para HNSCC en pacientes con anemia de Fanconi. ICI22/00076. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2026. 396.101,20 €
- 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. 2023-2025. PI Jordi Surrallés. 300.000,00 €
- NIH Center Comprehensive Program for Natural History of development of Squamous Cell Carcinoma in Fanconi AnemiaCo-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. Surrallés team Budget: $ 80.000.
- 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. 52.600,00 € (CIBER)
- Federated network for functional genomics of undiagnoser and rare diseases-rarefunction. Acciones Cooperativas y Complementarias Intramurales 2021 (ACCI). CIBERER. Coordinador Francisco Palau. (IP grupo Jordi Surrallés/ Massimo Bogliolo). Presupuesto global 73.500 euros.
- 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. 178.650,00 €

DOCTORAL THESES

- Camps Fajol, Cristina. Discovery of first-in-class inhibitors of a DNA damage repair pathway. 19/12/2022. Universitat de Barcelona. Supervisors: Surrallés Calonge, Jordi; Minguillón Pedreño, Jordi. http://hdl.handle.net/10803/687563.
- Domingo Gallego, Andrea. Genomic study of early-onset chronic kidney disease. 04/03/2022. Universitat Autònoma de Barcelona. Supervisors: Ars Criach, Elisabet; Torra Balcells, Roser. Tutor: Surrallés i Calonge, Jordi. http://hdl.handle.net/10803/674937.
- Steigerwald, Daniela. Discovery of synthetic lethal or viable interactions between DNA repair pathways. 08/04/2022. Universitat Autònoma de Barcelona. Supervisors: Bogliolo, Massimo; Surrallés Calonge, Jordi. http://hdl.handle.net/10803/675626.

AWARDS

- Surrallés Calonge, Jordi. ICREA Academia Award 2018 (2019-2023). 200.000,00 €

SCIENTIFIC PRODUCTION

- Alias L, de Heredia ML, Luna S, Cliville N, Gonzalez L, Gallano P, de Juan J, Pujol A, Diez S, Boronat S, Orus C, Lasa A, Venegas MD. Case report: De novo pathogenic variant in WFS1 causes Wolfram-like syndrome debuting with congenital bilateral deafness. *FRONTIERS IN GENETICS*. 2022; 13:1024742. DOI:10.3389/fgene.2022.998898. PMID:36330437. IF:4,772 (Q1/3D). Document type: Article.
- Casado JA, Valeri A, Sanchez R, Vela P, Lopez A, Navarro S, Alberquilla O, Hanenberg H, Pujol R, Segovia JC, Minguillon J, Surralles J, de Heredia CD, Sevilla J, Rio P, Bueren JA. Upregulation of NKG2D ligands impairs hematopoietic stem cell function in Fanconi anemia. *JOURNAL OF CLINICAL INVESTIGATION*. 2022; 132(15):e142842. DOI:10.1172/JCI142842. PMID:35671096. IF:19,456 (Q1/1D). Document type: Article.
- Cruz R, Diz S, de Heredia ML, Quintela I, Ceballos FC, Lorenzo GM, Gonzalez R, Gago M, Porras MS, Castano J, Nevado J, Aguado JM, Aguilar C, Aguilera S, Almadana V, Almoguera B, Alvarez N, Andreu A, Arana E, Arango C, Arranz MJ, Artiga MJ, Baptista RC, Barreda M, Belhassen M, Bezerra JF, Bezerra M, Boix L, Brion M, Brugada R, Bustos M, Calderon EJ, et al. [Martínez-Perez A, Soria JM, Souto JC, Fernández-Cadenas I]. Novel genes and sex differences in COVID-19 severity. *HUMAN MOLECULAR GENETICS*. 2022; 31(22). DOI:10.1093/hmg/ddac132. PMID:35708486. IF:5,121 (Q1/3D). Document type: Article.
- Encarnacion JA, Cerezuela P, Espanol I, Garcia MR, Manso C, De la Fuente I, Garrigos N, Viney A, Minguillon J, Surralles J. Fanconi-like anemia related to a FANCM mutation. *EUROPEAN JOURNAL OF MEDICAL GENETICS*. 2022; 65(1):104399. DOI:10.1016/j.ejmg.2021.104399. PMID:34793962. IF:2,465 (Q3/8D). Document type: Article.
- Errazquin R, Page A, Suñol A, Segrelles C, Carrasco E, Peral J, Garrido A, Del Marro S, Ortiz J, Lorz C, Minguillon J, Surralles J, Belendez C, Alvarez M, Balmaña J, Bravo A, Ramirez A, Garcia R. Development of a mouse model for spontaneous oral squamous cell carcinoma in Fanconi anemia. *ORAL ONCOLOGY*. 2022; 134:106184. DOI:10.1016/j.oraloncology.2022.106184. PMID:36191479. IF:5,972 (Q1/1D). Document type: Article.
- Luque J, Mendes I, Gomez B, Morte B, de Heredia ML, Herreras E, Corrochano V, Bueren J, Gallano P, Artuch R, Fillat C, Perez LA, Montoliu L, Carracedo A, Millan JM, Webb SM, Palau F, Lapunzina P. CIBERER: Spanish national network for research on rare diseases: A highly productive collaborative initiative. *CLINICAL GENETICS*. 2022; 101(5-6). DOI:10.1111/cge.14113. PMID:35060122. IF:4,296 (Q2/4D). Document type: Review.
- Minguillon J, Ramirez MJ, Rovirosa L, Bustamante P, Camps C, de Garibay GR, Shimelis H, Montanuy H, Pujol R, Hernandez G, Bogliolo M, Castillo P, Soucy P, Martrat G, Gomez A, Cuadras D, Garcia MJ,

Gayarre J, Lazaro C, Benitez J, Couch FJ, Pujana MA, Surralles J. CDK5RAP3, a New BRCA2 Partner That Regulates DNA Repair, Is Associated with Breast Cancer Survival. *CANCERS*. 2022; 14(2):353. DOI:10.3390/cancers14020353. PMID:35053516. IF:6,575 (Q1/3D). Document type: Article.

- Parlade E, Volta E, Cano O, Sanchez JM, Unzueta U, Lopez H, Serna N, Cano M, Rodriguez M, Vazquez E, Villaverde A. An In Silico Methodology That Facilitates Decision Making in the Engineering of Nanoscale Protein Materials. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(9):4958. DOI:10.3390/ijms23094958. PMID:35563346. IF:6,208 (Q1/3D). Document type: Article.
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- Poyatos J, Marti P, Liquori A, Muelas N, Pitarch I, Martinez L, Rodriguez B, Gonzalez L, Damia M, Aller E, Selva M, Vilchez R, Diaz J, Alonso J, Barcena JE, Jauregui A, Gamez J, Aladren JA, Fernandez A, Montolio M, Azorin I, Hervas D, Casasus A, Nieto M, Gallano P, Sevilla T, Vilchez JJ. Dystrophinopathy Phenotypes and Modifying Factors in DMD Exon 45-55 Deletion. *ANNALS OF NEUROLOGY*. 2022; 92(5). DOI:10.1002/ana.26461. PMID:35897138. IF:11,274 (Q1/1D). Document type: Article.
- Webster ALH, Sanders MA, Patel K, Dietrich R, Noonan RJ, Lach FP, White RR, Goldfarb A, Hadi K, Edwards MM, Donovan FX, Hoogenboezem RM, Jung M, Sridhar S, Wiley TF, Fedrigo O, Tian H, Rosiene J, Heineman T, Kennedy JA, Bean L, Rosti RO, Tryon R, Gonzalez A-M, Rosenberg A, Luo J-D, Carroll TS, Shroff S, Beaumont M, Velleuer E, Rastatter JC, Wells SI, Surrallés J, Bagby G, MacMillan ML, Wagner JE, Cancio M, Boulad F, Scognamiglio T, Vaughan R, Beaumont KG, Koren A, Imielinski M, Chandrasekharappa SC, Auerbach AD, Singh B, Kutler DI, Campbell PJ, Smogorzewska A. Genomic signature of Fanconi anaemia DNA repair pathway deficiency in cancer. *NATURE*. 2022; 612(7940). DOI:10.1038/s41586-022-05253-4. PMID:36450981. IF:69,504 (Q1/1D). Document type: Article.

SCIENTIFIC DISSEMINATION

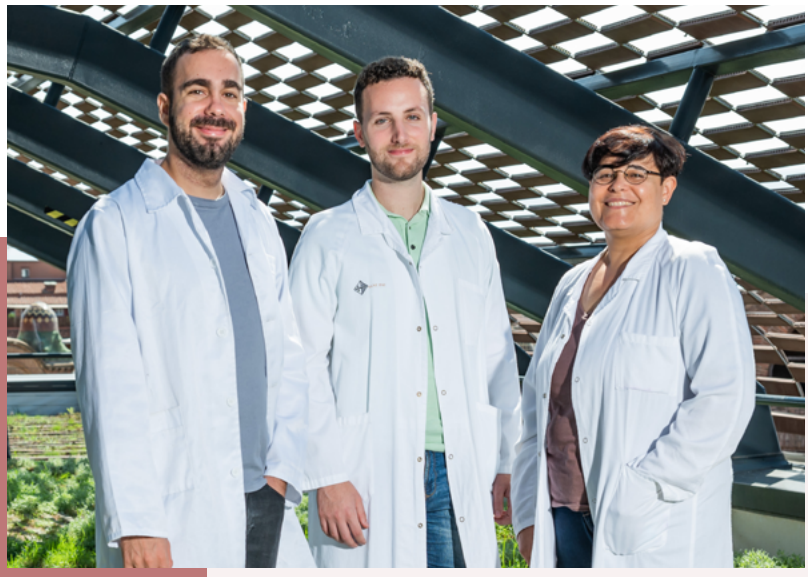
Conferences and scientific symposia organised:

- Co-organized the XV Human Genetics Update Conference on Hereditary Cancer. Barcelona (auditorium AXA), 22/04/2022.

Participation by invitation in scientific conferences and talks:

- "Natural History of Mosaic Fanconi Anaemia Patients". Natural History Meeting with Rocket Pharma. New York, 28/01/2022. Surrallés J, Invited speaker.
- "Fanconi anaemia: from interstrand crosslink repair to novel therapies". 13th International Conference on Environmental Mutagens-ICEM2022. Ottawa (Canada), 27-29/08/2022. Surrallés J, Invited speaker.
- "Genome maintenance and human health: insights from Fanconi anaemia." National Institute of Paediatrics of Mexico, Ciudad de México, 13/10/2022. Surrallés J, Invited speaker.

GYNECOLOGIC AND PERITONEAL ONCOLOGY



Group leader
Cespedes Navarro, Maria Virtudes (IR)

Researchers
Caruana Santiago, Pablo (IR)
Edwards , Maria Charlotte (IR)
Luna Guibourg, Rocio (FGS)
Rodriguez Lozano, Francisco (IR)
Rovira Negre, Ramon (FGS)
Soler Moreno, Cristina (FGS)
Teixera , Natalia (FGS)

Research technicians
Llimos Aubach, Julia (IR)
Zapater Enrique, Oscar (FGS)

Internship student
Ruiz Palacio, Raul (Inst. Guineueta)

DESCRIPTION

GOGYP is a multidisciplinary research group. We are active in surgical technical advances, diagnostic tools, new and innovates therapies based-in nanotechnology, preclinical development of drugs and clinical assays. Our research lines aimed at identifying new prognostic and therapeutic targets for risk and stratification of endometrial cancer patients,with a special interest in those biomarkers involved in mechanisms of neuromodulation of gynecological cancers, and unveiling the influence of the nervous system in tumor progression and metastasis. Our research comprises from patient sample screening to in vitro and in vivo experimentation. We use the modeling of gynecological cancers in mice to better understand tumor progression, and to the evaluate both, repurposing and innovative therapies based on protein-derived nanoparticles, for targeted elimination of cancer stem cells or/and their supportive microenvirontment.

MAIN LINES OF RESEARCH

Identify new prognostic biomarkers and new therapeutic targets for risk and therapeutic stratification in endometrial cancer patients
Study the effect of the Nervous system in tumor progression and metastasis in gynecological and peritoneal cancers
Modeling gynecological and peritoneal cancers in animals to better understand tumor pathophysiology and the use for preclinical drug evaluation.
Development of new antitumor drugs, using nanotechnology, in cell lines and animal models for targeted delivery to cancer stem cells (in collaboration with the Oncogenesis and Antitumor Drugs group).

SCIENTIFIC CHALLENGES

Promote clinical and translational research into gynaecological cancers with a very large database and study relevant clinical issues.
Obtain funding from FIS, regional authorities and private companies.
Enhance cooperation with other clinical and research groups both in Sant Pau and extra-hospital, and attract predoctoral and postdoctoral fellows.
Develop molecular markers for therapeutic decision-making in endometrial cancer patients.
Identification and validation of novel therapeutic targets related to neuromodulation in tumour progression of gynaecological cancers.
Achieve antitumor and antimetastatic effects by targeting drugs at cancer stem cells in gynaecological and peritoneal cancers.

COLLABORATIONS

• IIB SANT PAU RESEARCH GROUPS
Women and Perinatal Health research Group,
Obstetric and Gynecological Dept. (Dr Elisa Llurba)
Endocrinology, Diabetes and Nutrition Group, (Dr Eugenia Mato)
Lipids and cardiovascular Pathology Group
(Dr Vicenta Llorente-Cortés)
Oncogenesis and Antitumour Drugs Group (Dr Ramon Mangues)
Oncology / Haematology and Transplantation Group
Anatomy and Pathology Dept.
(Dr Enrique Lerma & Dr Alberto Gallardo)
Pharmacy Dept. (Dr María Gamez)
Medical Oncology Dept. (Dr Lopez Pousa)

• EXTERNAL COLLABORATIONS:
Biomedical Research Institute (IRB), Barcelona, Spain. (Dr María Macías)

CIBER-BBN & Institut de Biotecnologia i de Biomedicina Universitat Autònoma de Barcelona, Spain. (Drs Jose Luis Corchero and Neus Ferrer)
Laboratori d'Enginyeria, Departament de Biologia, Universitat de Girona, Spain. (Dr Antoni Benito)
Biomedical Research Institute of Lleida-IRB Lleida. (Dr Xavier Gallart-Palau)
Institut de Biotecnologia i de Biomedicina Universitat Autònoma de Barcelona, Spain. (Dr Antonio Villaverde)
Institute for Advanced Chemistry of Catalonia (IQAC) Centro Superior de Investigaciones Científicas (CSIC), Barcelona, Spain. (Dr Ramón Eritja)
Grupo GEICO, Grupo Español de Investigación en Cáncer de Ovario, Spain. (Dr Cristina Martín-Llorente, Dr R. Rovira, Dr MV Céspedes).
Hospital de Bellvitge, Barcelona, Spain. (Dr Xavier Matias-Guiu)
Translational colorectal Cancer genomics, Hospital Clinic, Barcelona, Spain. (Dr Jordi Camps)
Universidad Complutense de Madrid, UCM, Faculty of Biology, Spain. (María Jesus Delgado)
New Jersey Medical School, Rutgers University, Newark, New Jersey. (USA) (Dr Luis Ulloa)
SIRIC Montpellier Cancer Institut, Montpellier, France. (Dr Julie Pannequin)
Institute for Cancer Research and Treatment, Candiolo, Torino (Italy). (Dr Paolo Micheli)
Cancer Center Karolinska, Karolinska Institutet, Stockholm (Sweden). (Arne Östman)

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. Contractes "Miguel Servet II" 2020. CPII20/00007. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 101.250,00 €
- 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. Nanoterapia innovadora para cánceres peritoneales metastásicos: activando neuroreceptores para matar células madre tumorales. PI20/00623. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 173.030,00 €
- Cespedes Navarro, Maria Virtudes. Terapia dirigida para la eliminación selectiva de células madre metastáticas CXCR4+ en cáncer de endometrio. FMM 2017. Fundació Mutua Madrileña. Duration 2017-2022. 140.000,00 €.
- Español Lloret, Maria Pia. The Impact of the Body Mass Index on the surgical management of Endometrial Cancer (Impacto del Índice de Masa Corporal en el tratamiento quirúrgico del Cáncer de Endometrio). IIBSP-EMC-2021-55
- Rovira Negre, Ramon. The impact of age in surgical morbidity of endometrial cancer. IIBSP-CEN-2021-45
- Soler Moreno, Cristina. Comparison of laparoscopy and laparotomy for the treatment of early-stage ovarian cancer. IIBSP-OVC-2021-54.

GRANTS AWARDED

- 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 €
- Edwards, Maria. InPHINIT 22. Fundació La Caixa. Duration: 2022-2025. 115.092,00 €

DOCTORAL THESES

- Español Lloret, Pía. Study of the prognostic value of cathecolaminergic receptors in endometrial cancer: contribution to tumor progression. 25/11/2022. Universitat Autònoma de Barcelona. Supervisors: Céspedes Navarro, María Virtudes; Porta Roda, Oriol; Llurba Olivé, Elisa.

SCIENTIFIC PRODUCTION

- Aznar AL, Lloret PE, Moreno CS, Luna-Guibourg R, Rovira R. Laparoscopic approach for symptomatic pelvic and para-aortic lymphoceles. *JOURNAL OF THE TURKISH-GERMAN GYNECOLOGICAL ASSOCIATION*. 2022; 23(1). DOI:10.4274/jtgga.galenos.2021.2021.0028. PMID:34109774. Document type: Article.
- Español P, Luna-Guibourg R, Soler-Moreno C, Caruana P, Altes A, Rodriguez F, Porta O, Sanchez O, Llurba E, Rovira R, Cespedes MV. Neural plasticity of the uterus: New targets for endometrial cancer?. *WOMENS HEALTH*. 2022; 18:17455057221095537. DOI:10.1177/17455057221095537. PMID:35465787. Document type: Review.
- Fernandez R, Carreno A, Mendoza R, Benito A, Ferrer N, Cespedes MV, Corchero JL. Escherichia coli as a New Platform for the Fast Production of Vault-like Nanoparticles: An Optimized Protocol. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(24):15543. DOI:10.3390/ijms232415543. PMID:36555185. IF:6,208 (Q1/3D). Document type: Article.
- Francis KE, Kim SI, Friedlander M, Gebski V, Ray-Coquard I, Clamp A, Penson RT, Oza A, Perri T, Huzarski T, Martin-Lorente C, Cecere SC, Colombo N, Ataseven B, Fujiwara K, Sonke G, Vergote I, Pujade-Lauraine E, Kim J-W, Lee CK. The impact of olaparib dose reduction and treatment interruption on treatment outcome in the SOLO2/ENGOT-ov21 platinum-sensitive recurrent ovarian cancer. *ANNALS OF ONCOLOGY*. 2022; 33(6). DOI:10.1016/j.annonc.2022.02.222. PMID:35219776. IF:51,769 (Q1/1D). Document type: Article.
- Lorca C, Laparra M, Cespedes MV, Casani L, Florit S, Jove M, Mota N, Vilella E, Gallart X, Serra A. Industrial By-Products As a Novel Circular Source of Biocompatible Extracellular Vesicles. *ADVANCED FUNCTIONAL MATERIALS*. 2022; 32(29):2202700. DOI:10.1002/adfm.202202700. IF:19,924 (Q1/1D). Document type: Article.
- Luzarraga-Aznar A, Teixeira N, Luna-Guibourg R, Español P, Soler-Moreno C, Rovira R. Surgical treatment in older patients with endometrial cancer: A retrospective study. *SURGICAL ONCOLOGY-OXFORD*. 2022; 44:101852. DOI:10.1016/j.suronc.2022.101852. PMID:36126351. IF:2,388 (Q3/6D). Document type: Article.
- Martin F, Carreno A, Mendoza R, Caruana P, Rodriguez F, Bravo M, Benito A, Ferrer N, Cespedes MV, Corchero JL. All-in-one biofabrication and loading of recombinant vaults in human cells. *BIOFABRICATION*. 2022; 14(2):025018. DOI:10.1088/1758-5090/ac584d. PMID:35203066. IF:11,061 (Q1/1D). Document type: Article.
- Medina E, Cespedes MV, Gallardo A, Rioja E, Pavon MA, Asensio L, Farre L, Alba L, Unzueta U, Villaverde A, Vazquez E, Casanova I, Mangues R. Novel Endometrial Cancer Models Using Sensitive Metastasis Tracing for CXCR4-Targeted Therapy in Advanced Disease. *BIOMEDICINES*. 2022; 10(7):1680. DOI:10.3390/

biomedicines10071680. PMID:35884987. IF:4,757 (Q2/4D). Document type: Article.

- Rodríguez F, Caruana P, De la Fuente N, Español P, Gámez M, Balart J, Llurba E, Rovira R, Ruiz R, Martín C, Corchero JL, Céspedes MV. Nano-Based Approved Pharmaceuticals for Cancer Treatment: Present and Future Challenges. *BIOMOLECULES*. 2022; 12(6):784. DOI:10.3390/biom12060784. PMID:35740909. IF:6,064 (Q2/3D). Document type: Review.
- Sala R, Rioja E, Serna N, Sanchez L, Alamo P, Alba L, Casanova I, Lopez A, Unzueta U, Cespedes MV, Vazquez E, Villaverde A, Mangues R. GSDMD-dependent pyroptotic induction by a multivalent CXCR4-targeted nanotoxin blocks colorectal cancer metastases. *DRUG DELIVERY*. 2022; 29(1). DOI:10.1080/10717544.2022.2069302. PMID:35532120. IF:6,819 (Q1/2D). Document type: Article.

SCIENTIFIC DISSEMINATION

Conferences and scientific symposia organised:

- Master in Advanced Biotechnology UAB "2021-2022". Lecturer. Master Degrees.
- Master in minimally invasive oncological surgery, UAB "2021-2022". Lecturer. Master Degrees. MV Cespedes, R Rovira.
- Máster en Medicina Materno-Fetal UAB "2020-2022". Lecturer. Master Degrees. MV Cespedes.
- Cavity entry in complex patients: obesity and previous surgery. XII Congress of the Gynaecological Endoscopy Section of the SEGO. Granada, 20-22/04/2022. Speaker: R Rovira.
- Basic manoeuvres in complications during laparoscopic surgery. II AIEM 360° Congress. Comprehensive Care in 360° in the Ages of Women. Valencia, 1-2/06/2022 Speaker: R Rovira.
- Fundamentals actions of MIS and how to acquire them. ESGE 21st Annual Congress. Lisbon (Portugal), 2-5/10/2022. Speaker: R Rovira.
- Preventive Surgery in Gynaecological Surgery. ESGE 21st Annual Congress. Lisbon (Portugal), 2-5/10/2022. Speaker: R Rovira.

Participation by invitation in scientific conferences and talks:

- Lateral pelvic spaces: Entering the spaces. Endodubai 2022. Dubai, 24-26/02/2022. Lecturer: R Rovira
- Nerve sparing of autonomous nervous System approaching pelvic spaces. Endodubai 2022. Dubai, 24-26/02/2022. Lecturer: R Rovira

Outreach activities to society:

- "Gynaecological cancers and nervous system." ESCOLAB programe 19/04/2022 - Escola Solc Nou. Speaker: MV Cespedes.
- "Gynaecological cancers and nervous system." ESCOLAB programe Programa ESCOLAB jornada 26/04/2022 - Escola Solc Nou. Speaker: MV Cespedes.
- "Entre Dones" First participatory day on women's health at the Hospital de Sant Pau. Presentation on Endometriosis. Recinte Modernista de Sant Pau, 20-21/05/2022. Speaker: R Rovira.
- Talk "Gynaecological cancers and nervous system." 15/06/2022. CC Guinardó. Speaker: MV Céspedes.

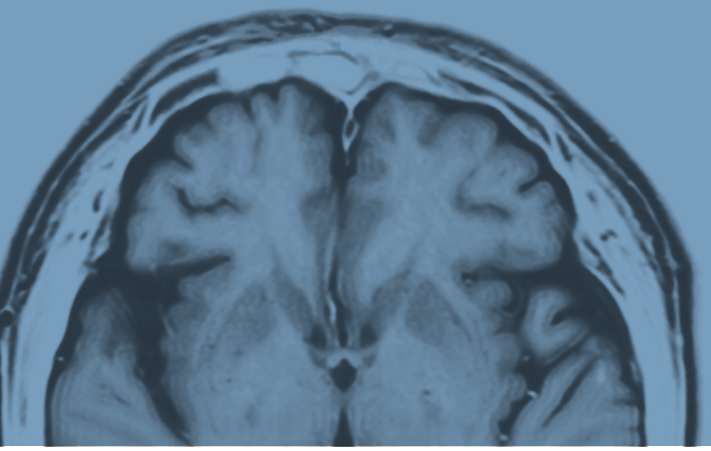
05.1.3

NEUROLOGICAL DISEASES, NEUROSCIENCES AND MENTAL HEALTH



Area Director:
Alberto Lleó

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 in neuropharmacology. Large population cohorts of patients with clinical follow-ups are analysed in this area and many clinical trials are performed.



Research groups:

- Cerebrovascular Diseases
  Joan Martí Fàbregas
- Neuromuscular Diseases
  Montserrat Olivé
- Parkinson Disease and Movement Disorders
  Jaime Kulisevsky
- Molecular Neuropharmacology
  Olga Pol
- Pharmacological Research in Humans
  Rosa Ma Antonijoan
- Mental Health
  Maria J. Portella
- Neurobiology of Dementia
  Alberto Lleó – until October 2023/
  Juan Fortea – from October 2023
- Neuroradiology
  M. Beatriz Gómez Ansón
- Addictive Behaviours
  Joan Trujols
- Molecular Physiology of the Synapse
  Àlex Bayés
- Stroke Pharmacogenomics and Genetics
  Israel Fernández-Cadenas
- Genetic Diseases
  Maria Pia Gallano
- Neurosurgery
  Fernando Muñoz
- Molecular Neurodegeneration
  Olivia Belvin
- Epilepsy
  Susana Boronat

CEREBROVASCULAR DISEASES



Group leader
Marti Fabregas, Joan (FGS)

Researchers
Camps Renom, Pol (FGS)
Delgado Mederos, Raquel (IR)
Gallego Fabrega, Cristina (IR)
Guisado Alonso, Daniel (FGS)
Martinez Domeño, Alejandro (FGS)
Prats Sanchez, Luis Antonio (FGS)
Ramos Pachon, Anna (FGS)

Research technicians
Aguilera Simon, Ana (IR)
Izquierdo Tapiz, Arturo (IR)
Marin Bueno, Rebeca (IR)
Puig Grifol, Nuria (IR)

Internship students
Barahona Saez, Lucia (Centro Alfonso X El Sabio)

DESCRIPTION

Our research has an eminently clinical basis and focuses on non-traumatic vascular diseases of the central nervous system, both ischemic (cerebral infarction, transient ischemic attack) and hemorrhagic (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 and prevention of hemorrhagic complications. Reperfusion injury.

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. 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 haemorrhage associated to anticoagulants.

SCIENTIFIC CHALLENGES

To enhance cooperation with other groups in the framework of Spanish stroke research.

Spanish research network (RICORS/ICTUS) and also intrahospital and extra-hospital cooperation.

To obtain 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 professionally development of existing researchers.

To obtain patents

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Stroke pharmacogenomics and genetics
Cardiovascular Biochemistry
Lipids and Cardiovascular Pathology
Nuclear medicine
Neuroradiology
Intensive Care Medicine
Unitat de Genòmica de Malalties Complexes

EXTERNAL COLLABORATIONS

National Hospital for Neurology and Neurosurgery, University College Hospital, Londres, Dr David Werring
Mater University Hospital/University College Dublin, Dr Peter Kelly
McMaster University/Population Health Research Institute, Hamilton, Ontario (Dr. Ashkan Shoamanesh)
Washington University School of Medicine, Saint Louis (Dr. Rajat Dhar)
Institut de Ciències Fotòniques, ICFO (Dr Turgut Durduran)

NINDS (Dr Magdy Salim)
IMIM (Dr. Jordi Jimenez)
Pla de la Malaltia Vascular Cerebral (Departament de Salut)
Grup de treball de Gènere i Salut: subgrup de malaltia vascular cerebral (Departament de Salut)
Fundació Ictus

National Hospitals

- Hospital del Mar, Servei de Neurologia (Dr Jaume Roquer)
- Hospital Arnau de Vilanova, Lleida (Dr. Francesc Purroy)
- Hospital Universitari Vall d'Hebró (Dr. Carlos Molina, Dr Rodríguez-Luna)
- Hospital Germans Trias i Pujol (Dra Mónica Millan)
- Hospital de Bellvitge (Dr Pere Cardona)
- Hospital Central de Asturias (Dra. Elena López Cancio)
- Hospital de Cruces, Baracaldo (Dra. Mari Mar Freijo)
- Hospital de Donosti (Dra. Ana Maria de Arce Borda)
- Complejo Hospitalario Santiago de Compostela (Dr. Rodríguez-Yáñez)
- Hospital de A Coruña (Dra Mar Castellanos)
- Hospital La Paz, Madrid (Dra. Blanca Fuentes)
- Hospital Ramón y Cajal, Madrid (Dr Jaime Masjuan)
- Hospital de Valladolid (Dr. Juan F. Arenillas)
- Hospital Dr Josep Trueta, Girona (Dr. Joaquín Serena, Dra Yolanda Silva)
- Hospital Virgen del Rocío, Sevilla (Dr Pachi Moniche)
- Hospital La Fe, Valencia (Dr José Tembl)
- Hospital de Alicante (Dr Nicolás López)
- Hospital Miguel Servet (Dr. Herbert Tejada)
- Hospital Joan XXIII (Dr Xavier Ustrell)
- Hospital Clínic (Dr Angel Chamorro)

ACTIVE GRANTS

- Gallego Fabrega, Cristina. CD20/00043. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 80.598,00 €
- Marti Fabregas, Joan. Ensayo clínico sobre optimización hemodinámica de la perfusión cerebral 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. Contractes per a la intensificació de l'activitat investigadora 2020. INT20/00011. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 60.000,00 €
- Marti Fabregas, Joan. Circulación colateral en ictus isquémico agudo con oclusión de gran vaso: un estudio de los factores clínicos, radiológicos, plasmáticos y genéticos relacionados. PI19/00859. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 147.620,00 €
- 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 €
- Prats Sanchez, 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 €
- Puig Grifol, Nuria. Estancia externa en el Whuri Research Institute por el proyecto Collateral Circulation ("collaterome") in Acute Ischemic Stroke with Large Vessel Occlusion: A Study of Clinical, Radiological, Plasma and Genetic Factors (PI19/0085). MV21/00041. Instituto de Salud Carlos III (ISCIII) Duration: 2022. 14.490,00 €

GRANTS AWARDED

- 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 €
- Lambea Gil, Alvaro. Contratos Rio Hortega 2022. CM22/00265. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2024. 65.000,00 €
- 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 €
- Marti Fabregas, Joan. FASTEST - FVIIa for Acute hemorrhagic Stroke Administered at Earliest Time (FASTEST) Trial. NIH FASTEST 1U01NS110772-01. NIH (National Institute of Neurological Disorders and Stroke). Duration: 2022-2024. 126.576,65 €
- Marti Fabregas, Joan. SATURN - StATins Use in intRacerebral hemorrhage patieNts (SATURN). NIH SATURN 5U01NS102289-03. NIH (National Institute of Neurological Disorders and Stroke). 1.009.540,00 €

DOCTORAL THESES IN PROGRESS

- Aguilera Simón, Ana. Estudi de biomarcadors plasmàtics relacionats amb la circulació col·lateral i el pronòstic de pacients amb ictus isquèmic agut i oclusió de gran vas. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Martí Fàbregas, Joan; Camps Renom, Pol; Gallego Fàbrega, Cristina.
- Guisado Alonso, Daniel. Strategies to optimize endovascular treatment in acute stroke: analysis of selection criteria and the relationship between collateral circulation and arterial pressure. 2020-2023. Universitat Autònoma de Barcelona. Supervisors: Martí Fàbregas, Joan; Delgado Mederos, Raquel; Granell Moreno, Esther.
- Puig Grífol, Núria. Marcadores lipoproteicos para determinar la inflamacion de la placa carotidea en el íctus isquémico. 2018-2023. Universitat Autònoma de Barcelona. Supervisors: Benítez González, Sònia; Sánchez Quesada, Jose Luis; Camps Renom, Pol.

SCIENTIFIC PRODUCTION

- Camps-Renom P, McCabe J, Martí-Fàbregas J, Giannotti N, Fernandez A, McNulty JP, Baron JC, Barry M, Coutts SB, Cronin S, Delgado R, Dolan E, Foley S, Guasch M, Guisado D, Harbison JA, Horgan G, Kavanagh EC, Marnane M, Martinez A, McDonnell C, Sharma VK, Williams D, Connell MO, Murphy S, Prats L, Kelly PJ. Association of Plaque Inflammation With Stroke Recurrence in Patients With Unproven Benefit From Carotid Revascularization. NEUROLOGY. 2022; 99(2). DOI:10.1212/WNL.0000000000200525. PMID:35418461. IF:11,800 (Q1/1D). Document type: Article.

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- Cullell N, Soriano C, Gallego C, Carcel J, Torres NP, Muino E, Lledos M, Llucia L, Esteller M, de Moura MC, Montaner J, Fernandez A, Elosua R, Delgado P, Martí-Fàbregas J, Krupinski J, Roquer J, Jimenez J, Fernández-Cadenas I. DNA Methylation and Ischemic Stroke Risk: An Epigenome-Wide Association Study. THROMBOSIS AND HAEMOSTASIS. 2022; 122(10). DOI:10.1055/s-0042-1749328. PMID:35717949. IF:6,681 (Q1/2D). Document type: Article.
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- Gallego C, Muino E, Carcel J, Llucia L, Lledos M, Martin JM, Cullell N, Fernández-Cadenas I. Genome-Wide Studies in Ischaemic Stroke: Are Genetics Only Useful for Finding Genes?. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2022; 23(12):6840. DOI:10.3390/ijms23126840. PMID:35743317. IF:6,208 (Q1/3D). Document type: Review.
- Gallego C, Muino E, Cullell N, Carcel J, Lazcano U, Soriano C, Lledos M, Llucia L, Aguilera A, Marin R, Prats L, Camps-Renom P, Delgado R, Martin JM, Delgado P, Martí-Fàbregas J, Montaner J, Krupinski J, Jimenez J, Roquer J, Fernández-Cadenas I. Biological Age Acceleration Is Lower in Women With Ischemic Stroke Compared to Men. STROKE. 2022; 53(7). DOI:10.1161/STROKEAHA.121.037419. PMID:35209739. IF:10,170 (Q1/1D). Document type: Article.
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SCIENTIFIC DISSEMINATION

- **Congresses, scientific symposium organized nationally or internationally**
- I Days of controversies in stroke. Barcelona, June 2022. National. Scientific Organization. Speaker: Joan Martí Fàbregas.

SCIENTIFIC DISSEMINATION

- **Participation by invitation in national or international scientific conferences and talks**
- ESO Trials Alliance – Update on clinical trials and role of ESOTA. HOPE: Hemodynamic Optimization of Cerebral Perfusion After Endovascular Therapy in Patients with Acute Ischemic Stroke. European Stroke Conference 2022, Lyon, 4-6/05/2022. International. Invited conference. Speaker: Joan Martí Fàbregas.
- Closure of the appendage. Conference: "Synergies between Cardiology and Neurology". Abott. Madrid, 2 June 2022. Speaker: Joan Martí Fàbregas.
- Vascular events after intracerebral haemorrhage. ENRICH-AF Prague Conference. Invited conference. International. Prague, 28/09/2022. Speaker: Joan Martí Fàbregas.

NEUROMUSCULAR DISEASES



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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 in 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 data base for Guillain Barre syndrome.
- Coordinators of the INCBase (international database for CIDP)
- NMD-ES Spanish registry for neuromuscular diseases.

Muscular dystrophies

- Muscle MRI analysis as a biomarker of different muscular dystrophies.
- Role of PDGF in muscular dystrophies fibrosis. Study of nintedanib as an antifibrotic drug in muscular dystrophies.
- Role of fibroadipogenic progenitors in muscular dystrophies
- Natural history of Dysferlinopathies. The international COS-study Jain Foundation.
- Study of proteasome and autophagy inhibitors in dysferlin myopathy. Development of cell models of NMD diseases to study pathogenic mechanisms and drug screening.
- Pathogenic mechanims 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.

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.

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

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Inflammatory diseases: A. Mariscal, L. Martinez
Genetic diseases: P. Gallano, L. González, Alba Segarra
Neurobiology of dementia: O. Dols

EXTERNAL COLLABORATIONS

Dr. C. Dominguez, Dr A. Hernández-Lain. Hospital 12 Octubre. Madrid

G Ravenscroft, N. Laing. Perth. Australia

Jerome Devaux, CNRS (Institut de Neurosciences de Montpellier France

Xavier Navarro, Institut de Neurociencies de la Universitat Autònoma de Barcelona, Spain

R. Martí, Elena Garcia Arumí Institut de Recerca VH. Hospital Vall d'Hebron, Barcelona, Spain

Mouly, V. Institut de Myologie, Paris, France

Dalmau J, IDIBAPS, Barcelona

Bart Jacobs – Erasmus Medical Center, Rotterdam, Netherlands

Simon Rinaldi – Oxford University, UK

Filip Eftimov – Amsterdam Medical Center, Netherlands

Ellen Gelpí- University of Vienna

ACTIVE GRANTS

- Caballero Avila, Marta. Contractes Rio Hortega 2021. CM21/00101. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 65.000,00 €
- Carbayo Viejo, Alvaro. Contractes Rio Hortega 2021. CM21/00057. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 65.000,00 €
- Cortes Vicente, Elena. Contractes Juan Rodés 2019. JR19/00037. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 180.000,00 €
- Gallardo Vigo, Eduard. Estudio de la heterogeneidad de la Miastenia Gravis: Investigación clínica y preclínica mediante la implementación de modelos celulares 2D y 3D y utilización de biosensores. PI19/01774. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2022. 96.800,00 €
- Martin Aguilar, Lorena. Contratos Juan Rodes 2021. JR21/00060. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2025. 180.000,00 €
- 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 €
- Querol Gutierrez, Luis Antonio. Efficecy and neurological adverse effects of COVID-19 vaccination in patiens immunocompromised for multiple sclerosis. 202132-32. Fundació La Marató de TV3. Duration: 2021-2023. 65.000,00 €
- Querol Gutierrez, Luis Antonio. Contractes per a la intensificació de l'activitat investigadora 2020.. INT20/00080. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 60.000,00 €
- Querol Gutierrez, Luis Antonio. Biomarcadores diagnósticos y de daño tisular en neuropatías autoinmunes. PI19/01407. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 123.420,00 €
- Querol Gutierrez, Luis Antonio. Precision medicine in chronic inflammatory neuropathy assessment. GBS/CIDP 2020. GBS CDIP Foundation International. Duration: 2020-2023. 50.245,70 €
- Rojas Garcia, 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

- 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 €
- Querol Gutierrez, Luis Antonio. Medicina de precisión en neuropatías autoinmunes. PI22/00387. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 135.520,00 €

DOCTORAL THESES DEFENDED

- Alonso Jiménez, Alicia. Aplicación de técnicas de resonancia magnética muscular en el diagnóstico y seguimiento de enfermedades neuromusculares. 05/04/2022. Universitat Autònoma

de Barcelona. Supervisors: Díaz Manera, Jorge Alberto; Illa Sendra, Isabel. http://hdl.handle.net/10803/675516.

- Carrasco Rozas, Ana. Búsqueda de biomarcadores y estudio de mecanismos fisiopatológicos en la enfermedad de Pompe. Universitat Autònoma de Barcelona. 19/07/2022. Supervisors: Díaz Manera, Jorge Alberto; Gallardo Vigo, Eduard; Querol Gutiérrez, Luis. http://hdl.handle.net/10803/675702.
- Lleixà Rodríguez, Maria de la Cinta. Estudio de biomarcadores en pacientes con Síndrome de Guillain-Barré. Universitat Autònoma de Barcelona. 22/04/2022. Supervisors: Querol Gutiérrez, Luis; Illa Sendra, Isabel. http://hdl.handle.net/10803/675403.

DOCTORAL THESES IN PROGRESS

- Álvarez Velasco, Rodrigo. Detección de marcadores clínicos e inmunológicos para diagnóstico y pronóstico en miastenia gravis. 2018-2023. Universitat Autònoma de Barcelona. Supervisor: Gallardo Vigo, Eduard.
- Baucells de la Peña, Andrés. Caracterización de autoanticuerpos en miopatias inflamatorias idiopaticas. 2021-2025. Universitat Autònoma de Barcelona. Supervisors: Gallardo Vigo, Eduard; Martínez, L.; Mariscal Rodríguez, Anaïs.
- Caballero Ávila, Marta. Detección de nuevos biomarcadores serológicos de daño tisular en neuropatías inflamatorias. 2021-2024. Universitat Autònoma de Barcelona. Supervisors: Querol Gutiérrez, Luis; Alcolea Rodríguez, Daniel.
- Carbayo Viejo, Álvaro. Investigación, validación y caracterización multimodal de biomarcadores en pacientes del espectro Esclerosis Lateral Amiotrófica - Demencia frontotemporal (ELA-DFT). 2022-2024. Universitat Autònoma de Barcelona. Supervisor: Rojas García, Ricardo.
- Codes, Helena. Neuropathies with autoimmune features. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Querol Gutiérrez, Luis; Castellví Barranco, Iván.
- Reyes Leiva, David. Estudio de biomarcadores de respuesta terapéutica y pronóstico clínico en pacientes con Miastenia Gravis. 2021-2024. Universitat Autònoma de Barcelona. Supervisor: Cortés Vicente, Elena.
- Tandaipan, Jose Luis. Estudio de la afección muscular asociada a la esclerosis sistèmica. 2019-2024. Universitat Autònoma de Barcelona. Supervisors: Gallardo Vigo, Eduard; Castellví Barranco, Iván.

SCIENTIFIC PRODUCTION

- Alonso J, Carrasco A, Borrell M, Fernandez E, Pinol P, Badimon L, Wollin L, Lleixa C, Gallardo E, Olive M, Diaz J, Suarez X. Nintedanib Reduces Muscle Fibrosis and Improves Muscle Function of the Alpha-Sarcoglycan-Deficient Mice. *BIOMEDICINES*. 2022; 10(10):2629. DOI:10.3390/biomedicines10102629. PMID:36289891. IF:4,757 (Q2/4D). Document type: Article.
- Alonso J, Gonzalez L, Bruno C, Panicucci C, Alavi A, Nafissi S, Nilipour Y, Zanoteli E, Isihi LMD, Melegh B, Hadzsiev K, Muelas N, Vilchez JJ, Dourado ME, Kadem N, Kutluk G, Umair M, Younus M, Pegorano E, Bello L, Crawford TO, Suarez X, Topf A, Guglieri M, Marini C, Gallano P, Straub V, Diaz J. Clinical and genetic spectrum of a large cohort of patients with delta-sarcoglycan muscular dystrophy. *BRAIN*. 2022; 145(2). DOI:10.1093/brain/awab301. PMID:34515763. IF:15,255 (Q1/1D). Document type: Article.
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Pestronk A, Walter MC, Paradas C, Stojkovic T, Mori M, Bravver E, Pegoraro E, Lowes LP, Mendell JR, Bushby K, Bourke J, Straub V, Jain C. Cardiac and pulmonary findings in dysferlinopathy: A 3-year, longitudinal study. *MUSCLE & NERVE*. 2022; 65(5). DOI:10.1002/mus.27524. PMID:35179231. IF:3,852 (Q2/5D). Document type: Article.

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SCIENTIFIC DISSEMINATION

- "Myopathology of vacuolar myopathies and protein aggregate myopathies." 17th International Congress on Neuromuscular Diseases. 5-9/07/2022, Brussels. Invited speaker: Montse Olivé.
- "Myofibrillar myopathies. ACADEMY." Organized by Institute of Myology, Paris. 11-13/07/2022. Recorded talk. Speaker: Montse Olivé
- "Current treatment and upcoming therapeutic alternatives in Myasthenia Gravis Neuroimmuno". Mendoza 2022, Mendoza, Argentina, 12-19/12/2022. Speaker: Elena Cortes.
- "Evidence generation in MG: Trials and tribulations UCB Rare Disease Connect in Neurology." Madrid, 12/02/2022. Speaker: Elena Cortes.
- "Advances in the treatment of Myasthenia Gravis. Meeting of the Study Group of Critical and Intensive Neurology." Annual Meeting of the Spanish Society of Neurology, Seville, 11/16/2022. Speaker: Elena Cortes.
- "Update on the management of Myasthenia Gravis". Spring Meeting of the Study Group of Neuromuscular Diseases of the Spanish Society of Neurology, Santander, 04/01/2022. Speaker: Elena Cortes.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- "Observation of muscle biopsy under the bright field microscope." LA MERCE INTERACTIVE WORKSHOP. Research Institute. Recinte Modernista Sant Pau. 30TH ANNIVERSARY IR.29/09/2022. Speaker: Gallardo Vigo, Eduard.

PARKINSON DISEASE AND MOVEMENT DISORDERS



Group leader
Kulisevsky Bojarski, Jaime (FGS)

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Fernandez Vizuete, Cristina (IR)
Garcia Cornet, Julia (IR)
Horta Barba, Andrea (IR)
Kulisevsky Plaza, Gabriel (IR)
Martin , Pablo Lucas (IR)
Martinez Horta, Saul Indra (FGS)
Perez Carasol, Laura (IR)
Pla Sanchez, Monica (IR)
Reyes Haro, Lenin Alejandro (IR)
Rivas Asensio, Elisa Maria (IR)
Rodriguez-Antigüedad Muñoz, Jon (IR)
Salvat I Rovira, Nil (IR)
Soler Almendros, Judit (IR)

Internship students
Puig Davi, Arnau (UAB)

DESCRIPTION

Led by Jaime Kulisevsky MD, PhD, and based at Movement Disorders Unit of Sant Pau Hospital and Sant Pau Biomedical Research Institute, the group focuses its interest on Parkinson disease, Huntington 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' response.

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 behavioural 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.
- 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 behavioural 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 behavioural 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 homozygosis 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 behavioural 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

1. 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.
- 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 repercussion on postsurgical complications.
- Monitoring the mobility using a sensor in fluctuating PD for therapeutic purposes. Multicenter Clinical Trial (INV-PROC-A118

2. 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.

3. 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.

4. 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.

5. Neuroimaging and data engineering

- Dynamic connectivity models in cognitive impairment in PD. In collaboration with 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.

6. 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 differential diagnosis of Atypical Parkinsonian Syndromes.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

- Active collaboration with the Neurobiology of Dementia Group and the Genetic Diseases group.

EXTERNAL COLLABORATIONS

- Eulàlia Martí, Esther Pérez Navarro, Verónica Brito, Silvia Ginés from the Department of Biomedicine, Faculty of Medicine, Institute of Neurosciences, University of Barcelona.
- Rocío Pérez González from Instituto de Investigación Sanitaria y Biomédica de Alicante (ISABIAL), and Instituto de Neurociencias UMH-CSIC, Alicante, Spain.
- Elena Vacchi from Ente Ospedaliero Cantonale, Neurocenter of Southern Switzerland, Switzerland.
- "Analysis of thiamine deficiency in Huntington's disease as a biomarker of progression and for evaluation of therapeutic response". Jose J. Lucas, Centro de Biología Molecular-Severo Ochoa (CBMSO), Madrid, Spain
- "GAITDBSV2. Estudio multicéntrico prospectivo para evaluar el efecto de la estimulación cerebral profunda en el equilibrio y marcha de pacientes con enfermedad de Parkinson a medio y largo plazo mediante análisis clínico y sensores inerciales de movimiento". PI at IIB Sant Pau: Pascual-Sedano B. Promotor: Beatriz de la Casa Fayés. Hospital Gregorio Marañón, Madrid.
- Proyecto Multicéntrico: "Efectos no motores de la estimulación cerebral profunda direccional sobre el núcleo subtalámico. Ensayo clínico cruzado". PI at IIB Sant Pau: Pascual-Sedano B. Code: NOMOTORDBS. CEIM Code: EC/20/379/6169 (PS); Ref HSCSP 20/379. Promotor: Fernando Alonso Frech, Hospital Clínico San Carlos, Madrid.
- "Extracellular RNA profiling of human plasma in Huntington's disease". Collaborative study with the research group of Eulàlia Martí at the Department of Biomedicine, Faculty of Medicine, Institute of Neurosciences, University of Barcelona.
- Collaboration with GEMT-CAT (Movement Disorders Group Catalan Neurology Society) in the Consensus Document on Genetics in Movement Disorders. Pascual-Sedano B.
- 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 F d rale de Lausanne (EPFL), Switzerland. Bejr-kasem Marco H.
- "Functional and structural brain correlates in HD: cognition, apathy, depression, irritability, biomarkers, oxytocin levels". Collaborative study with Hospital de Burgos (HUBU). MartínezHorta S and Pérez-Pérez J.
- COPPADIS: Cohort of Patients with Parkinson's Disease in Spain (National Collaborative Study). Kulisevsky J, Bejr-KasenMarco J, Horta A, Puig A, Pagonabarraga J, Pascual-Sedano B.
- FXTAS: Collaborative research with Genetics from Hospital Clinic, Barcelona and Associació Catalana X Frágil (ACXF). Pagonabarraga J.
- "Effects of dopaminergic treatment of PD on neurocognitive networks". Collaborative study with Hospital del Mar, Barcelona. Sampedro F, Aracil I.

ACTIVE GRANTS

- Puig Davi, Arnau. Projecte de tesi doctoral: Estudi exhaustiu dels trastorns del llenguatge i dels mecanisme neurals responsables en la malaltia de Huntington. ATC027–AND–2021. Ministeri d'Educació i Ensenyament Superior del Principat d'Andorra. Duration: 2022-2024. 45.000,00 € (UAB)
- 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 biologia 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 €
- Martinez Horta, Saul Indra. Neurobiological mechanisms subserving the differential expression and rate of progression of cognitive impairment in Huntington's disease. HDSA 2019. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2022. 111.389,46 €
- Perez Perez, Jesus. Estudio longitudinal de los correlatos clínicos y neuroradiológicos asociados a los niveles de huntingtina y otros biomarcadores en LCR y plasma en la enfermedad de Huntington. PI17/01885. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2022. 117.370,00 €

GRANTS AWARDED

- Aracil Bolanos, Ignacio. Contratos Juan Rodés 2022. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2026. 180.000,00 €
- Kulisevsky Bojarski, Jaime. MALALTIA DE PARKINSON I TRANSTORNS 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 €

DOCTORAL THESES DEFENDED

- Abdelnour Ruiz, Carla. Mixed neurodegenerative dementia: the coexistence of dementia with Lewy bodies and Alzheimer's disease. Expanding our knowledge about the interaction of brain proteinopathies. 14/01/2022. Universitat Autònoma de Barcelona. Supervisors: Pagonabarraga Mora, Javier; Aarsland, Dag; Kulisevsky Bojarski, Jaime. http://hdl.handle.net/10803/675103.
- Aracil Bolaños, Ignacio. Disrupción de redes neuronales en el deterioro cognitivo asociado a enfermedades que cursan con trastornos del movimiento. 02/03/2022. Universitat Autònoma de Barcelona. Supervisors: Kulisevsky Bojarski, Jaime; Pagonabarraga Mora, Javier; Sampedro Santaló, Frederic. http://hdl.handle.net/10803/674929.

DOCTORAL THESES IN PROGRESS

- Campolongo Perillo, Antonia. Infusión intestinal continua de levodopa/carbidopa en la enfermedad de Parkinson: estudio de posibles factores concomitantes digestivos que influyen en su eficacia y seguridad. Línia de recerca: 1215 - Investigació Clínica Multidisciplinària. 2018-2023. Universitat Autònoma Barcelona. Supervisors: Kulisevsky Bojarski, Jaime; Pascual Sedano, Berta Maria; Roman Albal, Eva; Martí Fàbregas, Joan.
- Horta Barba, Andrea. Development of new tools to evaluate cognition for Huntington´s Disease (HD). 2019-2023. Universitat

Autònoma Barcelona. Supervisors: Kulisevsky Bojarski, Jaime; Pagonabarraga Mora, Javier.
- Moreu Valls, Andrea. Beneficis de l'estimulació cognitiva en el deteriorament cognitiu associat a malalties neurodegeneratives que cursen amb trastorns el moviment. 2020-2023. Universitat Autònoma Barcelona. Supervisors: Kulisevsky Bojarski, Jaime; Martinez Horta, Saül Indra.
- Puig Davi, Arnau. Estudi exhaustiu dels trastorns del llenguatge i dels mecanismes neurals responsables en la malaltia de Huntington. 2022-2024. Universitat Autònoma de Barcelona. Supervisors: Kulisevsky Bojarski, Jaime; Lleó Bisa, Alberto.
- Salvat Rovira, Nil. Caracterització molecular en mostres de pacients de la malaltia de Huntington. 2022-2026. Universitat Autònoma de Barcelona. Supervisors: Vázquez Oliver, Anna; Pérez González, Rocío; Kulisevsky Bojarski, Jaime.

AWARDS
- Kulisevsky J. December 2022. Awarded Fellow of the EUROPEAN ACADEMY OF NEUROLOGY to honour outstanding achievements in academic and clinical neurology.
- Martínez-Horta S. March 4th 2022. Best doctoral thesis in psychology 2018-2021. Colegio Oficial de Psicología de Cataluña.
- Pérez J. November 15th 2022. Award presentation at LXXIV Reunión Anual de la SEN: "Determinación de niveles de Neurofilamento en plasma y líquido cefalorraquídeo en estadios presintomáticos y sintomáticos de la Enfermedad de Huntington". Sociedad Española de Neurología.
- Puig A. October 4th 2022. Best master's thesis in the Vila-Saborit foundation awards for the best master's thesis in general health psychology. Fundació familia Vila-Saborit.

SCIENTIFIC PRODUCTION
- Abdelnour C, Ferreira D, van de Beek M, Cedres N, Oppedal K, Cavallin L, Blanc F, Bousiges O, Wahlund LO, Pilotto A, Padovani A, Boada M, Pagonabarraga J, Kulisevsky J, Aarsland D, Lemstra AW, Westman E. Parsing heterogeneity within dementia with Lewy bodies using clustering of biological, clinical, and demographic data. *ALZHEIMERS RESEARCH & THERAPY*. 2022; 14(1):14. DOI:10.1186/s13195-021-00946-w. PMID:35063023. IF:8,823 (Q1/1D). Document type: Article.
- Aracil I, Martinez S, Gonzalez JM, Sampedro F, Perez J, Horta A, Campolongo A, Izquierdo C, Gomez B, Pagonabarraga J, Kulisevsky J. Structure and Dynamics of Large-Scale Cognitive Networks in Huntington's Disease. *MOVEMENT DISORDERS*. 2022; 37(2). DOI:10.1002/mds.28839. PMID:34752656. IF:9,698 (Q1/1D). Document type: Article.
- Aracil I, Sampedro F, Marin J, Horta A, Martinez S, Gonzalez JM, Perez J, Bejr H, Pascual B, Boti M, Campolongo A, Izquierdo C, Gironell A, Gomez B, Kulisevsky J, Pagonabarraga J. Tipping the scales: how clinical assessment shapes the neural correlates of Parkinson's disease mild cognitive impairment. *BRAIN IMAGING AND BEHAVIOR*. 2022; 16(2). DOI:10.1007/s11682-021-00543-3. PMID:34553331. IF:3,224 (Q2/5D). Document type: Article.
- Aretouli E, Chondrogiorgi M, Dede O, Koutsonida M, Lafi C, Konstantinopoulou E, Kulisevsky J, Kosmidis MH, Konitsiotis S. The Parkinson's Disease-Cognitive Rating Scale: Greek Normative Data, Clinical Utility and Cultural Considerations. *JOURNAL OF GERIATRIC PSYCHIATRY AND NEUROLOGY*. 2022; 35(5):08919887211049110. DOI:10.1177/08919887211049110. PMID:34663111. IF:2,718 (Q3/7D). Document type: Article.
- Asl AM, Mehdizadeh M, Kulisevsky J, Sabet A, Sharabiani P, Mehdizadeh H, Ashayeri H, Taghizadeh G. Reliability, validity, and diagnostic accuracy of Parkinson's Disease-Cognitive Rating Scale in Iranian patients with idiopathic Parkinson's disease. *DISABILITY AND REHABILITATION*. 2022; 44(10). DOI:10.1080/09638288.2020.1813337. PMID:32924645. IF:2,439 (Q2/3D). Document type: Article.
- Bach L, Boccalatte F, DeRosa A, Devos D, Garcia C, Inglese M, Droby A. Functional changes in prefrontal cortex following frequency-specific training. *SCIENTIFIC REPORTS*. 2022; 12(1):20316. DOI:10.1038/s41598-022-24088-7. PMID:36434008. IF:4,996 (Q2/3D). Document type: Article.
- Bejr H, Martinez S, Pagonabarraga J, Marin J, Horta A, Sampedro F, Aracil I, Perez J, Campolongo A, Izquierdo C, Pascual B, Kulisevsky J. The role of attentional control over interference in minor hallucinations in Parkinson's disease. *PARKINSONISM & RELATED DISORDERS*. 2022; 102. DOI:10.1016/j.parkreldis.2022.07.009. PMID:35987038. IF:4,402 (Q2/4D). Document type: Article.
- Calabria M, Garcia C, Grunden N, Pons C, Arroyo JA, Gomez B, Garcia M, Belvis R, Morollon N, Igual JV, Mur I, Pomar V, Domingo P. Post-COVID-19 fatigue: the contribution of cognitive and neuropsychiatric symptoms. *JOURNAL OF NEUROLOGY*. 2022; 269(8). DOI:10.1007/s00415-022-11141-8. PMID:35488918. IF:6,682 (Q1/2D). Document type: Article.
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SCIENTIFIC DISSEMINATION

- **Congresses, scientific symposium organized nationally or internationally**
- "ON AND OFF IN PARKINSON'S DISEASE - BEYOND MOVEMENT". Hospital de la Santa Creu i Sant Pau. Barcelona, Spain. 10/11/2022. Speakers: Kulisevsky J, Campolongo A, Martínez S.

SCIENTIFIC DISSEMINATION

- **Participation by invitation in national or international scientific conferences and talks**
- "Neuropsychiatric complications of Parkinson's disease and Lewy body dementia". NEUROLOGY CONFERENCE 2022. Trinidad Miter Sanatorium, Buenos Aires, Argentina. 06/08/2022. Speaker: Kulisevsky J.
- "Update on the treatment of initial PD". Neuro-Summit 2022. Hispanic American Parkinson's disease. Bogota Colombia. 03/05/2022. Speaker: Pagonabarraga J.
- "Comprehensive stimulation of dopaminergic pathways: rational combination therapy for short and long-term efficacy". Neuro-Summit 2022. Hispanic American Parkinson's disease. Buenos Aires, Argentina. 03/12/2022. Speaker: Pagonabarraga J.
- "Practical considerations for managing Parkinson's Disease". Seqirus National Educational Meeting. Sydney and Melbourne, Australia. 05/01 – 06/02/2022. Speaker: Pagonabarraga J.
- "Cognitive and Neuropsychiatric symptoms in Parkinson's disease. Multidimensional Distortions of the Self". Brain & Mind Center Seminar. Sydney, Australia. 06/01/2022. Speaker: Pagonabarraga J.
- "PD: Not only a lack of dopamine". 7th Edition Parkinson's Disease Academy. Madrid, Spain. 06/18/2022. Speaker: Pagonabarraga J.

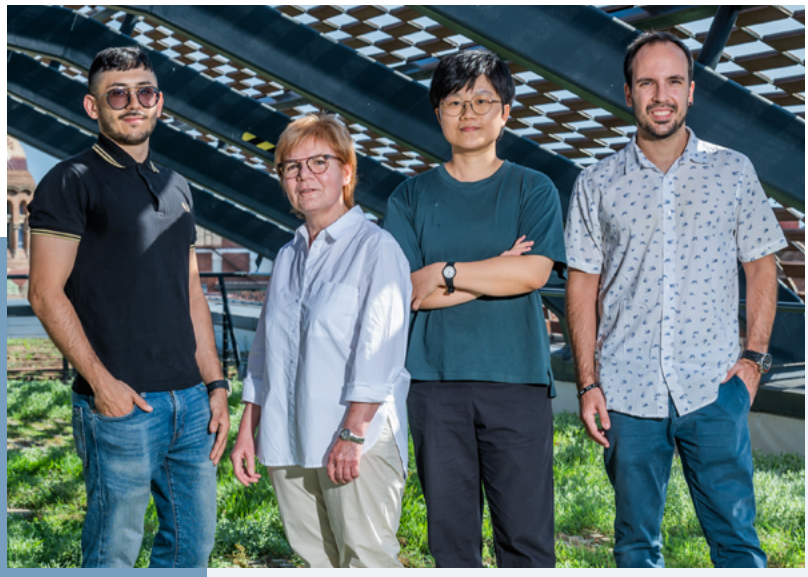
- "PD: Use of botulinum toxin in dystonia and spasticity: Applications and considerations". Workshop on Botulinum Toxin in Neurology: Spasticity & Dystonia. Porto, Portugal. 06/30-07/01/2022. Speaker: Pagonabarraga J.
- "Parkinson's disease psychosis"; "PD symptoms: how to better understand them". 2022 International Congress of Parkinson's Disease and Movement Disorders. Madrid, Spain. 09/17/2022. Speaker: Pagonabarraga J.
- "Beyond dopamine: The relevance of other neurotransmitter systems in PD". Zambon. Brasilian Meeting, virtual. 09/22/2022. Speaker: Pagonabarraga J.
- "Neuropsychiatric aspects of Parkinson's disease". International Update Conference on Parkinson's and Movement Disorders. Hospital de Clínicas Dr. Manuel Quintela. Montevideo, Uruguay. 31/10/2022. Speaker: Pagonabarraga J.
- "Treatment of advanced Parkinson's disease". International Update Conference on Parkinson's and Movement Disorders. Hospital de Clínicas Dr. Manuel Quintela. Montevideo, Uruguay. 11/01/2022. Speaker: Pagonabarraga J.
- "Parkinsonian Syndromes: Types and characteristics". Parkinson Association Galicia - Coruña. III Conference on Parkinson: Another look at the disease. A Coruña, Spain. 04/08/2022. Speaker: Pagonabarraga J.
- "Typical and not so typical cognitive aspects in Huntington's disease Type: Latinamerican Huntington's Disease Conference". Barranquilla. Colombia. October 2022. Speaker: Martínez-Horta S.
- "The Cognitive Phenotype". European Huntington's Disease Network Plenary Meeting. Bologna. Italy. September 2022. Speaker: Martínez-Horta S.
- "Apathy, depression, suicidality and aggression in Huntington's disease". International Parkinson's Disease and other Movement Disorders course on Neuropsychiatry in Movement Disorders. London. UK. November 2022. Speaker: Martínez-Horta S.
- Annual Video Meeting. Movement Disorders Study Group (GETM) of the Spanish Society of Neurology (SEN). Gait blocks in Huntington's disease. Table moderator: Pérez-Pérez, J.
- "Patients treated with antidepressants and/or antipsychotics concomitant with movement disorders: best clinical choice based on evidence". Adamed life Neurology Program. Green Patio, Madrid, Spain. 09/30 – 10/01/2022. Speaker: Kulisevsky J.
- NeuroAcademy Zambon Training - Up to date in Parkinson's disease: "from science to clinical practice" Functional anatomy of the basal ganglia. Beyond dopamine. 11/17/2022. Speakers: J. Pagonabarraga Mora and J Kulisevsky
- "Prevented and managed motor complications in patients with Parkinson's malaise". Parkinson Bial Catalan Day. Barcelona, Spain. 03/26/2022. Speaker: Pagonabarraga J.
- "Cognitive impairment in Parkinson's disease." Annual Meeting of the Spanish Society of Neurology. Food seminar SEN Parkinson, Lewy and Alzheimer: meetings and disagreements beyond the eponyms. 11/16/2022. Speaker: Pagonabarraga J.
- "Psychotic symptoms in Parkinson's illness". X Day of Mental Health. Mataró Hospital, Barcelona, Spain. 03/25/2022. Speaker: Pagonabarraga J.
- "Neuropsychology of some memory aberrations through clinical cases." IV Conference on Psychology and the Brain. University of Almeria, Almeria, Spain. 12/15/2022. Speaker: Martínez-Horta S.
- "Neuropsychology of some memory aberrations through clinical cases." XXIX Conference on Psychology. Balearic Islands University. Palma, Balearic Islands, 02/15-21/2022. Spain. Speaker: Martínez-Horta S.

RESEARCH VISIBILITY ACTIVITIES

- **Outreach activities to society**

- "Understanding Parkinson's disease"; Puig A. "Cognitive and behavioral aspects of Parkinson's disease"; Campolongo A. "Day to day in Parkinson's Disease". Open Days on Parkinson's Disease for patients and families. Movement Disorders Unit of the Neurology Service of the Hospital de la Santa Creu i Sant Pau. Sponsored by UCB. Barcelona, Spain. 06/16/2022 Speaker: Pascual B.
- Presentation of Neuromarketing. High School students, Institut de Matadepera, Barcelona, Spain. 11/02/2022. Speaker: Kulisevsky J.
- "There is a lack of specialized Parkinson's nurses to offer a better quality of care to patients and their families." Post interview for the Health Studies blog of the UOC (Open University of Catalonia). 04/11/2022. Speakers: Campolongo A and Pascual B.
- "These are other consequences of Parkinson's disease". Communication at the Open University of Catalonia. 04/04/2022. Speaker: Horta Barba A.

MOLECULAR NEUROPHARMACOLOGY



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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. We are investigating new strategies to effectively relieve not only chronic pain but also its accompanying comorbidities by using pharmacological, molecular, and genetic techniques.

MAIN LINES OF RESEARCH

New strategies for the treatment of chronic pain. Identify new compounds that effectively inhibit inflammatory, osteoarthritis, and/or neuropathic pain induced by nerve injury or chemotherapy, with few side effects. Investigate the mechanism of action of these compounds and their effects on the functional disability linked to different types of chronic pain.

New therapies for the emotional disorders associated with chronic pain. To investigate the role played by different gaseous neurotransmitters in the modulation of anxiety- and depressive-like behaviors and/ or the cognitive deficits accompanying persistent pain.

Neuropharmacology of opioids and cannabinoids. To establish new strategies to potentate the analgesic effects of opioids and cannabinoids during chronic pain, avoiding the development of side effects that result from the administration of high and/or continued doses of these drugs.

Sex-related differences in chronic pain and mood disorders. To analyze differences between sexes in pain sensitivity, pain tolerance and in the efficacy of different treatments in inhibiting chronic pain and mood disorders associated with chemotherapy-induced neuropathy in mice.

New stratagems for the treatment of diabetic neuropathy. To identify new approaches to inhibit oxidative stress and neuropathy, two of the major complications associated with diabetes, by evaluating the action of specific molecules in preclinical models of diabetes.

SCIENTIFIC CHALLENGES

To identify new pharmacological compounds that effectively abolish chronic pain with few side effects which use can be transferred to clinical practice and/or be patentable. To evaluate the antidepressant, anxiolytic and pain-relieving effects of hydrogen sulfide and molecular hydrogen in animals with chronic pain; their effects on the functional disability and memory loss linked with osteoarthritis and/or neuropathy; the mechanism of action of these compounds.

Oxidative stress is one of the principal mechanisms involved in the development and maintenance of chronic pain. To identify new antioxidant compounds as potential therapeutic targets and to evaluate their effects on proinflammatory signals and plasticity changes provoked by nerve injury, chemotherapeutic agents, or metabolic disorders.

To study the interaction between carbon monoxide and other gaseous neurotransmitters at the molecular and behavioral levels. To evaluate the effects of these combinations on the modulation of nociceptive responses, emotional disorders, and locomotor activity in different preclinical pain models.

To evaluate the neuroprotective, anti-apoptotic and antioxidant mechanisms implicated in the modulation of inflammatory pain induced by the heme oxygenase 1/carbon monoxide signaling pathway activation and its interaction with the endogenous cannabinoid and opioid systems.

To advance the knowledge of the molecular mechanisms involved in the analgesic actions of opioids and cannabinoids. To increase the efficacy of delta-opioid receptor and cannabinoid 2 receptor

agonists in relieving chronic pain, through their co-administration with hydrogen sulfide or molecular hydrogen.
To analyze differences between sexes in pain sensitivity and in the efficacy of molecular hydrogen in modulating nociception, anxiety- and depressive-liked behaviors accompanying chemotherapy-induced neuropathic pain in mice.
To identify new pharmacological targets for treating the allodynia associated with type 2 diabetes and evaluate their actions on diabetes-induced plasticity changes in the central and peripheral nervous system.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS
EXTERNAL COLLABORATIONS

- Dr Gianfranco Balboni. University of Cagliari. Italy.
- Dr Christie Leite-Panissi. University of São Paulo. Brazil.
- Dr Loredana Salerno, University of Catania, Italy
- Dr Roberto Motterlini. INSERM U955. University Paris-Est. France
- Dr Luciano Saso, University of Sapienza, Italy
- Dr Renato de Freitas, University of Sao Paulo. Brazil
- Dr Ramón Barnadas, Universitat Autònoma de Barcelona. Spain
- Dr Lydia Giménez-LLort. Universitat Autònoma de Barcelona. Spain

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 IN PROGRESS

- Bai, Xue. New approaches for treating nociception and emotional disorders associated with neuropathic pain. 2019-2023. Universitat Autònoma de Barcelona. Supervisor: Pol Rigau, Olga.
- Batallé Meljagero, Gerard. New strategies for the treatment of osteoarthritis pain and associated comorbidities. 2019-2023. Universitat Autònoma de Barcelona. Supervisor: Pol Rigau, Olga.
- Martínez Martel, Ignacio. New molecular targets for the treatment of chronic pain associated with chemotherapy. 2021-2025. Universitat Autònoma de Barcelona. Supervisor: Pol Rigau, Olga.
- Negrini Ferrari, Sylmara Esther. New therapeutic advances in mood disorders and chronic pain. 2022-2026. Universitat Autònoma de Barcelona. Supervisor: Pol Rigau, Olga.
- Pansarim, Vítor. Avaliação da interação entre a via HO-CO e o sistema endocanabinóide na modulação da dor inflamatória persistente em camundongos (Mus musculus): investigação da participação de receptores opioids. 2021-2025. University of São Paulo. Supervisors: Leite-Panissi, Christie; Pol Rigau, Olga.

SCIENTIFIC PRODUCTION

- Bai X, Batalle G, Balboni G, Pol O. Hydrogen Sulfide Increases the Analgesic Effects of mu- and delta-Opioid Receptors during Neuropathic Pain: Pathways Implicated. *ANTIOXIDANTS*. 2022; 11(7):1321. DOI:10.3390/antiox11071321. IF:7,675 (Q1/1D). Document type: Article.
- Batallé G, Bai X, Pol O. The Interaction between Carbon Monoxide and Hydrogen Sulfide during Chronic Joint Pain in Young Female Mice. *ANTIOXIDANTS*. 2022; 11(7):1271. DOI:10.3390/antiox11071271. PMID:35883761. IF:7,675 (Q1/1D). Document type: Article.
- Cazuza RA, Batalle G, Bai X, Leite C, Pol O. Effects of treatment with a carbon monoxide donor and an activator of heme oxygenase 1 on the nociceptive, apoptotic and/or oxidative alterations induced by persistent inflammatory pain in the central nervous system of mice. *BRAIN RESEARCH BULLETIN*. 2022; 188. DOI:10.1016/j.brainresbull.2022.08.004. PMID:35952846. IF:3,715 (Q3/6D). Document type: Article.
- Coral S, Martinez I, Martinez M, Batalle G, Bai X, Leite C, Pol O. Treatment with Hydrogen-Rich Water Improves the Nociceptive and Anxio-Depressive-like Behaviors Associated with Chronic Inflammatory Pain in Mice. *ANTIOXIDANTS*. 2022; 11(11):2153. DOI:10.3390/antiox11112153. PMID:36358525. IF:7,675 (Q1/1D). Document type: Article.
- Martinez I, Bai X, Batalle G, Pol O. New Treatment for the Cognitive and Emotional Deficits Linked with Paclitaxel-Induced Peripheral Neuropathy in Mice. *ANTIOXIDANTS*. 2022; 11(12):2387. DOI:10.3390/antiox11122387. PMID:36552595. IF:7,675 (Q1/1D). Document type: Article.
- Martinez M, Martinez I, Coral S, Bai X, Batalle G, Pol O. Hydrogen-Rich Water as a Novel Therapeutic Strategy for the Affective Disorders Linked with Chronic Neuropathic Pain in Mice. *ANTIOXIDANTS*. 2022; 11(9):1826. DOI:10.3390/antiox11091826. PMID:36139900. IF:7,675 (Q1/1D). Document type: Article.
- Pol O. CO and pain management. In: Carbon Monoxide in Drug Discovery: Basics, Pharmacology, And Therapeutic Potential. Wiley. 2022. p. 497-510. DOI:10.1002/9781119783435.ch29. Document type: Book chapter.
- Pouso E, Bai X, Batallé G, Roch G, Pol O. Effects of heme oxygenase 1 in the molecular changes and neuropathy associated with type 2 diabetes in mice. *BIOCHEMICAL PHARMACOLOGY*. 2022; 199:114987. DOI:10.1016/j.bcp.2022.114987. PMID:35276215. IF:6,100 (Q1/2D). Document type: Article.
- Roch G, Batalle G, Bai X, Pouso E, Rodriguez L, Pol O. The Beneficial Effects of Heme Oxygenase 1 and Hydrogen Sulfide Activation in the Management of Neuropathic Pain, Anxiety- and Depressive-like Effects of Paclitaxel in Mice. *ANTIOXIDANTS*. 2022; 11(1):122. DOI:10.3390/antiox11010122. PMID:35052626. IF:7,675 (Q1/1D). Document type: Article.

PHARMACOLOGICAL RESEARCH IN HUMANS



Group leader
Antonijoan Arbos, Rosa (FGS)

Researchers
Araujo Casal, Pilar (IR)

Research technicians
Arias Magnasco, Angelo Gabriel (IR)
Ayala Oliveros, Johan Humberto (IR)
Castillo Ocaña, Marta (IR)
Coimbra Hurtado, Maria Jimena (IR)
Cuadro Bertolin, David (IR)
Fraga Varela, Angela (Medibiofarma)
Funes Ungria, M. Angels (IR)
Garrido Sanchez, Maria Teresa (IR)
Gomis Pulgar, Ana Maria (IR)
Gonzalez Gomez, Luis (IR)
Lidon Soto, Abel (IR)
Martinez Bonifacio, David (IR)
Martinez Colomer, Joan (IR)
Martinez Dominguez, Pura (IR)
Martinez Martinez, Maria Isabel (IR)
Mercader Segui, Esteve (IR)
Molina Perello, Pol (IR)
Peri Laviga, Jordi (IR)
Puntes Rodriguez, Montserrat (IR)
Ruiz Barbera, Montserrat (IR)
Sanchez Nuñez, Isabel (IR)
Serra , Laura (IR)

Internship students
Villanueva Barrio, Justo (UAB)

MAIN LINES OF RESEARCH

Clinical Trials with no Therapeutic Benefits to Volunteer Participants

- Phase I clinical trials (healthy volunteers) whose main objectives include: first in human, safety and tolerability (local, systemic/dermatological, ophthalmological, vaginal), 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 (elderly, obese, postmenopausal, with liver or kidney failure).
- Collaboration with clinical services to conduct phase II/III studies.

Neuro-Physio-Pharmacology of Sleep/Wake States

- Investigate human brain activity in sleep and wakefulness, mechanisms involved in these states, problems derived from sleep disturbances and possible interventions.
- Approach the phenomenon as a continuum: appropriate interpretation of the impact of a certain intervention, whether pharmacological or not, should take into account the complementarity of evaluations performed during sleep and during wakefulness.
- Develop psychomotor performance tests, subjective evaluation scales and pupillometric tests.

SCIENTIFIC CHALLENGES

Consolidate a strong leadership in Phase I studies in Spain, increase relationships with the pharmaceutical industry at national level and extend relations abroad with multinational pharmaceutical companies and industries from other sectors.

Perform high quality Phase I-II studies, in order to improve scientific knowledge and contribute to the scientific community with reliable data.

Develop neurophysiologic recording performance in ambulatory conditions, simplifying participation of volunteers but not lowering the quality of data obtained.

Promote the dissemination of our activity with a dual objective: return the knowledge generated to the society and demystifyresearch in humans, approaching it to the community,

and to foster participate in clinical trials (specific sectors of the populations, such as the elderly).

Set up educational activities related to the application of good clinical practices in clinical research and into sleep medicine and its medical (pathology, and treatment) and social (quality of life, prevention of accident risk) consequences.

ACTIVE GRANTS

- Antonijoan Arbos, Rosa. Plataforma ISCIII de Soporte para la Investigación Clínica del IIB-Sant Pau. PT20/00096. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 364.650,00 €
- Antonijoan Arbos, Rosa. Descubrimiento y desarrollo de nuevos tratamientos Inmuno-Oncológicos. RTC2019-006865-1. Ministerio de Ciencia e Innovación (MICINN). Duration: 2020-2023. 269.114,23 €
- Antonijoan Arbos, Rosa. Descubrimiento y desarrollo de nuevos tratamientos Inmuno-Oncológicos y anti-fibróticos con efecto local_INMUNORGAN. RTC2019-007449-1. Ministerio de Ciencia e Innovación (MICINN). Duration: 2020-2022. 152.991,64 €
- Antonijoan Arbos, Rosa. Estudio de una nueva estrategia terapéutica para tratar la infertilidad femenina basada en el compuesto OXO-001. RTC2019-007454-1. Ministerio de Ciencia e Innovación (MICINN). Duration: 2020-2022. 256.072,25 €
- Antonijoan Arbos, Rosa. ERA4TB (European Accelerator of Tuberculosis Regime) project. ERA4TB GA 853989. Unión Europea. Duration: 2022-2025. 277.500,00 €

GRANTS AWARDED

- 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 €

DOCTORAL THESES DEFENDED

- Domínguez Clavé, Elisabet. Potencial terapeutic de l' Ayahuasca en la desregulació emocional i l'autocrítica: implicacions en el Trastorn Límit de la Personalitat (TLP). 25/03/2022. Universitat Autònoma de Barcelona. Supervisors: Soler Ribaudi, Joaquim; Pascual Mateos, Juan Carlos; Antonijoan Arbós, Rosa María. http://hdl.handle.net/10803/675043.
- Sotorra Figuerola, Gerard. Impact of medication adherence on mortality and cardiovascular morbidity: a population-based cohort study. IMPACT study. 17/03/2022. Universitat Autònoma de Barcelona. Supervisor: Giner Soriano, Maria; Antonijoan Arbós, Rosa María. http://hdl.handle.net/10803/675015.

SCIENTIFIC PRODUCTION

- Coimbra J, Puntes M, Gich I, Martinez J, Molina P, Antonijoan R, Campo C, Labeaga L. Lack of Clinical Relevance of Bilastine-Food Interaction in Healthy Volunteers: A Wheal and Flare Study. *INTERNATIONAL ARCHIVES OF ALLERGY AND IMMUNOLOGY*. 2022; 183(12). DOI:10.1159/000524856. PMID:35700691. IF:3,767 (Q3/6D). Document type: Article.
- Corrochano M, Acosta R, Mojal S, Miqueleiz S, Rodriguez D, Quijada MA, Fraga E, Castillo M, Amaro K, Albiol N, Soria JM, Antonijoan RM, Souto JC. Impact of pre-admission antithrombotic therapy on disease severity and mortality in patients hospitalized for COVID-19. *JOURNAL OF THROMBOSIS AND THROMBOLYSIS*. 2022; 53(1). DOI:10.1007/s11239-021-02507-2. PMID:34138399. IF:5,221 (Q2/3D). Document type: Article.
- Melo MC, Santeularia MT, Rius C, Gich IJ, Català E. Influence of comorbidities on pain intensity in patients with chronic low back pain. *MEDICINA CLINICA*. 2022; 159(2). DOI:10.1016/j.medcli.2021.09.023. PMID:34879972. IF:3,200 (Q2/5D). Document type: Article.
- Ona G, Sampedro F, Romero S, Valle M, Camacho V, Migliorelli C, Mananas MA, Antonijoan RM, Puntes M, Coimbra J, Ballester MR, Garrido M, Riba J. The Kappa Opioid Receptor and the Sleep of Reason: Cortico-Subcortical Imbalance Following Salvinorin-A. *INTERNATIONAL JOURNAL OF NEUROPSYCHOPHARMACOLOGY*. 2022; 25(1). DOI:10.1093/ijnp/pyab063. PMID:34537829. IF:5,678 (Q1/2D). Document type: Article.
- Soria JM, Mojal S, Martinez A, Acosta FR, López S, Miqueleiz S, Rodriguez D, Quijada MA, Cardenas A, Vidal F, Remacha A, Antonijoan RM, Souto JC. A validated clinical-genetic score for assessing the risk of thrombosis in patients with COVID-19 receiving thromboprophylaxis. *HAEMATOLOGICA*. 2022; 107(9). DOI:10.3324/haematol.2022.281068. PMID:35545920. IF:11,047 (Q1/2D). Document type: Article.

MENTAL HEALTH



Group leader
Portella Moll, Maria (IR)

Researchers
Alemany Santamaría, Carlo (FGS)
Almenta Gallego, David (FGS)
Alonso Solis, Anna (FGS)
Avila Parcet, Aina (FGS)
Cano Catala, Marta (IR)
Carceller Sindreu, Maria Del Mar (FGS)
Cardoner Alvarez, Narcis (FGS)
Carmona Farres, Cristina (FGS)
Casellas Pujol, Elisabet (FGS)
Catalan Martinez, Anna (FGS)
Corripio Collado, Iluminada (IR)
De Diego Adeliño, Francisco Javier (FGS)
Diaz Perez, Anna Maria (FGS)
Farre Martinez, Adriana (FGS)
Gawron , Leonor Patricia (FGS)
Grasa Bello, Eva Maria (CIBERSAM)
Jaramillo Muñumer, Maria (CIBERSAM)
Martin Blanco, Ana (FGS)
Nuñez Leanez, Christian (IR)
Perez Blanco, Josefina (FGS)
Pinzon Espinosa, Justo Emilio (FGS)
Porta Casteras, Daniel (Inst. Inv. Inn. Parc Taulí)
Pousa Tomas, Esther (FGS)
Puigdemont Campos, M.Dolors (FGS)
Roldan Bejarano, Alejandra (FGS)
Serrano Gimeno, Victor (FGS)
Soler Ribaudi, Joaquin (FGS)
Tiana Sastre, Thais (FGS)

Research technicians
Jubero Urgell, Miriam (IR)
Selma Gonzalez, Judit (IR)
Vicent Gil, Muriel (IR)

DESCRIPTION
The group's lines of research focus on the search for new therapeutic strategies and the determination of the aetiopathogenesis for the implementation of these new treatments based on the knowledge acquired.

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 therapies.
- 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 metacognitive 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.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Addictive Behaviours.
Neuroradiology.
Neurosurgery.
CIM – Sant Pau.
Genetics.
Internal Medicine.
Cardiology.
Molecular Neurodegeneration.
Women and Perinatal Health.

EXTERNAL COLLABORATIONS

Department of Pharmacology and Toxicology, Universidad Complutense de Madrid.

Department of Neuroscience and Experimental Therapeutics, Systems Neuropharmacology Group, Institut d›Investigacions Biomèdiques de Barcelona (IIBB-CSIC)-IDIBAPS.

Department of Psychiatry and Psychology, Hospital Clínic i Provincial de Barcelona- IDIBAPS.

Mental Health Research Group, Institut Hospital del Mar d'Investigacions Mèdiques (IMIM).

Research Laboratory Unit, Fundació Mútua de Terrassa.

Department of Psychiatry, Universidad Autónoma de Madrid, Instituto de Investigación La Princesa.

Neuroscience Institute, Universitat Autònoma de Barcelona.

Psychiatry Department, Hospital Parc Taulí, Sabadell.

Medicine-Psychiatry Department, Universidad de Valencia.

Medicine-Pharmacology Department, Universidad de Cádiz.

Sant Joan de Déu Research Foundation.

Part of the CIBERSAM Group CB/07/09/0010 (Dr. M. Portella co-IP), being the CIBER the largest Research Network in Spain. https://www.cibersam.es/en/groups/research-groups

Participation as coordinators and professors (UAB) in the Master's Degree in Research in Mental Health: Universitat Autònoma de Barcelona, Universidad de Cantabria, Universitat de Barcelona, Universidad Complutense de Madrid, Universidad de Cádiz, CIBERSAM.

Red TECSAM. https://tecsam.org/es/

ENIGMA Consortium. https://enigma.ini.usc.edu/

Psychiatric Genetics Consortium (PGC).

International Consortium on the Genetics of Electroconvulsive Therapy and Severe Depressive Disorders (Gen-ECT-ic). https://pubmed.ncbi.nlm.nih.gov/31802253/

Melbourne Neuropsychiatry Centre, University of Melbourne and Melbourne Health.

School of Medicine, University of New South Wales, Sydney.

Department of Psychology, Faculty of Social Sciences, University of Oslo.

Medicine-Psychiatry Department, University of Oxford.

Karolinska Institutet, Stockholm, Sweden.

In the context of two Horizon 2020 projects: Nurogames GmbH (Cologne, Germany); the Documental OU (Estonia); the Psychiatry Department, University of Tartu (Estonia); the BMD SOFTWARE LDA (Aveiro, Portugal); Novo Nordisk Foundation Center for Protein Research, University of Kobenhavns (Copenhagen, Denmark); and Center for Life Course Health Research, University of Oulu (Oulu, Finland)

Department of Psychiatry, Faculty of Medicine, University of British Columbia.

The Mount Sinaí Hospital, NY, USA.

The Global ECT-MRI Research Collaboration (GEMRIC), involving many different countries and groups around the world. Particularly, the GEMRIC has facilitated the collaboration with the Massachusets General Hospital, Division of Neuropsychiatry.

Recent call of Horizon Europe (Dr. M Portella, PI in Spain): Department of Molecular and Cellular Pharmacology, CERN, France; Department of Psychiatry, AP-HM, Marseille, France; McGuill University, Montreal, Canada; Department of Psychiatry and Psychotherapy, Medical University of Wien, Austria; Department of Psychiatry, Lunds Universitet, Sweden.

ACTIVE GRANTS

- Alemany Santamaría, Carlo. SCPSM 2019. Societat Catalana de Neurologia. Duration: 2019-2023. 3.000,01 €
- 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 €
- Corripio Collado, Iluminada. Contractes per a la intensificació de l'activitat investigadora 2020. INT20/00008. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 60.000,00 €
- 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 €
- Nuñez Leanez, Christian. CD20/00142. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 80.598,00 €
- 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 €
- 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 €

GRANTS AWARDED

- Cano Catala, Marta. Contractes Sara Borrell 2020. CD20/00189. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 40.299,00 €
- 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. Biomarcadores centrales y periféricos de respuesta antidepresiva: Estudio translacional entre pacientes con trastorno depresivo resitente 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 crosssectional neuroimaging-metabolomics study based on knowledge transfer from irritable bowel syndrome (IBS) and a porcine model: MOODGUT. MARATO 202209-30. 182.500,00 €
- 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 €
- 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. 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. 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 €

DOCTORAL THESES DEFENDED

- Domínguez Clavé, Elisabet. Potencial terapeutic de l'Ayahuasca en la desregulació emocional i l'autocrítica: implicacions en el Trastorn Límit de la Personalitat (TLP). 25/03/2022. Universitat Autònoma de Barcelona. Supervisors: Soler Ribaudi, Joaquim; Pascual, Juan Carlos; Antonijoan Arbós, Rosa María. http://hdl.handle.net/10803/675043.
- Muriel Vicent Gil. Perfils cognitius en la depressió i desenvolupament d'una estratègia d'intervenció neurocognitiva. 27/01/2022. Universitat Autònoma de Barcelona. Supervisors: Portella Moll, Maria J.; Cardoner Álvarez, Narcís; Nadal Alemany, Roser. http://hdl.handle.net/10803/674870.
- Puigdemont Campos, Dolors. Estimulació cerebral profunda en depressió resistent. 01/06/2022. Universitat Autònoma de Barcelona. Supervisors: Álvarez Martínez, Enric; Pérez Solà, Víctor; de Diego Adeliño, Javier.
- Roberto Herrero, Natalia. Detección precoz de los rasgos distintivos de la enfermedad de alzheimer y otras demencias en población con deterioro cognitivo leve y síntomas neuropsiquiátricos asociados. 02/09/2022. Universitat Autònoma de Barcelona. Supervisors: Portella Moll, Maria J.; Valero, Sergi; Pérez Solà, Víctor. http://hdl.handle.net/10803/687616.

DOCTORAL THESES IN PROGRESS

- Casellas Pujol, Elisabet. Avançant en l'aplicació de les habilitats de la teràpia dialèctica conductual en el Trastorn Límit de la Personalitat. Universitat Autònoma de Barcelona. 2021-2024. Supervisors: Soler Ribaudi, Joaquim; Soriano Pacheco, José.
- Gracia-Liso, Rebeca. Perfil psicopatològic d'adolescents amb temptatives autolítiques abans i durant la pandèmia de COVID-19. Universitat Autònoma de Barcelona. 2018-2024. Supervisors: Palao, Diego J.; Montalvo Aguirrezabala, Itziar; Portella Moll, Maria J.
- Porta Casteràs, Daniel. Alteracions neurals persistents en el trastorn bipolar: Estudi de neuroimatge amb pacients eutímics. Universitat Autònoma de Barcelona. 2019-2023. Supervisors: Cardoner Álvarez, Narcís; Cano Català, Marta; Subirà Coromina, Marta.
- Alemany Santamaría, Carlo. Estudi longitudinal de predicció temprana de la resposta en depressió amb la combinació multimodal de biomarcadors epigenètics, neurocognitius i clínics. Universitat Autònoma de Barcelona. 2022-2026. Supervisors: Portella Moll, Maria J; de Diego Adeliño, Javier.

AWARDS

- Dr. Maria del Mar Carceller Sindreu, Dr. Cristina Carmona Farrés, Aina Ávila Parcet, Rocío Puig Piña, Lilian C Mendoza Mathison, Soraya Carril Batuecas, María López de Castro; Bi-annual research project grant "Evaluación de la seguridad y los efectos terapéuticos del nuevo protocolo de renutrición intensiva del Hospital de Día de Trastornos de la Conducta Alimentaria". Jornada de Cloenda de la Sociedad Catalana de Psiquiatría y Salud Mental. May 2022. 3.000,00 €.
- Elisabet Casellas Pujol. Second Prize Lluís Maruny "XXXIII Concurs Literari d'Articles de Psicologia". Col·legi Oficial de Psicologia de Catalunya. June 2022.

SCIENTIFIC PRODUCTION

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SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- Course "Integral approach to mental health, a proposal for Menorca". Institut Menorquí d'Estudis, Maó (Menorca), 25-26/03/2022, Coordinator: Maria J. Portella Moll.
- "III Seminar on Self-harm". Igualada University Hospital (Barcelona), 19/05/2022, Scientific Committee. Speaker: Joaquim Soler.
- Conference of the Spanish DBT Society 2022 "Understanding emotional regulation to understand suicidal behavior". Online, 22/04/2022, Organization: Joaquim Soler.
- Talk Dr. Joan Camprodon (Massachusetts General Hospital) "Transcranial magnetic stimulation has changed the clinical protocols from the first application". L'Hospital de la Santa Creu i Sant Pau, Barcelona, 13/07/2022, Organization and talks by: Narcís Cardoner and Marta Cano.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- Panel Discussion "Emotions and Dialectic", XXXV Symposium on behavioral therapy and behavioral medicine in clinical practice. 07/04/2022. Coordinator: Joaquim Soler.
- Opening Conference and Talk "Treatment of patients with symptoms of long evolution", Conference 2022 "Understanding Emotional Regulation to Understand Suicidal Behavior". Spanish Association of DBT and SURVIVE. International Workshop online, 22/04/2022. Speaker: Joaquim Soler.
- Conference "Mindfulness, neuroscience and diffusion", II Mental Health and Social Innovation Congress. Fundació Althaia, online, 27/05/2022. Speaker: Joaquim Soler.

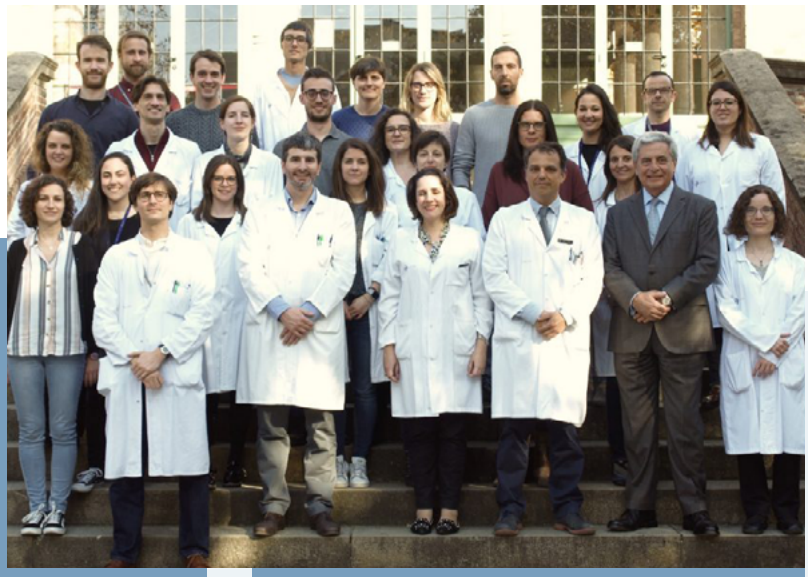
- "Advancing in the treatment of long-term symptoms in BPD: Feasibility of a skills-based intervention to increase well-being". Round table "Interventions based on mindfulness for growth and well-being". 5 Congress of Positive Psychology. Bilbao, 12-14/05/2022. Speaker: Joaquim Soler.
- Conference "Evidence-based psychological treatments for people with personality disorders and how to implement them in public health services". II Conference on Mental Health of the SCS: Attention to people with Personality Disorders. Sub-directorate of Health Care of the Cantabrian Health Service. Santander, June 16/06/2022. Speaker: Joaquim Soler.
- Special talk "Technology and Mental Health" in the Technology Exploration Day, Co-creation Initiative TECSAM. June 21/06/2022. Speaker: Maria J Portella.
- "Feasibility of a skills-based intervention to increase well-being for long-standing symptoms in BPD". Symposium: Advances in compassion-based interventions research, EABCT 52nd Annual Congress. Barcelona, 7-10/09/2022. Speaker: Joaquim Soler.
- "Research: Updating third generation therapies". SCRITC 2022 Conference, EABCT, 52nd Annual Congress. Barcelona, 7-10/09/2022. Moderator: Joaquim Soler.
- Conference "Skills and Mindfulness in DBT", 2nd Iber-American Conference on DBT, DBT Latinoamerica. Virtual. September 27/09 - 2/10/2022. Speaker: Joaquim Soler.
- "Ayahuasca Research", Round table "Psychotherapy associated with psychotropic substances". II International Congress of contemplative sciences and Mindfulness. Zaragoza, 3-4/11/2022. Speaker: Joaquim Soler.
- Panel Discussion "The beginnings of mindfulness in Spain". Day X anniversary of the master of mindfulness. 5 November 2022, Zaragoza. Moderator: Joaquim Soler.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Talk "El cervell autista" to the students from Oak House School.. IIB Sant Pau. Brain Awareness Week. Barcelona, 17/03/2022. Speaker: Portella Moll, Maria J.
- Book presentation an talk. "Autism. A Quick Dive. Tibidabo Editions, 2021". Abat Oliba University. World Autism Awareness Day. Barcelona, 02/04/2022. Author: Portella Moll, Maria J.
- Presentation of Round Table 2 "Accompanying and supporting families". Living Lab Day: TEA. Mental Health Cluster Catalonia. UAB. Sant Boi de Llobregat, 3/05/2022. Presenter: Portella Moll, Maria J.
- Workshop "Mindfulness Workshop". First participatory day on the health of the donut at the Hospital de Sant Pau "Entre Dones". Barcelona, 20-21/05/2022. Speaker: Soler Ribaudi, Joaquin.
- "What you would like to transmit from mindfulness to the next generations". Day X anniversary of the master of mindfulness. Zaragoza, 05/11/2022. Moderator: Soler Ribaudi, Joaquin.
- Book presentation "Autisme. A Quick Dive. Tibidabo Editions, 2021". International Day of Persons with Disabilities. ASPERCAMP, Library "Xavier Amorós". Reus, 03/12/2022. Author: Portella Moll, Maria J.

NEUROBIOLOGY OF DEMENTIA



Group leader
Fortea Ormaechea, Juan (FGS) /
Lleó Bisca, Alberto (FGS) until October 2022.

Researchers
Acha Santamaria, Blanca (IdISNA)
Alcolea Rodriguez, Daniel Andres (IR)
Altuna Azkargorta, Miren (IR)
Arranz Martinez, Javier Jose (IR)
Barroeta Espar, Isabel (FGS)
Bejanin , Alexandre Pierre Armand (IR)
Belbin , Olivia Elizabeth (IR)
Campabadal Delgado, Anna (UB)
Carmona Iragui, Maria (FGS)
Delaby , Constance Jeann
(Inst. des Neurosciences Montpellier, France)
Dols Icardo, Oriol (IR)
Gimenez Badia, Sandra (FGS)
Iulita , María Florencia (IR)
Lleo Bisa, Alberto (FGS)
Montal Blancafort, Victor (IR)
Padilla Franco, Concepcion (IR)
Rodriguez Baz, Iñigo (IR)
Rubio Guerra, Sara (FGS)
Sanchez Aced, Erika (IR)
Santos Santos, Miguel Angel (FGS)
Sirisi Dolcet, Sonia (IR)
Valle Tamayo, Natalia (IR)
Zhu , Nuole (IR)

Research technicians
Aumatell Escabias, Joaquim (IR)
Cervantes Gonzalez, Alba (CIBERNED)
Clos Batet, Susana (IR)
Ribas Bellavista, Laia (IR)
Riboso Nogue, Roser (IR)
Rozalem Aranha, Mateus (IR)
Sala Matavera, Isabel (FGS)
Sanchez Lopez, Oriol (CIBERNED)
Sanchez Saudinos, Maria Belen (IR)
Subirana Castillo, Andrea (IR)
Torres Alcala, Soraya (IR)
Valldeneu Castells, Silvia (IR)
Vaque Alcazar, Lidia (UB)
Vera Campuzano, Elena (IR)
Videla Toro, Laura (IR)
Zsadanyi , Sara Erzsebet (IR)

Internship students
Alarcon Torres, Alejandro (UPC)
Aragon , Irina (UAB)
Armas Galve, Maria Pilar (UB)
Buhner , Benjamin Johannes (UAB)
Busquets Pino, Lua (UPC)
Calabria , Marco (UOC)
Dominguez Rovira, Javier (UB)
Fernandez Aixala, Eric (UB)
Guzman Elizalde, Nayeli (UAB)
Lopez Rojas, Natalia (UAB)
Olive Cadena, Guillem (UB)
Perea Cabrera, Olga (UAB)
Perlaza Meneses, Danna Alejandra (VHIR-UAB)
Serrano Requena, Sara (VHIR-UAB)
Vasquez Henriquez, Carolina Andrea (UAB)

Estudiants en pràctiques de CFGS/Batxillerat
Florencia Moragas, Kevin (C.E. Monlau)
Garcia Alvarez, Alex (C.E. Monlau)
Martin Rosado, Aleix (C.E. Monlau)
Morata Solana, Begoña (Centro Alfonso X El Sabio)
Perez Barrueco, Andrea Pilar (Centro Alfonso X El Sabio)

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 neuro-degenerative 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.

Clinical trials in Alzheimer's disease and Down syndrome.

SCIENTIFIC CHALLENGES

Since its founding over 15 years ago, our group has experienced a continual and exponential growth and is firmly consolidated as a leader in translational research in to 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 organisational 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 comprising 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 ultrasenstivity, 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, prioritising 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 repsonse to the integration of the first disease-modifying therapy.
- Continue to innovate by developing ever more sensitive technologies for digital and blood-based biomarkers.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Molecular Physiology of the Synapse (PI: Alex Bayes).
Cerebrovascular Diseases (PI: Joan Marti-Fabregas).
Neuromuscular Diseases (PIs: Isabel Illa, Montse Olive, Ricard Rojas, Luis Querol).
Parkinson disease and Movement Disorders (PI: Jaime Kulisevsky, Javier Pagonabarraga).
Biochemistry Group (PI: Francisco Blanco, Mireia Tondo).
Nuclear Medicine (PI: Albert Flotats, Valle Camacho).
Multidisciplinary Sleep Unit (PI: Sandra Gimenez).

EXTERNAL COLLABORATIONS

Collaboration article. Alzheimer Centre Limburg, Department of Psychiatry and Neuropsychology, School for Mental Health and Neuroscience, Maastricht University, Maastricht, the Netherlands.

Collaboration article. Laboratoire de Biochimie Protéomique Clinique (LBPC-PPC), Univ Montpellier, CHU Montpellier, INM INSERM, Hôpital St Eloi, IRMB 80 av A Fliche, 34295, Montpellier, France.

Collaboration article. Alzheimer's Therapeutic Research Institute, Keck School of Medicine, University of Southern California, Los Angeles, USA.

Collaboration article. Alzheimer's Association, 225 N Michigan Avenue, 17th Fl, Chicago, Illinois, USA.

Collaboration article. Gordon Center for Medical Imaging, Department of Radiology, Massachusetts General Hospital and Harvard Medical School, Boston, MA, USA; Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital and Harvard Medical School, Charlestown, MA, USA.

Collaboration article. Alzheimer's Therapeutic Research Institute, Keck School of Medicine, University of Southern California, Los Angeles, USA.

Collaboration article. Université de Lille, INSERM, CHU Lille, Institut Pasteur Lille, U1167-RID-AGE, Facteurs de risque et déterminants moléculaires des maladies liées au vieillissement, Lille, France.

Collaboration article. Inserm U1245 and CHU Rouen, Department of Genetics and CNR-MAJ, Normandie University, UNIROUEN, F-76000, Rouen, France.

Collaboration article. Alzheimer Center Amsterdam, Department of Neurology, Amsterdam Neuroscience, Vrije Universiteit Amsterdam, PO Box 7057 1007, MB, Amsterdam, The Netherlands.

Collaboration article. Lübeck Interdisciplinary Platform for Genome Analytics (LIGA), University of Lübeck, Lübeck, Germany.

Collaboration article. Department of Food Safety, Norwegian Institute of Public Health, Oslo, Norway.

Collaboration article. Alzheimer Center Amsterdam, Department of Neurology, Amsterdam Neuroscience, Vrije Universiteit Amsterdam, PO Box 7057 1007, MB, Amsterdam, The Netherlands.

Collaboration article. Wellcome Centre for Mitochondrial Research, Claremont Road, Newcastle NE2 4AA, UK.

Collaboration article. Department of Psychiatry, Washington University School of Medicine, St. Louis, Missouri, United States of America.

Collaboration article. CNRS, UMR 8251, Biologie Fonctionnelle et Adaptative (BFA), Université Paris Cité, 75013 Paris, France.

Collaboration article. Neurodegenerative Diseases Research Unit, National Institute of Neurological Disorders and Stroke, Bethesda, MD 20892, USA.

Collaboration article. Eisai Inc., Neurology Business Group, Nutley, New Jersey, USA.

Collaboration article. Gordon Center for Medical Imaging, Department of Radiology, Massachusetts General Hospital and Harvard Medical School, Boston, MA 02114, USA.

Collaboration article. Department of Psychiatry and Psychotherapy, Ludwig Maximilian University, Munich, Germany.

Collaboration article. Alzheimer Center Amsterdam, Neurology, Vrije Universiteit Amsterdam, Amsterdam UMC Location VUmc, Amsterdam, The Netherlands.

Collaboration article. Tanz Centre for Research in Neurodegenerative Diseases, University of Toronto, Toronto, ON, Canada; Memory Clinic, Krembil Brain Institute, University Health Network, Toronto, ON, Canada.

Collaboration article. Department of Neurology, Martin-Luther-University Halle-Wittenberg, 06120, Halle (Saale), Germany.

Collaboration article. Genomics of Neurodegenerative Diseases and Aging, Human Genetics, Vrije Universiteit Amsterdam, Amsterdam UMC location VUmc, Amsterdam, the Netherlands.

Collaboration article. Department of Psychiatry, University of Oxford, Oxford, United Kingdom.

Collaboration article. Memory and Aging Center, UCSF Weill Institute for Neurosciences, University of California, San Francisco, San Francisco, CA, USA.

ACTIVE GRANTS

- Alcolea Rodriguez, Daniel Andres. Utilidad diagnóstica de Aß42 y Aß42/40 en LCR y plasma para detectar amiloidosis cerebral y correlación con marcadores subrogados de producción de ß-amiloide en enf. de Alzheimer. PI18/00435. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 147.620,00 €
- Arranz Martinez, Javier Jose. Contractes Rio Hortega 2021. CM21/00243. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 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. Proj. Assoc. a Contractes d'Investigadors Miguel Servet tipo I 2020. CP20/00038-P. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 40.000,00 €
- Belbin, Olivia Elizabeth. Estudio multimodal de nuevos biomarcadores sinápticos en cohortes de la enfermedad de Alzheimer y la demencia frontotemporal. PI18/00327. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 123.420,00 €
- 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. Early PROgnostic markers FOr Neuro-degenerative Diseases (e-PROFOUND). 2019 PROD 00088. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2020-2022. 95.215,00 €
- Belbin, Olivia Elizabeth. Estudio multimodal de nuevos biomarcadores sinápticos en cohortes de la enfermedad de Alzheimer y la demencia frontotemporal. CPII18/00011. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2022. 91.125,00 €
- Belbin, Olivia Elizabeth. Alteraciones preclíncas de sinapsis en enfermedades neurodegenerativas. AC21_2/00017. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 154.880,00 €
- 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 €
- Carmona Iragui, Maria. Domiciliary Alzheimer visiting in Down syndrome extension project (DAVIS-2). SCN 2020-1. Societat Catalana de Neurologia. Duration: 2021-2022. 10.000,10 €
- 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. Domiciliary Alzheimer Visiting in Down syndrome. GBHI_ALZ-18-543740. ALTUM. Duration: 2018-2022. 20.276,97 €
- Dols Icardo, Oriol. Estudio longitudinal del papel de las celulas inmunitarias periféricas en la volución de la ELA. FUND.HNA. Fundación HNA. Duration: 2021-2023. 100.000,00 €
- Dols Icardo, Oriol. Estudio del transcriptoma de las células inmunitarias periféricas en la ELA. FUNDELA 2020. Fundela Fundación Española Investigación Esclerosis Lateral (FUNDELA). Duration: 2020-2022. 30.000,05 €
- 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 neuro-patológica 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. Identification of an RNA-based biomarker in FTD. AFTD 2019-003. Association for Frontotemporal Degeneration. Duration: 2020-2022. 98.387,50 €
- 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. Estudios longitudinales de RM magnética, de difusión y funcional en la enfermedad de Alzheimer preclínica esporádica y asociada al síndrome de Down. PI17/01019. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2022. 153.670,00 €
- 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: Multidisciplinary 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 1R61AG066543-01. University of Southern California. Duration: 2019-2023. 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 €
- 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. PI21/00791. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 129.470,00 €
- Illan Gala, Ignacio. MICROSTRUCTURAL CHANGES IN PRIMARY PROGRESSIVE APHASIA. GBHI ALZ UK 21-720973. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2022. 21.140,87 €
- Illan Gala, Ignacio. Unveiling the impact of biological sex along sporadic and genetic FTLD. AACSF-21-850193. Alzheimer's Association. Duration: 2021-2024. 147.286,04 €
- Iulita , Maria Florencia. Discovery of novel biomarkers signalling NGF metabollic dysfunction and early AD-dementia in Down sdydrome. JLF IULITA POSTDOC FELLOWS. Jérôme Lejeune Fondation. Duration: 2020-2022. 154.000,00 €
- Iulita, Maria Florencia. ProNGF and NfL in neuron-derived extracellular vesicles: the gateway to blood biomarker discovery for Alzheimer´s disease prevention in Down syndrome. JLF 2020 IULITA . Jérôme Lejeune Fondation. Duration: 2020-2022. 39.999,60 €
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SCIENTIFIC DISSEMINATION

Invited lectures

- VISUAL SEMIQUANTITATIVE SCALES IN THE DIAGNOSIS OF DEGENERATIVE DEMENTAS: HOW CAN WE GET MORE INFORMATION FROM MRI WITHOUT USING THE COMPUTER OR KNOWING ABOUT PROGRAMMING – NEUROPILLS. Organized by ESTEVE, 03/9/2022. Lecture by: Ignacio Illan.
- Alzheimer's Disease Diagnostic Biomarkers Currently Useful in Clinical Practice. Symposium Lilly. AD/PD: Alzheimer's & Parkinson's Diseases Conference. Barcelona, 03/17/2022. Lecture by: Alberto Lleó.
- FTLD - Parkinsonism: 4R tauopathies: DCB (corticobasal degeneration), PSP (progressive supranuclear palsy). II Annual Meeting of the Dementias Group. Santiago de Compostela, 05/27/2022. Lecture by: Ignacio Illan.
- "Technology and dementia in Down syndrome". Talk at "Down syndrome and Alzheimer's disease professional Interest Area" (Alzheimer's Association). Speakers: Zach Beattie, Maria Carmona-Iragui, Alain Dekker and Jason Hassenstab. Online, 05/31/2022. Lecture by: Maria Carmona.
- Relevance of biomarkers in clinical trials for Alzheimer's disease in Down Syndrome. 4th International Conference of the Trisomy 21 Research Society. Long Beach, Calif., 06/9/2022. Lecture by: Barroeta I.
- Testimonials from research participants in Europe and the US. 4th International Conference of the Trisomy 21 Research Society. Long Beach, Calif., 06/11/2022. Lecture by: Barroeta I.

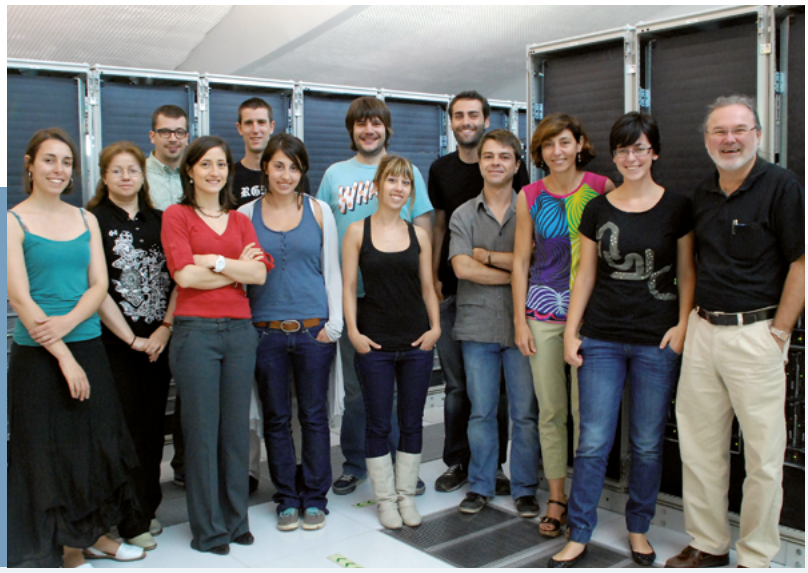
- Current and future biofluid markers in the differential diagnostics of neurodegenerative diseases. Kuopio Alzheimer symposium, Kuopio (Finland), 08/24/2022. Lecture by: Olivia Belbin.
- Proteomic studies of FTD fluid biomarkers. Symposium: FinFTD network satellite meeting. Kuopio (Finland), 08/24/2022. Lecture by: Olivia Belbin.
- Understanding the links between intellectual disabilities and dementia and the medical challenges in diagnosing dementia in adults with Down syndrome. Virtual Alzheimer's Association Academy Intellectual disabilities and dementia. Alzheimer Europe. 09/13/2022. Lecture by: Isabel Barroeta.
- Biphasic trajectory of cortical changes in preclinical Alzheimer's disease. IDIVAL-Precision Medicine FORUM-RETHINKING THE MANAGEMENT OF ALZHEIMER'S DISEASE. Virtual, 10/03/2022 - 10/06/2022. Lecture by: Juan Fortea.
- Past, present and future of Alzheimer's markers in CSF. IDIVAL-Precision Medicine FORUM-RETHINKING THE MANAGEMENT OF ALZHEIMER'S DISEASE. Virtual, 10/03/2022 - 10/06/2022. Lecture by: Daniel Alcolea.
- Biofluid markers of synapse degeneration in neurodegenerative diseases. 2022 CYBERNED WEBINAR SERIES. Online, 09/29/2022. Lecture by: Olivia Belbin.
- Confirming the diagnosis: neuroimaging. Event: A journey through Alzheimer's disease. Organized by ESTEVE. 10/08/2022. Lecture by: Ignacio Illán-Gala.
- Towards a paradigm shift in Alzheimer's disease neuroimaging - Event: A journey through Alzheimer's disease-Organized by ESTEVE - 10/8/22. Lecture by: Juan Fortea.
- HSCSP: Biomarkers of synaptic dysfunction in FTD and DLB (WP2). JPND-SynaDeg project: Prediagnostic early synaptic disturbances in neurodegenerative diseases. VIRTUAL KICK-OFF SYMPOSIUM of the project Prediagnostic early synaptic disturbances in neurodegenerative diseases. 10/17/2022. Lecture by: Olivia Belbin.
- Plenary lecture: Early-onset dementias - what they are, how are they studied, and what is still unknown?. JPND-SynaDeg project: Prediagnostic early synaptic disturbances in neurodegenerative diseases. VIRTUAL KICK-OFF SYMPOSIUM. 10/17/2022. Lecture by: Daniel Alcolea.
- "Collaboration between neurologist and speech therapist in the care of patients with primary progressive aphasia". I PROFESSIONAL AND SCIENTIFIC MEETING CONFERENCE BETWEEN LOGOPEDES AND NEUROLOGISTS. On-line. Organized by Association of Speech Therapists of Spain. 10/15/2022. Lecture by: Miguel Angel Santos Santos and Sonia Marques Kiderle
- "Plasma markers of Alzheimer's disease: present and future". XVI National Congress of the clinical laboratory, LABCLIN. WORKSHOP Biochemical markers for the management of Alzheimer's disease and multiple sclerosis. An update. Malaga, 10/20/2022. https://www.labclin2022.es/index.php/programa/programa-labclin2022. Lecture by: Daniel Alcolea.
- "Biomarkers of Alzheimer's disease using CSF". XLIV Annual Meeting of the Andalusian Society of Neurology. Dementia Working Group. Plenary Room. Seville. 10/22/2022. https://www.saneurologia.org/reunion-anual-s-a-n-2/programa/. Lecture by: Daniel Alcolea.
- To split or not to split: data-driven components along the PPAOS-PAA spectrum s-ISFTD 2022. Lille (Paris), 04/11/2022. Lecture by: Ignacio Illan.
- Webinar "Early and accurate diagnosis of dementias". Organized by CEAFA. 11/10/2022. Lceture by: Juan Fortea.
- Session of the SEN dementia study group: Biochemical biomarkers in dementia with Lewy bodies. LXXIV Annual Meeting of the Spanish Society of Neurology. 11/16/2022. Lecture by: Javier Arranz.
- "Synaptic loss in Alzheimer's disease and other neurodegenerative diseases". II Workshop on Translational Neuroscience at the Parc Taulí. 11/11/2022. Lecture by: Alberto Lleó.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Informative talk "The brain and Alzheimer's" for 5th and 6th grade primary school pupils as part of the celebration of the day of women and girls in science. Speaker: Sonia Sirisi.
- Pompeu Fabra School. L'Hospitalet de Llobregat, 02/11/2022. Organized by: IIB Sant Pau.
- Conception Padilla. Informative talk "Ageing in Down syndrome". CC Navas. 05/10/2022. Organized by: IIB Sant Pau.
- Informative talk "Ageing in Down syndrome". CC Guinardo. 05/18/2022. Organized by: IIB Sant Pau. Speaker: Conception Padilla.
- Informative talk "A look at Alzheimer's". On-line. Addressed to the team of Janssen Neuroscience, 11/04/2022. Speakers: Jordi Matías Guiu, Sílvia Valldeneu, Andrea Subirana, Irene Gil.

NEURORADIOLOGY



Group leader
Gomez Anson, Beatriz Maria (FGS)

Researchers
Gomez Chiari, Marta Cecilia (FGS)
Lozano Martinez, Gloria Andrea (FGS)
Mendez Escalante, Jorge Eliecer (FGS)
Sanchez Fernandez, Juan Jose (FGS)
Tecame, Mario (FGS)

MAIN LINES OF RESEARCH

Ours is a multidisciplinary research group, which has the added value of combining neuroimaging skills of the members of the Neuroradiology clinical unit at Hospital de la Santa Creu i Sant Pau with technological knowledge from PIC/IFAE investigators at the Universitat Autònoma de Barcelona (Spain) and University College London (UCL, UK).

Ours focus are:

- Neuroimaging biomarkers in diseases involving the central nervous system, including neurodegenerative and neuropsychiatric conditions
- Automatic procedures and software tools, especially those of Deep Learning/Artificial Intelligence, in neuroradiology

SCIENTIFIC CHALLENGES

To achieve visibility of our research group and of neuroradiology –often considered by clinicians more a technical tool rather than a discipline in itself– as a defined field of knowledge.

To add knowledge in clinical Neuroradiology to the development and implementation of Artificial Intelligence in Diagnostic Imaging

SCIENTIFIC PRODUCTION

- Aracil I, Martinez S, Gonzalez JM, Sampedro F, Perez J, Horta A, Campolongo A, Izquierdo C, Gomez B, Pagonabarraga J, Kulisevsky J. Structure and Dynamics of Large-Scale Cognitive Networks in Huntington's Disease. *MOVEMENT DISORDERS*. 2022; 37(2). DOI:10.1002/mds.28839. PMID:34752656. IF:9,698 (Q1/1D). Document type: Article.
- Aracil I, Sampedro F, Marin J, Horta A, Martinez S, Gonzalez JM, Perez J, Bejr H, Pascual B, Boti M, Campolongo A, Izquierdo C, Gironell A, Gomez B, Kulisevsky J, Pagonabarraga J. Tipping the scales: how clinical assessment shapes the neural correlates of Parkinson's disease mild cognitive impairment. *BRAIN IMAGING AND BEHAVIOR*. 2022; 16(2). DOI:10.1007/s11682-021-00543-3. PMID:34553331. IF:3,224 (Q2/5D). Document type: Article.
- Calabria M, Garcia C, Grunden N, Pons C, Arroyo JA, Gomez B, Garcia M, Belvis R, Morollon N, Igual JV, Mur I, Pomar V, Domingo P. Post-COVID-19 fatigue: the contribution of cognitive and neuropsychiatric symptoms. *JOURNAL OF NEUROLOGY*. 2022; 269(8). DOI:10.1007/s00415-022-11141-8. PMID:35488918. IF:6,682 (Q1/2D). Document type: Article.
- Casasayas M, Garcia J, Gomez B, Medina V, Fernandez A, Quer M, Leon X. Low skeletal muscle mass assessed directly from the 3rd cervical vertebra can predict pharyngocutaneous fistula risk after total laryngectomy in the male population. *EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY*. 2022; 279(2). DOI:10.1007/s00405-021-07127-3. PMID:34665301. IF:3,236 (Q2/3D). Document type: Article.
- Fajardo C, Villar R, Gómez B, Brea B, Mosqueira AJ, Molla E, Enseñat J, Riesgo P, Cardona J, Hernando O. Recommendations for the diagnosis and radiological follow-up of pituitary neuroendocrine tumours. *ENDOCRINOLOGIA DIABETES Y NUTRICION*. 2022; 69(9). DOI:10.1016/j.endinu.2021.10.005; DOI (English Edition):10.1016/j.endien.2021.10.014. IF:1,833 (Q4/9D). Document type: Article/Practic guideline.
- Garcia C, Calabria M, Grunden N, Pons C, Arroyo JA, Gomez B, Lleo A, Alcolea D, Belvis R, Morollon N, Mur I, Pomar V, Domingo P. Neuropsychological deficits in patients with cognitive complaints after COVID-19. *BRAIN AND BEHAVIOR*. 2022; 12(3):e2508. DOI:10.1002/brb3.2508. PMID:35137561. IF:3,405 (Q2/4D). Document type: Article.
- Medrano S, Capellades J, Jimenez J, Gonzalez S, Vilas M, Rodriguez A, Ois A, Cuadrado E, Avellaneda C, Fernandez I, Merino E, Roquer J, Marti J, Giralt E. Risk factors analysis according to regional distribution of white matter hyperintensities in a stroke cohort. *EUROPEAN RADIOLOGY*. 2022; 32(1). DOI:10.1007/s00330-021-08106-2. PMID:34117555. IF:7,034 (Q1/2D). Document type: Article.
- Sampedro F, Martinez S, Perez J, Perez R, Horta A, Campolongo A, Izquierdo C, Aracil I, Rivas E, Puig A, Pagonabarraga J, Gomez B, Kulisevsky J. Plasma TDP-43 Reflects Cortical Neurodegeneration and Correlates with Neuropsychiatric Symptoms in Huntington's Disease. *CLINICAL NEURORADIOLOGY*. 2022; 32(4). DOI:10.1007/s00062-022-01150-5. PMID:35238950. IF:3,156 (Q3/6D). Document type: Article.

ADDICTIVE BEHAVIOURS



Group leader
Trujols Albet, Joan (FGS)

Researchers
Alvarado Carrera, Pedro Jose (FGS)
Batlle Batlle, Francesca (FGS)
Bauza Ramis, Joana Maria (FGS)
Costa Juste, Silvia Maria (FGS)
De Andres Muñoz, Sandra (FGS)
Dinamarca Caceres,
Fernando Nicolas (FGS)
Duran-Sindreu Terol,
Santiago Francisco (FGS)
Garcia Barrachina, Marina (FGS)
Guardia Serecigni, Josep (FGS)
Madre Rull, Mercè (FGS)
Mallorqui Bague, Nuria (FGS)
Pinet Ogue, M. Cristina (FGS)
Remis Rebollo, Sergio (FGS)
Ribalta Corona, Elisa (FGS)
Roca Tutusaus, Francisco Javier Juan (FGS)
Sancho Navarro, Marta (FGS)
Tome Perez, Jose Alberto (FGS)
Vicent Gil, Muriel (FGS)

DESCRIPTION

The main objective of our research group is to establish bidirectional connections between research and clinical practice in the area of addictive disorders in order to suggest hypotheses, incorporate recent advances, develop new measurement instruments and evaluate the effectiveness of interventions, trying as well to incorporate the patient perspective in most of these research lines.

MAIN LINES OF RESEARCH

Alcohol

- Pharmaco-epidemiological, prospective, multicentre study of Selincro® in alcohol dependence, to determine patterns of use and consumption of alcohol in routine clinical practice in Spain.
- Prospective observational study of the reduction of risky/harmful alcohol use with nalmefene treatment.

Cocaine

- Longitudinal assessment of cocaine craving during inpatient detoxification treatment.
- Efficacy of adding a web-based cognitive behavioural therapy (i.e., CBT4CBT) to standard cocaine use disorder outpatient treatment.

Tobacco

- Evaluation of the neuropsychiatric safety and efficacy of varenicline and bupropion hydrochloride for smoking cessation in subjects with and without a history of psychiatric disorders.
- Effectiveness of a telephone intervention for smoking cessation in patients with mental disorder: a pragmatic clinical trial.

Opiates

- Patient satisfaction with opioid agonist treatments (methadone and buprenorphine/naloxone).
- Clinical and pharmacogenetic predictors of heroin-dependent patients' satisfaction with methadone maintenance treatment.

Behavioural addictions

- Effectiveness of a Mindfulness-Based Cognitive-Behavioural Therapy for gambling disorder.
- Impact of the gambling advertising in general and clinical population.

Inpatient Detoxification Unit and Day Hospital

- Treatment retention and its predictors.
- Follow-up study of patients treated in these settings.

SCIENTIFIC CHALLENGES

Establish bidirectional links between clinical practice and investigation both to suggest hypotheses and incorporate recent advances.

Participate in controlled clinical trials of new treatments for addictive disorders.

Develop mixed-methods studies to explore the patient perspectives on addictive disorders treatment.

Integrate clinical research in routine clinical practice to assess the effectiveness of treatments in real-world settings.
Evaluate the validity and reliability of commonly used clinical scales and self-reported measurement instruments.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Mental Health.
Clinical Epidemiology and Healthcare Services.
Pharmacological Research in Humans.
Genetic Diseases.

EXTERNAL COLLABORATIONS

Department of Neurosciences, University of Cádiz, Cádiz, Spain.
Department of Psychobiology and Behavioural Science, Complutense University of Madrid, Madrid, Spain.
DeustoPsych, R+D+I in Psychology and Health, University of Deusto, Bilbao, Spain.
Monash Institute of Cognitive and Clinical Neurosciences, Monash University, Clayton, Victoria, Australia.

ACTIVE GRANTS

- Batlle Batlle, Francesca. A pilot, randomized, three arms, dose finding, placebo controlled, parallel study to evaluate the use of nabiximols (THC+CBD, Sativex®) for cannabis detoxification treatment vs treatment as usual. IIBSP-SAT-2020-05. Non competitive. Almirall. Duration: 2021-2023. 56.600,00 €
- Duran-Sindreu Terol, Santiago Francisco. Satisfaction with medication, treatment burden and quality of life of patients on buprenorphine treatment: Differences between treatment with conventional sublingual buprenorphine and treatment with extended-release injection solution. PNC00101. IIBSP-BUP-2021-113. Non competitive. Camurus AB. Duration: 2022-2025. 21.896,00 €
- Duran-Sindreu Terol, Santiago Francisco. Ensayo clínico aleatorizado para la mejora del tratamiento del trastorno por consumo de cocaína mediante la implementación de un tratamiento basado en una web de terapia cognitivo conductual. PI20/00929. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 32.065,00 €
- Trujols Albet, Joan. La perspectiva del paciente en tratamiento con agonistas opioides en la priorización de variables de resultado: Revisión sistemática mixta y desarrollo de una escala centrada en el paciente. 2021I073. Ministerio de Sanidad, Servicios Sociales e Igualdad. Duration: 2022-2024. 17.846,00 €

DOCTORAL THESES DEFENDED

- Vicent-Gil, Muriel. Perfils cognitius en la depressió i desenvolupament d'una intervenció neurocognitiva. 27/01/2022. Universitat Autònoma de Barcelona. Supervisors: Portella Moll, Maria J.; Cardoner Álvarez, Narcís. http://hdl.handle.net/10803/674870.

DOCTORAL THESES IN PROGRESS

- de Francisco, Seyla. Inteligencia emocional en pacientes con trastorno adictivo: Diferencias en función de la sustancia principal y cambios percibidos después de una intervención grupal breve. 2018-2024. Universitat de Barcelona. Supervisors: Eiroá Orosa, Francisco José; Trujols Albet, Joan.
- Duran Sindreu, Santiago. Variables predictoras del grado de distrés psicológico en pacientes adictos a la heroína en tratamiento con agonistas opioides. 2019-2024. Universitat Autònoma de Barcelona. Supervisors: de Diego Adeliño, Javier; Trujols Albet, Joan.

AWARDS

- Madre Rull, Mercè. Joint first author of the paper awarded the IX Santiago Reig Prize to the best scientific publication of the year 2021. 27 May 2022. Mental Health area of the CIBER.

SCIENTIFIC PRODUCTION

- González F, Trujols J, Vergara E. Cocaine Effect Expectancies among Patients with Cocaine Use Disorder with and without Adult Attention Deficit Hyperactivity Disorder: Are There Any Relevant Differences?. *JOURNAL OF PSYCHOACTIVE DRUGS*. 2022; DOI:10.1080/02791072.2022.2151951. PMID:36480506. IF:3,289 (Q2/5D). Document type: Article.
- Guardiola M, Sotero A, Almodovar C, Hostalet N, Guerrero A, Ramiro N, Ortiz J, Arias B, Madre M, Soler J, Salvador R, McKenna PJ, Pomarol E, Fatjo M. Combining fMRI and DISC1 gene haplotypes to understand working memory-related brain activity in schizophrenia. *SCIENTIFIC REPORTS*. 2022; 12(1):7351. DOI:10.1038/s41598-022-10660-8. PMID:35513527. IF:4,996 (Q2/3D). Document type: Article.
- Hogg B, Valiente A, Redolar D, Gardoki I, Fontana M, Lupo W, Jimenez E, Madre M, Blanco L, Reinares M, Cortizo R, Masso A, Castano J, Argila I, Castro JI, Comes M, Donate M, Herreria E, Macias C, Mur E, Novo P, Rosa AR, Vieta E, Radua J, Padberg F, Perez V, Moreno A, Amann BL. High incidence of PTSD diagnosis and trauma-related symptoms in a trauma exposed bipolar I and II sample. *FRONTIERS IN PSYCHIATRY*. 2022; 13:931374. DOI:10.3389/fpsyt.2022.931374. PMID:36339849. IF:5,435 (Q2/3D). Document type: Article.
- Martínez C, Feliu A, Torres N, Nieva G, Pinet C, Raich A, Mondon S, Barrio P, Andreu M, Hernández R, Vicens J, Costa S, Suelves JM, Vilaplana J, Enríquez M, Alaustre L, Vilalta E, Subirà S, Bruguera E, Castellano Y, Saura J, Guydish J, Fernández E, Ballbè M. Acceptability and participation predictors for a pragmatic randomized controlled trial to test a smoking cessation intervention after discharge from mental health wards. *DRUG AND ALCOHOL DEPENDENCE*. 2022; 234:109390. DOI:10.1016/j.drugalcdep.2022.109390. PMID:35278807. IF:4,852 (Q1/3D). Document type: Article.
- Nieva G, Ballbe M, Cano M, Carcole B, Fernandez T, Martinez A, Mondon S, Raich A, Roig P, Serra I, Serrano J, Pinet C. Smoking cessation interventions in substance use disorders treatment centers of Catalonia: The abandoned addiction. *ADICCIONES*. 2022; 34(3). DOI:10.20882/adicciones.1492. PMID:33768256. IF:4,102 (Q2/4D). Document type: Article.
- Samsó Jofra L, Puig T, Sola I, Trujols J. Interim opioid agonist treatment for opioid addiction: a systematic review. *HARM REDUCTION JOURNAL*. 2022; 19(1):7. DOI:10.1186/s12954-022-00592-x. PMID:35090475. IF:4,756 (Q1/3D). Document type: Review.
- Szerman N, Parro C, Pinet C, Martínez-Raga J, Basurte I, Saiz P. TOBACCO USE DISORDER AND DUAL DISORDERS Joint statement by the Spanish Psychiatry Society and the Spanish Dual Disorders Society. *ACTAS ESPANOLAS DE PSIQUIATRIA*. 2022; 50(Supplement). PMID:35731182. IF:1,667 (Q4/9D). Document type: Article.
- Testa G, Granero R, Misiolek A, Vintró C, Mallorqui N, Lozano M, Heras MVDL, Sánchez I, Jiménez S, Fernández F. Impact of Impulsivity and Therapy Response in Eating Disorders from a Neurophysiological, Personality and Cognitive Perspective. *NUTRIENTS*. 2022; 14(23):5011. DOI:10.3390/nu14235011. PMID:36501041. IF:6,706 (Q1/2D). Document type: Article.

- Trujols J, Duran S, Portella MJ. Patient-reported outcome measures (PROMs) to guide clinical care: recommendations and challenges. *MEDICAL JOURNAL OF AUSTRALIA*. 2022; 217(2). DOI:10.5694/mja2.51614. PMID:35753958. IF:12,776 (Q1/1D). Document type: Letter.
- Vicent-Gil M, González-Simarro S, Raventós B, Vera J, Marín-Martínez ED, Sabaté-Cao C, Pérez-Blanco J, Puigdemont D, de Diego-Adeliño J, Alemany C, Serra-Blasco M, Cardoner N, Portella MJ. Randomized clinical trial of integral cognitive remediation program for major depression (INCREM). *JOURNAL OF AFFECTIVE DISORDERS*. 2022; 310. DOI:10.1016/j.jad.2022.05.016. PMID:35545155. IF:6,533 (Q1/2D). Document type: Article.

SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- Congress: XI Intensive Conference on Resistant Pathologies. Barcelona, 6-7/10/2022. Type of participation: Member of the Organizing Committee: Madre, M.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

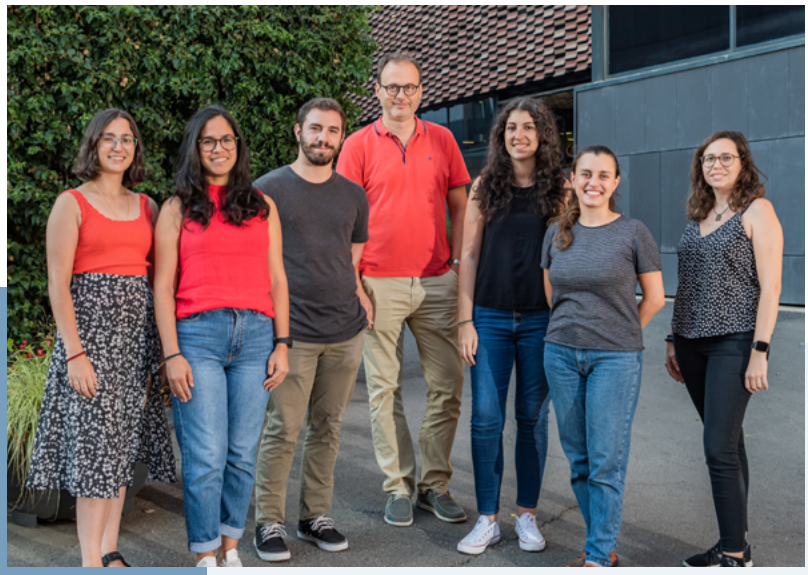
- SONEPSYN / ISSUP Chile event: Chemsex. Organizing societies: International Society of Substance Use Professionals (ISSUP) and Sociedad de Neurología, Psiquiatría y Neurocirugía (SONEPSYN). Santiago de Chile, 11/07/2022. Type of participation: Invited conference. Speaker: Duran-Sindreu, S.
- LX Colombian Congress of Psychiatry: Transformation and Action in Psychiatry. Organizing society: Colombian Association of Psychiatry. Bucamaranga (Colombia), 26-29/10/2022. Type of participation: Invited conference. Speaker: Duran-Sindreu, S.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Title of interview: Polyuse of drugs and mental fragility: The fatal mixture. Press interview / El Periódico, 07/11/2022. Target audience: General population. Speaker: Duran-Sindreu, S.

MOLECULAR PHYSIOLOGY OF THE SYNAPSE



Group leader
Bayes Puig, Alejandro (IR)

Researchers
Anton Galindo, Ester (UB)
Cazurro Gutierrez, Ana Laura (VHIR)
Del Castillo Berges, Diego (IR)
Peñuela Suarez, Amalia (IR)
Tristan Noguero, Alba (UB)
Zerpa Rios, Oriana Victoria (UAB)

Internship students
Cami Bonet, Andrea (UB)

DESCRIPTION

We aim to understand the organization and dynamics of the proteome of excitatory synapses. We want to unravel how synaptic proteome physiology orchestrates synaptic plasticity, which ultimately underpins cognition and behaviour.
Furthermore, we pursue to elucidate how disruption of molecular synaptic physiology contributes to genetic neurodevelopmental disorders. Based on this research we ambition to identify new therapeutic approaches to improve the quality of life of patients suffering these rare diseases.

MAIN LINES OF RESEARCH

Characterization of the synaptic proteome and interactome.
Identification of the molecular and cellular dysfunctions underlying genetic neurodevelopmental disorders, particularly Developmental and Epileptic Encephalopathies.

Identification of new therapeutic approaches for neurodevelopmental disorders.

Research in human experimental models of Developmental and Epileptic Encephalopathies.

Development of new biochemical methods to study the synapse.
Bioinformatic annotation of synaptic proteins and database development.

SCIENTIFIC CHALLENGES

Develop a systems biology model of the synaptic proteome.
Characterize the molecular roots of cognition and behaviour.
Identify the synaptic molecules and mechanisms involved in genetic neurodevelopmental disorders, especially in Developmental and Epileptic Encephalopathies.
Identify drugs to improve cognition and behaviour in Developmental and Epileptic Encephalopathies.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Neurobiology of Dementia (Dr. A. Lleó)
Neurosurgery (Dr. C. de Quintana-Schmidt)
Epilepsy (Dr. S. Boronat)
Molecular Neurodegeneration (Dr. O. Belvin)

EXTERNAL COLLABORATIONS

National:
Dra. Àngels García-Cazorla. Hospital Sant Joan de Déu, Barcelona.
Dra. Nerea Roher, Universitat Autònoma de Barcelona, Bellaterra.
Dra. Belén Pérez Dueñas, Institu de Recerca Vall Hebron, Barcelona.
Dr. David Soto, Universitat de Barcelona, Barcelona.
Dr. Xavier Altafaj, Bellvitge Biomedical Research Institute (IDIBELL), Barcelona
Dr. Andres Ozaita, Universitat Pompeu Fabra, Barcelona

International:
Prof. Seth GN Grant. Edinburgh University (UK)
Prof. Peter Kind. Edinburgh University (UK)
Dr. Gavin Rumbaugh. The Scripps Research Institute (USA)
Prof. Guus Smith, Vrije University, Amsterdam (The Netherlands)
Prof. Matthijs Verhague, Vrije University, Amsterdam (The Netherlands)
Prof. Daniel Choquet, Institut Interdisciplinaire de Neurosciences, Bourdeaux (France)
Prof. Oliver Brüstle, Institute of Reconstructive Neurobiology, Bonn (Germany)

ACTIVE GRANTS

- Bayes Puig, Alejandro. Hacia un tratamiento farmacológico para la deficiencia en SYNGAP1. Estudios preclínicos para investigar la eficacia de 4 fármacos en el rescate de los principales fenotipos. RTI2018-097037-B-100. Ministerio de Ciencia, Innovación y Universidades (MICIU). Duration: 2019-2022. 169.400,00 €
- Bayes Puig, Alejandro. Development of a clinical diagnostic tool to weigh the pathogenicity of genetic variants of uncertain significance (VUS) in neurodevelopmental disorders. Non-competitive. Asociación SYNGAP1 España. Duration: 2022-2022. 4.000,00 €
- Bayes Puig, Alejandro. Registro nacional de pacientes SYNGAP1 y Creación de una plataforma para estudios clínicos y básicos. Non-competitive. Asociación SYNGAP1 España. Duration: 2020-2022. 25.000,00 €
- Bayes Puig, Alejandro. Synapse Gene Ontology (SynGO) Consortium. Funded by Simons Foundation (USA). Duration: 2022-2024
- Del Castillo Berges, Diego. Developmental molecular pathophysiology related to SYNGAP1 haploinsufficiency. Studies in human and mouse models of disease. 2020 FI_B 00130. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2020-2023. 72.337,84 €

GRANTS AWARDED

- 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 €

DOCTORAL THESES IN PROGRESS

- Cazurro Gutiérrez, Ana. Molecular basis of the Mioclonus Distonia Syndrome caused by Epsilon-Sarcoglycan. 2021-2025. Universitat Autònoma de Barcelona. Supervisors: Bayés Puig, Àlex; Pérez Dueñas, Belén.
- Del Castillo Bergés, Diego. Developmental molecular pathophysiology related to SYNGAP1 haploinsufficiency. Studies in human and mouse models of disease. 2020-2024. Universitat Autònoma de Barcelona. Supervisor: Bayés Puig, *Àlex*.
- Ribeiro Constante, Juliana. Clinical phenotypes in a Spanish cohort of patients with SYNGAP1-related Developmental and Epileptic Encephalopathy (Provisional). 2020-2024. Universitat de Barcelona. Supervisors: Bayés Puig, Àlex; Garcia Cazorla, Àngels.
- Zerpa, Oriana. Clinical tools for the better diagnosis of SYNGAP1 deficiency. 2022-2026. Universitat Autònoma de Barcelona. Supervisors: Bayés Puig, Àlex; Roher Armentia, Nerea.

SCIENTIFIC PRODUCTION

- Kilinc M, Arora V, Creson TK, Rojas C, Le AA, Lauterborn J, Wilkinson B, Hartel N, Graham N, Reich A, Gou G, Araki Y, ALEX B, Coba M, Lynch G, Miller CA, Rumbaugh G. Endogenous Syngap1 alpha splice forms promote cognitive function and seizure protection. *ELIFE*. 2022; 11:e75707. DOI:10.7554/eLife.75707. PMID:35394425. IF:8,713 (Q1/1D). Document type: Article.
- Trubetskoy V, Pardiñas AF, Qi T, Panagiotaropoulou G, Awasthi S, Bigdeli TB, Chen C-Y, Dennison CA, Hall LS, Lam M, Watanabe K, Frei O, Ge T, Harwood JC, Magnusson S, Richards AL, Sidorenko J, Wu Y, Zeng J, Grove J, Kim M, Li Z, Voloudakis G, Zhang W, Adams M, Agartz I, Atkinson EG, Agerbo E, Al Eissa M, Albus M, Alexander M, Alizadeh BZ, Alptekin K, Als TD, et al. [Bayés A]. Mapping genomic loci implicates genes and synaptic biology in schizophrenia. *NATURE*. 2022; 604(7906). DOI:10.1038/s41586-022-04434-5. PMID:35396580. IF:69,504 (Q1/1D). Document type: Article.

SCIENTIFIC DISSEMINATION

- 3rd Congress of Spanish families affected by the deficit in SYNGAP1. Madrid, 19/11/2022. Organitzadors: Associació SYNGAP1 España. National. Speakers: Àlex Bayés and Angels García Cazorla.

SCIENTIFIC DISSEMINATION

- A systems biology approach to decipher the synaptic molecular alterations underpinning the intellectual disability caused by SYNGAP1. XII Simposi en Neurobiologia. Cap a la Medicina Traslacional. Barcelona, 7-8/06/2022. Invited Talk.
- A systems biology approach to decipher the synaptic molecular alterations underpinning the intellectual disability caused by SYNGAP1. Genetics, Environment, signaling & synaptic plasticity in developmental brain disorders: from bench to bedside. Roscoff (France), 11-15/04/2022. Invited Talk.

RESEARCH VISIBILITY ACTIVITIES

- Presentation of the Working Group in SYNGAP1. 3rd Congress of Spanish families affected by the deficit in SYNGAP1. Madrid, 19/11/2022.

STROKE PHARMACOGENOMICS AND GENETICS



Group leader
Fernandez Cadenas, Israel (IR)

Researchers
Carcel Marquez, Jara (IR)
Cullell Fornes, Natalia (Fund. Mutua Terrassa)
Guasch Jimenez, Marina (IR)
Lledos De Benito, Miquel (IR)
Llucia Carol, Laia (CSIC)
Martin Campos, Jesus Maria (IR)
Muiño Acuña, Elena (IR)

Research technicians
Robert Martinez, Salome (IR)

Internship students
Coker Mojoyin, Motunrayo (University Ibadan, Nigeria)

DESCRIPTION

The Stroke Pharmacogenomics and Genetics group is a multidisciplinary group composed by 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 the 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

The Stroke Pharmacogenomics and Genetics Group of the Institute of Research Hospital de San Pau has 9 lines of research whose main responsible is Israel Fernández Cadenas.

L1: Genetic risk factors in stroke. Jara Cárcel Márquez, postdoctoral researcher from our group, is the coordinator of this line of research. In this line we study the genetic risk factors associated with ischemic stroke.

L2: Pharmacogenetics of neurovascular diseases. Israel Fernández Cadenas. 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).

L3: Drugs-epigenetics of neurovascular diseases. In this line we analyze the epigenetic component associated with the response to antiplatelet drugs such as Aspirin or Clopidogrel. This new field is called Pharmaco-Epigenetics.

L4: Genetic and epigenetic risk factors associated with the neurological deterioration and the disability after stroke. Natalia Cullell Fornés, researcher from our group, is the coordinator of this line of research. In this line we study whether the genetic and epigenetic factors can influence the stroke outcome.

L5: Genetic, epigenetic and proteomic factors associated with the endophenotypes of the acute phase of stroke. Integromics.

L6 Microbiome and Stroke. Miquel Lledós de Benito works in this line of research. 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. works in this line of research.

L7 Lipids and Stroke. The senior researcher **Jesús M. Martín Campos** coordinates this line of research. 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.

L8: CADASIL and other orphan diseases associated with stroke. The postdoctoral researcher **Elena Muiño Acuña** participates in this line. 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. We recently have obtained an international grant to study CADASIL from the Million Dollar Bike Program being our group the coordinator of this study.

L9. Genetic susceptibility to COVID-19. COVID-19 and stroke. Laia Llucià Carol work in this line of research. 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.

SCIENTIFIC CHALLENGES

1-to find new treatments for stroke risk that can be used in the clinical practise.

2-to find new treatments for stroke outcome (neurological deterioration and long term outcome) that can be used in the clinical practise.

3-to understand the pathophysiology of rare casas of stroke such as CADASIL among others.

4-To establish new collaborations with groups that work in other neurological diseases.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

We have collaborations with researchers from the neurology unit and other groups involved in genetics of complex diseases:

- Joan-Martí Fabregas. Stroke.
- Alberto Lleó, Juan Fortea and Olivia Belvín. Dementia.
- Maria Sabater and José Manuel Soria. Thrombosis.

EXTERNAL COLLABORATIONS

We have collaborations with groups from the Spanish Stroke Network (RICORS) and from Genestroke consortium: H. del Mar, H. Virgen del Rocio, H. Clínic, H. Germans Tries i Pujols, H de Basurto, H. de Albacete, H. Son Espases, H de Valladolid, H Mutua de Terrassa, etc.

We have collaborations with national groups from the CSIC and other centers: Anna Planas (Barcelona), Jordi Pérez Tur (Valencia), Marta López de Diego (Madrid), Ángel Carracedo (Galicia), Fran Campos (Galicia), etc.

We have international collaborations: Jin-Moo Lee (US), Carlos Cruchaga (US), John Cole (US), Raj Dhar (US), Rufus Ankiyemi (Nigeria), Arne Lindgren (Sweden), Amy Brodtman (Australia), Stéphanie Debette (France), Martin Dichgans (Germany), Andrea Ganna (Finland), etc.

We are involved in diferent consortium such as the International Stroke Genetics Consortium where Israel Fernandez is the current Chair (2022-2023).

ACTIVE GRANTS

- Fernandez Cadenas, Israel. iBioStroke: Identificación y validación clínica de biomarcadores para la evolución clínica post-ictus. AC19/00106. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2022. 93.170,00 €
- Fernandez Cadenas, Israel. Proyecto MAESTRO: Análisis del interactoma: asociación de la MetAgenómica, genómica y Epigenómica con la evolución neurológica y la discapacidad después de un ictuS isquémico. PI18/01338. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2022. 98.252,00 €
- Fernandez 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 €
- Fernandez Cadenas, Israel. CNV and Stroke (CaNVAS). NIH MARYLANDO (CaNVAS) 1R01NS114045-01. National Institute of Neurological Disorders . Duration: 2020-2023. 100.084,00 €
- Fernandez Cadenas, Israel. Single-nuclei RNA-seq for CADASIL understanding and therapeutic target discovery. MDBR-22-127-CADASIL. . Duration: 2022-2023. 53.205,00 €
- Fernandez Cadenas, Israel. Aphas Project. ERISTA: European Thrombosis Investigator Initiated Research Program. REQ-0000021561. Duration: 2019-2022.
- Lledos De Benito, Miquel. Contractes PFIS: Contractes Predoctorals de Formació en Recerca en Salut 2019. FI19/00309. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 82.400,00 €

GRANTS AWARDED

- Fernandez Cadenas, Israel. Biomarcadors proteòmics cardio-metabòlics i immunitaris de la Covid-19 per a l'avaluació clínica de la infecció, la gravetat de la malaltia i les complicacions postpandèmiques de salut. MARATO 202107-31. Fundació La Marató de TV3. Duration: 2022-2024. 129.750,00 €
- Fernandez 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 €

DOCTORAL THESES IN PROGRESS

- Cullell Fornés, Natalia. Estudio Epigenómico de los factores de riesgo y pronostico del ictus isquémico. 2018-2023. Universitat Autònoma de Barcelona. Supervisors: Fernández Cadenas, Israel; Krupinski, Jerzy; Chamorro, Ángel.
- Lledós de Benito, Miquel. Maestro project. The association of the gut microbiome with stroke risk and outcome. 2019-2023. Universitat de Barcelona. Supervisors: Fernández Cadenas, Israel; Muiño Acuña, Elena.
- Llucià Carol, Laia. Previctus project. Genetic risk factors associated with stroke outcome. Universitat Autònoma de Barcelona. 2022-2026. Supervisors: Fernández Cadenas, Israel; Muiño Acuña, Elena.

SCIENTIFIC PRODUCTION

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SCIENTIFIC DISSEMINATION

- "Update genetic studies in the acute phase of stroke." International Stroke Organization Congress. Bourdeaux (France), September 2022. Invited talk. Speaker: Israel Fernandez.
- "Are the genetics useful for more than finding genes?" Romanian thrombosis society. November 2022. Invited talk. Speaker: Israel Fernandez.
- "Usefulness of polygenic scores in the study of hypercholesterolemia." XXXIV National Congress of the Spanish Arteriosclerosis Society. Reina Sofía Art Center Museum, Madrid, 8-10/06/2022. Invited talk. Speaker: Jesus Martin.
- "Influence of the gut microbiome in ischemic stroke risk and ischemic stroke outcome." 9th World Congress on Targeting Microbiota. Paris (France), 19-21/10/2022. Invited talk. Speaker: Miquel Lledos.
- "Precision medicine in common diseases: The example of stroke." LXXIV Annual Meeting of the Spanish Society of Neurology. Seville (Spain), 18/11/2022. Invited talk. Jara Carcel.

RESEARCH VISIBILITY ACTIVITIES

- Genetic studies in stroke. ESCOLAB. Scientific dissemination to institutes in the IIB Sant Pau, November 2022. Speaker: Natalia Cullell.
- Introduction to genetics. ESCOLAB. Scientific dissemination to institutes in the IIB Sant Pau, November 2022. Speaker: Jara Carcel.

GENETIC DISEASES



Group leader
Gallano Petit, Maria Pia (FGS)

Researchers
Bernal Noguera, Sara (FGS)
Cusco Marti, Ivon (FGS)
Gonzalez Quereda, Lidia (FGS)
Lasa Laborde, Adriana Maria (CIBERER)
Riera Armengol, Pau (FGS)
Rodriguez Santiago, Benjamin (FGS)
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Baena Gimeno, Manel (CIBERER)
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Cornet Ciurana, Monica (FGS)
Rodriguez Fernandez, Maria Jose (FGS)
Rojas Rodriguez, Ester (FGS)

DESCRIPTION

The primary objective of the Genetic Diseases Group is the progress of the molecular diagnosis of genetic and rare diseases though 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 to establish in many cases different therapeutic options and to offer genetic counselling to the families. The fact that the group is made up almost entirely by Sant Pau Genetics Dept staff, support the clinical translational effect of their research work.

MAIN LINES OF RESEARCH

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 analyses by RNASeq technology.
- Functional studies on DMD gene 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 of 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 effect.
- 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 genetics variants included in Hereditary Cancer Genetic Testing Panels.

Pharmacogenetics

- Identification of biomarkers of response/toxicity to drugs
- Congenital coagulopathies: molecular pathology of haemophilias.
- 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 paediatric-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 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).

SCIENTIFIC CHALLENGES

Pharmacogenetics

- Colorectal cancer treatments
- Inflammatory bowel diseases
- Rheumatology
- Bone marrow transplantation

Cardiology

Psychiatry

Muscular Dystrophies

- Post-transcriptional regulation of the dystrophin gene using nonsense-mediated decay analysis in DNA from patients with Duchenne muscular dystrophy.
- Genes associated with new phenotypic forms of limb girdle muscular dystrophy.
- Workflow development for the analysis of DMD gene by NGS techniques.

Hereditary Cancer:

- To use the information from the more than the 60 genes that confer a high lifetime risk of specific cancers in order to tailor prevention, surveillance, and treatment.
- To understand the clinical significance of variants associated with hereditary cancer risk
- Development of Polygenic testing to provide personalized risk assessments to women at high-risk of breast cancer

Hereditary Motor Neurone Diseases

- Development of neuromuscular junction studies in health and disease.
- Broadening of the spectrum of motor neuron diseases to include bulbar and spinal muscular atrophy, distal muscular atrophies and amyotrophic lateral sclerosis

We also take part in several committees and Functional Units within the Hospital de la Santa Creu i Sant Pau:

- Multidisciplinary committees: Cardiogenetics, Fetal Medicine, Tuberous sclerosis, Neurogenetics, Clinic – Molecular (in coordination with Hospital del Mar), Hereditary cancer.
- Functional Units: Aortic Pathology, Pediatrics Genodermatosis, Neurosensorial hearing loss, Rare diseases that occur with Movement Disorders, and CSUR-ERN-XUEC of Neuromuscular Diseases.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Pediatrics group (Dr Boronat)

Neuromuscular Diseases (Dr Olive) and Parkinson's Disease and Movement Disorders (Dr Kulisesky), at the Neurology Service.

Pneumology group (Dr Crespo)

Cancer predisposition and DNA repair systems group (Dr Surrallés).

Thrombosis and haemostasis group (Dr Vilalta, Dr Mateo)

Clinical Oncology group (Dr Barnadas).

Pharmacy group (Dr Mangues).

Aortic pathology group (Dr Barros)

Clinical and Translational Cardiology group (Dr Guerra)

Women and Perinatal Health group (Dr Llurba, Dr Parra, Dra Alejos)

EXTERNAL COLLABORATIONS

University

Universitat Autónoma de Barcelona. Lecturers of several degrees (Genetics and Biology) and master degrees (Medical Genetics, Neuropsychology) as well as mentoring students in their final degree projects.

Health research institutes

- Institut Recerca Hospital Sant Joan de Deu, Barcelona: Servicio de Neuropediatria, Dr. A. Nascimento, Dr. C. Ortez and Dr. D. Natera.
- VHIR, Hospital Vall d'Hebrón, Barcelona: Dr E. Tizzano, Dra. F. Munell.
- Hospital de Navarra, Navarra: Dept. Neurologia, Dra. I. Jericó
- BIODONOSTIA, Hospital de Donostia, San Sebastián: Neurology Dept. Dr. A. López de Munáin. • Instituto de investigación del Hospital 12 de Octubre, Madrid Dra. C. Domínguez, Dr A Hernandez-Lain
- Instituto de Investigación del Hospital de Basurto de Bilbao, Dra. S. Kapetanovic.
- Institut Catala d'Oncologia: Dras. C. Lázaro, M. Pineda.

Scientific and Patient Organisations

- Fundació Catalana d'Hemofilia
- Federación Española de Hemofilia (FEDHEMO) • Comisión Científica Real Fundación Victoria Eugenia
- BENE (Asociación de familiares y afectados por enfermedades neuromusculares de Bizkaia)
- FUNDAME (Fundación Atrofia Muscular Espinal)
- AEGH (Asociación Española de Genetica Humana)
- AEP (Asociación Española de Pediatría)
- SEN (Sociedad Española de Neurología)
- SEG (Sociedad Española de Genética)
- SEQC (Sociedad Española de Bioquímica Clínica y Patologia Molecular)
- SEFF (Sociedad Española de Farmacogenética y Farmacogenómica)
- SEFH (Sociedad Española de Farmacia Hospitalaria)
- SEOM: Sociedad Española de Oncología Médica
- AERES (agence d'évaluation de la recherche et de l'enseignement supérieur). Committee: "Laboratoire de génétique médicale"
- Comité Científico de la Asociación de Enfermedades Neuromusculares ASEM Catalunya.
- Red catalana de diagnóstico y seguimiento de hemoglobinopatías y talasemias (Catglobin)
- PTC Therapeutics Global Advisory Board on Advancing Diagnosis of Duchenne Muscular Dystrophy

CIBERER- Centro de Investigación Biomédica en Red de Enfermedades rares (Instituto de Salud Carlos III)

Our group, which constitutes CIBERER Research CB06/07/0011, collaborates closely with the following units of that Research Network:

- Grupo CB15/00055 Institución: Fundación para la Formación e Investigación Sanitarias de la Región de Murcia (FFIS) Centro: HOSPITAL JOSE MARIA MORALES MESEGUER IP: Javier Corral de la Calle
- Grupo CB06/05/0030 Institución: IIB Sant Pau Centro: Instituto de Investigación - Hospital de Sant Pau IP: Eduard Gallardo Vigo

- Grupo CB06/07/0016 Institución: Instituto de Investigación 12 de Octubre Servicio Madrileño de Salud Centro: HOSPITAL UNIVERSITARIO 12 DE OCTUBRE IP. Miguel Angel Martín Casanueva
- Grupo CB06/07/0037 Institución: Universidad Pompeu Fabra Centro: FACULTAD DE CIENCIAS EXPERIMENTALES Y DE LA SALUD OP: Luis Pérez Jurado
- Grupo CB 06/07/0073 Institución: Universidad de Valencia Centro: FACULTAD DE MEDICINA DE VALENCIA IP: Federico Pallardó Calatayud
- Grupo CB06/07/0091 Institución: Fundación para la Investigación del Hospital Universitario y Politécnico la Fe de la Comunidad Valenciana Centro: HOSPITAL UNIVERSITARIO DE LA FE IP: Teresa Sevilla Mantecón
- Grupo CB06/07/0023 Institución: IIB Sant Pau Centro: Instituto de Investigación - Hospital de Sant Pau IP: Jordi Surrallés Calonge

The team is involved in the IMPaCT - ISCIII initiative led by CIBERER with the aim of using WGS to molecularly diagnose rare diseases.

ACTIVE GRANTS

- Gallano Petit, Maria Pia. Análisis del transcriptoma mediante RNA-Seq en pacientes con patología neuromuscular no resuelta tras secuenciación de exoma: optimización del algoritmo diagnóstico. PI18/01585. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 123.420,00 €
- 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. Contractes Juan Rodés 2020. JR20/00008. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2024. 180.000,00 €
- Rodriguez Santiago, Benjamin. Catalan Interhospital Network of Genetic Variants to Improve Genetic Diagnosis in Rare Diseases.. MARATO 202040-33. Fundació La Marató de TV3. Duration: 2021-2024. 26.625,00 €
- Segarra Casas, Alba. Transcriptome analysis of undiagnosed patients affected by neuromuscular diseases: optimization of the diagnostic algorithm. FPU20/06692. Ministerio de Educación, Cultura y Deporte (MECD). Duration: 2021-2025. 74.156,62 €

GRANTS AWARDED

- 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 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). FEFH 2022. Fundación Española de Farmacia Hospitalaria. Duration: 2021-2023. 15.400,00 €
- Rodriguez Santiago, Benjamin. Prueba de cribado poblacional de portadores para la prevención de enfermedades genéticas mediante medicina genómica preconcepcional. IIBSP-MGP-2022-57. Non-competitive.

DOCTORAL THESES IN PROGRESS

- Marsal Oliván, Aïna. Aplicació de la medicina genòmica per a la prevenció i diagnòstic de malalties genètiques rares. 2022-2026. Universitat Autonòma de Barcelona. Supervisors: Rodríguez Santiago, Benjamín; Surrallés Calonge, Jordi.
- Segarra Casas, Alba. Transcriptome analysis of undiagnosed patients affected by neuromuscualr diseases: optimisation of the diagnòstic algorithm. 2021-2025. Universitat Autonòma de Barcelona. Supervisors: González Quereda, Lidia; Surrallés Calonge, Jordi.
- Tejero Laguna, Eudald. Desarrollo y diseño de herramientas bioinformáticas para la gestión, análisis, interpretación, explotación y control de datos de secuenciación masiva en el ámbito biomédico. 2018-2024. Universitat Autonòma de Barcelona. Supervisors: Rodríguez Santiago, Benjamín; Surrallés Calonge, Jordi.

AWARDS

- Best Oral Communication in the ESHG 2022 – European Society of Human Genetics Congress, 11-14 Juny 2022, Viena. "Deep intronic mutations, alternative splicing and complex chromosomal rearrangements in the DMD gene: genetic diagnosis of dystrophinopathies through mRNA analysis" Alba Segarra- Casas et al. (Control No. 2617)

SCIENTIFIC PRODUCTION

- Alias L, de Heredia ML, Luna S, Cliville N, Gonzalez L, Gallano P, de Juan J, Pujol A, Diez S, Boronat S, Orus C, Lasa A, Venegas MD. Case report: De novo pathogenic variant in WFS1 causes Wolfram-like syndrome debuting with congenital bilateral deafness. *FRONTIERS IN GENETICS*. 2022; 13:1024742. DOI:10.3389/fgene.2022.998898. PMID:36330437. IF:4,772 (Q1/3D). Document type: Article.
- Alonso J, Gonzalez L, Bruno C, Panicucci C, Alavi A, Nafissi S, Nilipour Y, Zanoteli E, Isihi LMD, Melegh B, Hadzsiev K, Muelas N, Vilchez JJ, Dourado ME, Kadem N, Kutluk G, Umair M, Younus M, Pegorano E, Bello L, Crawford TO, Suarez X, Topf A, Guglieri M, Marini C, Gallano P, Straub V, Diaz J. Clinical and genetic spectrum of a large cohort of patients with delta-sarcoglycan muscular dystrophy. *BRAIN*. 2022; 145(2). DOI:10.1093/brain/awab301. PMID:34515763. IF:15,255 (Q1/1D). Document type: Article.
- Alonso J, Hernandez JCD, Perez H, Mendoza MD, Gutierrez AJ, Hadjigeorgiou I, Monton F, Gonzalez L, Alonso A, Suarez X, Diaz J. Clinical and genetic features of a large homogeneous cohort of oculopharyngeal muscular dystrophy patients from the Canary Islands. *EUROPEAN JOURNAL OF NEUROLOGY*. 2022; 29(5). DOI:10.1111/ene.15252. PMID:35112761. IF:6,288 (Q1/2D). Document type: Article.
- Blasco-Pérez L, Costa-Roger M, Leno-Colorado J, Bernal S, Alias L, Codina-Solà M, Martínez-Cruz D, Castiglioni C, Bertini E, Travaglini L, Millán JM, Aller E, Sotoca J, Juntas R, Hoei-Hansen CE, Moreno-Escribano A, Guillén-Navarro E, Costa-Comellas L, Munell F, Boronat S, Rojas-García R, Povedano M, Cuscó I, Tizzano EF. Deep Molecular Characterization of Milder Spinal Muscular Atrophy Patients Carrying the c.859G > C Variant in SMN2. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(15):8289. DOI:10.3390/ijms23158289. PMID:35955418. IF:6,208 (Q1/3D). Document type: Article.
- Bullich G, Matalonga L, Pujadas M, Papakonstantinou A, Piscia D, Tonda R, Artuch R, Gallano P, Garrabou G, González JR, Grinberg D, Guitart M, Laurie S, Lázaro C, Luengo C, Martí R, Milà

M, Ovelleiro D, Parra G, Pujol A, Tizzano E, Macaya A, Palau F, Ribes A, Pérez LA, Beltran S, Schlüter A, Rodriguez A, Cáceres A, Nascimento A, García À, Cueto A, Marcé A, NELLOAR, Martínez A, et al. [Díaz-Manera J, Rojas-García R, Bernal S]. Systematic Collaborative Reanalysis of Genomic Data Improves Diagnostic Yield in Neurologic Rare Diseases. *JOURNAL OF MOLECULAR DIAGNOSTICS*. 2022; 24(5). DOI:10.1016/j.jmoldx.2022.02.003. PMID:35569879. IF:5,341 (Q1/3D). Document type: Article.

- Conejo I, Mas N, Riera P, Cardenete J, Puig R, Blanco MR, De Pourcq JT. Hernia enlargement and pancreatitis in a patient with short bowel syndrome treated with teduglutide. *NUTRICION HOSPITALARIA*. 2022; 39(1):03879. DOI:10.20960/nh.03879. PMID:34903028. IF:1,169 (Q4/9D). Document type: Article.
- De Dios A, Masip M, Pagès N, Riera P, Mateo MG, Del Mar M, Mangues MA, Gomis M. Desarrollo de una intervención mHealth para rediseñar la ruta asistencial de las personas que viven con VIH: Estudio cualitativo. *FARMACIA HOSPITALARIA*. 2022; 46. DOI:10.7399/fh.13249. PMID:36520560. Document type: Article.
- Iznardo H, Bredrup C, Bernal S, Gladkauskas T, Mascaro JM, Roe E, Baselga E. Clinical and molecular response to dasatinib in an adult patient with Penttinen syndrome. *AMERICAN JOURNAL OF MEDICAL GENETICS PART A*. 2022; 188(4). DOI:10.1002/ajmg.a.62603. PMID:34894066. IF:2,578 (Q3/7D). Document type: Article.
- Lucia-Campos C, Valenzuela I, Latorre-Pellicer A, Ros-Pardo D, Gil-Salvador M, Arnedo M, Puisac B, Castells N, Plaja A, Tenes A, Cuscó I, Trujillano L, Ramos FJ, Tizzano EF, Gómez-Puertas P, Pié J. A Novel Intragenic Duplication in the HDAC8 Gene Underlying a Case of Cornelia de Lange Syndrome. *GENES*. 2022; 13(8):1413. DOI:10.3390/genes13081413. PMID:36011323. IF:4,141 (Q2/5D). Document type: Article.
- Luque J, Mendes I, Gomez B, Morte B, de Heredia ML, Herreras E, Corrochano V, Bueren J, Gallano P, Artuch R, Fillat C, Perez LA, Montoliu L, Carracedo A, Millan JM, Webb SM, Palau F, Lapunzina P. CIBERER: Spanish national network for research on rare diseases: A highly productive collaborative initiative. *CLINICAL GENETICS*. 2022; 101(5-6). DOI:10.1111/cge.14113. PMID:35060122. IF:4,296 (Q2/4D). Document type: Review.
- Medina D, Riera P, Pages N, Masip M, Lopez A, Vilarrasa E, Puig L. A cohort study of guselkumab in the treatment of psoriasis refractory to previous biologic therapies: effectiveness, safety and adherence. *INTERNATIONAL JOURNAL OF CLINICAL PHARMACY*. 2022; 44(3). DOI:10.1007/s11096-022-01400-z. PMID:35380392. IF:2,305 (Q4/8D). Document type: Article.
- Miarons M, Riera P, García S, Gutiérrez F. Eficacia y seguridad de dosis altas de irinotecán en pacientes con cáncer colorrectal metastásico tratados con el esquema FOLFIRI en función del genotipo de UGT1A1: Revisión sistemática. *FARMACIA HOSPITALARIA*. 2022; 46(4). DOI:10.7399/fh.11736. PMID:36183220. Document type: Review.
- Paneque M, Juhe CS, Melegh B, Carreira I, Moog U, Liehr T. About the Need for Recognition of so-called Core Professional Groups within genetic Health Care in Europe. *MEDIZINISCHE GENETIK*. 2022; 34(1). DOI:10.1515/medgen-2022-2116. IF:0,836 (Q4/10D). Document type: Editorial material.
- Paneque M, Liehr T, Juhe CS, Moog U, Melegh B, Carreira I. The need for recognition of core professional groups in genetics healthcare services in Europe. *EUROPEAN JOURNAL OF HUMAN GENETICS*. 2022; 30(6). DOI:10.1038/s41431-022-01080-3. PMID:35283482. IF:5,351 (Q1/2D). Document type: Editorial material.
- Parlade E, Volta E, Cano O, Sanchez JM, Unzueta U, Lopez H, Serna N, Cano M, Rodriguez M, Vazquez E, Villaverde A. An In Silico Methodology That Facilitates Decision Making in the Engineering of Nanoscale Protein Materials. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(9):4958. DOI:10.3390/ijms23094958. PMID:35563346. IF:6,208 (Q1/3D). Document type: Article.
- Pena L, Ercibengoa M, Mercadillo F, Gómez D, Inglada L, Santos M, Lanillos J, Gutiérrez D, Hernández A, Carbonell P, León R, Robledo M, Rodríguez C, Perea J, Urioste M, Alonso MÁ, Andrés R, Arévalo S, del Mar M, Balmaña J, Beristain E, Blanco I, Boronat M, Brunet J, Cózar MV, del Campo M, Díaz A, Gabau E, Barcina MJ, González M, Guitart M, Hernán I, Hernández HS, Hernando S, Lacambra C, Lasa A, Lastra E, Llort G, del Rosario M, Marrupe D, Martínez F, Martínez V, Martorell L, Orera M, Pedrinaci S, Pérez P, Pineda M, Plasencia AM, Cajal TR, Robles L, Rodà D, Rodríguez N, Rosell J, Sáez R, Salvat M, Sánchez A, Santana A, Soto JL, Toll A, Tuneu A, Vázquez C, Working PHTS. Considerations on diagnosis and surveillance measures of PTEN hamartoma tumor syndrome: clinical and genetic study in a series of Spanish patients. *ORPHANET JOURNAL OF RARE DISEASES*. 2022; 17(1):85. DOI:10.1186/s13023-021-02079-7. PMID:35227301. IF:4,303 (Q2/4D). Document type: Article.
- Poyatos J, Marti P, Liquori A, Muelas N, Pitarch I, Martinez L, Rodriguez B, Gonzalez L, Damia M, Aller E, Selva M, Vilchez R, Diaz J, Alonso J, Barcena JE, Jauregui A, Gamez J, Aladren JA, Fernandez A, Montolio M, Azorin I, Hervas D, Casasus A, Nieto M, Gallano P, Sevilla T, Vilchez JJ. Dystrophinopathy Phenotypes and Modifying Factors in DMD Exon 45-55 Deletion. *ANNALS OF NEUROLOGY*. 2022; 92(5). DOI:10.1002/ana.26461. PMID:35897138. IF:11,274 (Q1/1D). Document type: Article.
- Riera P, Sole N, Suarez JC, Lopez PA, Fonts N, Rodriguez N, de Gamarra EF, Moran I. Drug-drug interactions in an intensive care unit and comparison of updates in two databases. *FARMACIA HOSPITALARIA*. 2022; 46(5). DOI:10.7399/fh.13180. PMID:36183229. Document type: Article.
- Sainz L, Riera P, Moya P, Bernal S, Casademont J, Diaz C, Millan AM, Park HS, Lasa A, Corominas H. Role of IL6R Genetic Variants in Predicting Response to Tocilizumab in Patients with Rheumatoid Arthritis. *PHARMACEUTICS*. 2022; 14(9):1942. DOI:10.3390/pharmaceutics14091942. PMID:36145690. IF:6,525 (Q1/2D). Document type: Article.
- Sanchez JM, Carratala JV, Serna N, Unzueta U, Nolan V, Sanchez A, Volta E, Lopez H, Ferrer N, Villaverde A, Vazquez E. The Poly-Histidine Tag H6 Mediates Structural and Functional Properties of Disintegrating, Protein-Releasing Inclusion Bodies. *PHARMACEUTICS*. 2022; 14(3):602. DOI:10.3390/pharmaceutics14030602. PMID:35335976. IF:6,525 (Q1/2D). Document type: Article.
- Zapata L, Suarez JC, Flores MN, Morales EM, Segarra A, Santos JA. Acute cor pulmonale in patients with acute respiratory distress syndrome due to COVID-19. *MEDICINA INTENSIVA*. 2022; 46(11). DOI:10.1016/j.medin.2021.12.016. PMID:35079192. IF:2,799 (Q3/7D). Document type: Letter.

SCIENTIFIC DISSEMINATION

- Member of the Scientific Committee at CIBERER (Center for Network Research on Rare Diseases), P. Gallano.
- Master of Medical Genetics, UAB.:. Organizers: C. Serra and I. Cuscó. Participants: , A. Lasa, S. Bernal, N. Clivillé, L. González-Quereda, P. Gallano, M. Baena.

- Master of Neuropsychology, UAB. L. González-Querda, S. Bernal, C. Serra, P. Gallano.
- VI Interhospital Conference on Genetics in Catalonia. Trias i Pujol Hospital, Badalona: November 2022. A. Lasa, Member organizing Committee.

SCIENTIFIC DISSEMINATION

- Chair Branch of Genetic Counselors of the European Board of Medical Genetics. C. Serra.
- External Advisor of CNRHA (National Committee for Assisted Reproduction): C. Serra.
- Creation of the Interhospital Working Group of Catalonia for the Organisation, Accessibility and Homogenisation of the care genetics tests for Rare Diseases. Organisers: I. Cuscó and C. Serra.
- The ENMC workshop 263 on Female DMD carriers, 13-15/05/2022, Hoofddorp, The Netherlands. Speaker: L. González-Quereda.
- VI Workshop Transfer of Scientific Knowledge in Duchene Muscular Dystrophy. VI DMD workshop. "mRNA sequencing, a very useful tool for the genetic diagnosis of dystrophinopathy". Barcelona, 7/09/2022. Speaker: L González-Quereda.
- "Update on NGS data analysis for Diagnosis". CYBERER. Participation in WP2: Analysis of variants (SNVs and indels) and WP4: Annotation in Splicing Sites. L González-Quereda member of the Bioinformatics Working Group.
- International Congress Duchenne Parent Project. "Genetic diagnosis of Dystrophinopathies". Madrid, 13-15/05/2022. Speaker: P. Gallano.
- X Update course in laboratory sciences clínic organized by the Col·legi de Pharmacèutic de Barcelona: "Strategies in the molecular diagnosis of hereditary neurodegenerative pathology". Speaker: Sara Bernal.
- "Genetic study of Neurosensory Hypocusis at the Hospital de la Santa Creu i Sant Pau" Academy of Medical Sciences of Catalonia and the Balearic Islands. Barcelona, 10/11/2022. Speaker: A. Lasa

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)
Rico Pereira, Marta (FGS)
Rodriguez Rodriguez, Rodrigo (FGS)
Roig Arsequell, Clara (FGS)
Sanchez Casas, Marc (FGS)
Sanchez Nevado, Raquel (FGS)

DESCRIPTION

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 improvements in healthcare practice through research into potentially surgical neurological disease. There are 3 areas of knowledge where our group stands out nationally and internationally: neurooncology, skull base and functional neurosurgery.

MAIN LINES OF RESEARCH

Tumour biology: gliomas (prognostic value of different mutations in anaplastic astrocytoma and GBM), pituitary gland adenomas.

Biomarkersinanaplasticastrocytomasandglioblastomamultiforme.

Application of new technologies in the resection of intracranial tumors.

Towards a pharmacological treatment for SYNGAP1 deficiency. Preclinical studies to investigate the efficacy of 4 drugs in the rescue of the main phenotypes.
Prospective study of patients operated by endoscopic endonasal approach.

Biomaterials: comparative study of two different cranial bone fixations.

Anatomical studies of the skull base.

Clinical evaluation of neurostimulation techniques in different neurological entities (Parkinson disease and neuropathic pain).

Safety and effectiveness of discolysis. Scientific Challenges

Neurostimulation for resistant craniofacial pain (jointly with Neurology and Pain Clinic Unit).

Use of intraoperative ecography for treatment of brain tumors.

Monitor the glioma tumor diagnosis, treatment and prognostic factors (Hospital Sant Pau - Hospital del Mar).

Pituitary adenoma treatment: medial cavernous sinus wall approach to cure adenomas.

Intraoperative neuromonitoring of oculomotor cranial nerves in skull base tumors.

SCIENTIFIC CHALLENGES

Neurostimulation for resistent craniofacial pain (jointly with Neurology and Pain Clinic Unit).

Deep brain stimulation for resistant psychiatric disease: depression and schizophrenia.

Use of intraoperative ecography for treatment of brain tumors. How to maximize the extent of resection.

Use of tractography in resection of brain tumors

Better outcomes in Pituitary Surgery by removing the tumor inside the cavernous sinus

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Neurology: treatment of movement disorders, craniofacial pain

Psychiaty: treatment of resistant psychiatric disease: depression and schizophrenia.

Oncology: treatment of brain tumors

Endocrinology: treatment of pituitary tumors

EXTERNAL COLLABORATIONS

- 2022-2024 Catalan Ministry of Economy and Knowledge, Soporte de Actividades de Grupos de Recerca. Role: Group coordinator. Project Reference: 2021 SGR 01005. Budget: 40.000€. Dr. de Quintana.
- 2019-2022 Spanish ministry of Science, Innovation and Universities, Proyectos de I+D+I «Retos Investigación» del Programa Estatal de I+D+I orientada a los retos de la sociedad. Towards a pharmacological treatment for SYNGAP1 deficiency. Preclinical studies to investigate the efficiency of four drugs in rescuing

key phenotypes. (RescSYNGAP). AB Role: Principal Investigator. Project Reference: RTI2018-097037-B-I00. Budget: 169.400€. Dr. de Quintana.

ACTIVE GRANTS

- De Quintana Schmidt, Cristian Jose. Efectividad y seguridad de la discolisis como tratamiento de los pacientes con dolor discógeno. IIBSP-DIS-2021-135. Duration: 2021-2022
- De Quintana Schmidt, Cristian Jose. Aplicación de nuevas tecnologías en la resección de tumores intracraneales. IIBSP-TIC-2018-53. Duration: 2018-2022

GRANTS AWARDED

- 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

DOCTORAL THESES DEFENDED

- Salgado López, Laura. Ecografía intraoperatoria neuronavegada en la resección de tumores supratentoriales: Efectividad de la técnica y correlación con la resonancia magnética. 28/04/2022. Universitat Autònoma de Barcelona. Supervisors: Masià Ayala, Jaume; de Quintana Schmidt, Cristian. http://hdl.handle.net/10803/675526.

DOCTORAL THESES IN PROGRESS

- Aibar Duran, Juan Angel. Valor de la flourescencia intraoperatoria (5-ALA) y ecografía intraoperatoria en la objetivación de márgenes tumorales. 2019-2024. Universitat Autònoma de Barcelona. Supervisor: Dr. de Quintana Schmidt, Cristian.

AWARDS

- Beca Gebro SENEC (Sociedad Española de Neurocirugía). Better publication in Neurooncology. de Quintana-Schmidt C, Salgado-Lopez L, Aibar-Duran JA, Alvarez Holzapfel MJ, Cortes CA, Alvarado JDP, Rodriguez RR, Teixidó JM. Neuronavigated Ultrasound in Neuro-Oncology: A True Real-Time Intraoperative Image. World Neurosurgery. 2022

SCIENTIFIC PRODUCTION

- Aibar JA, Oladotun M, Asencio C, Valassi E, Webb S, Gras JR, Monserrat J, Ribo PT, Munoz F. Complication Rates after Endoscopic Transsphenoidal Surgery for ACTH-Secreting Pituitary Adenomas: A Comparative Analysis with GH and Nonfunctioning Adenomas. *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*. 2022; 83. DOI:10.1055/s-0041-1725029. PMID:35832977. IF:1,407 (Q4/9D). Document type: Article.
- Aibar JÁ, Rodríguez R, de Diego FJ, Portella MJ, Álvarez MJ, Martín A, Puigdemont D, Molet J. Long-Term Results of Deep Brain Stimulation for Treatment-Resistant Depression: Outcome Analysis and Correlation With Lead Position and Electrical Parameters. *NEUROSURGERY*. 2022; 90(1). DOI:10.1227/NEU.0000000000001739. PMID:34982873. IF:5,315 (Q1/2D). Document type: Article.
- Anania P, Lucas RM, Todaro G, Zona G, Cortes CA, Hernandez FM. Anatomical meningo-orbital band evaluation and clinical implications: a cadaveric dissection study. *JOURNAL OF NEUROSURGICAL SCIENCES*. 2022; 66(3). DOI:10.23736/S0390-5616.19.04794-5. PMID:31738027. IF:2,392 (Q3/6D). Document type: Article.
- de Quintana C, Salgado L, Aibar JA, Holzapfel M, Cortes CA, Alvarado JDP, Rodriguez RR, Teixido JM. Neuronavigated Ultrasound in Neuro-Oncology: A True Real-Time Intraoperative Image. *WORLD NEUROSURGERY*. 2022; 157. DOI:10.1016/j.wneu.2021.10.082. PMID:34655818. IF:2,210 (Q3/6D). Document type: Article.
- Gandia ML, Vinuela JM, Barrios L, Alarcon C, Arikan F, Arraez C, Dominguez CJ, Alen JF, Gutierrez R, Horcajadas A, Hernandez FM, Narvaez A, Paredes I, Perez R, de Lope AR, Ruiz F, Arrieta FJS, Tejada S, Tamarit M, Topczewski T, Lafuente J. Neurosurgical emergency management during the lockdown period in health care regions in Spain with different COVID-19 impact: lessons learned to improve outcomes on the future waves. *EUROPEAN JOURNAL OF TRAUMA AND EMERGENCY SURGERY*. 2022; 48(3). DOI:10.1007/s00068-021-01767-0. PMID:34401937. IF:2,374 (Q3/6D). Document type: Article.
- Mendez I, Sintes A, Pascual JC, Punti J, Lara A, Briones L, Nicolaou S, Schmidt C, Romero S, Fernandez M, Farres C, Soler J, Santamarina P, Vega D. Borderline personality traits mediate the relationship between low perceived social support and non-suicidal self-injury in a clinical sample of adolescents. *JOURNAL OF AFFECTIVE DISORDERS*. 2022; 302. DOI:10.1016/j.jad.2022.01.065. PMID:35038480. IF:6,533 (Q1/2D). Document type: Article.

SCIENTIFIC DISSEMINATION

- Meeting of experts at Club DBS. Madrid, 21/10/2022. Speaker: Dr. Rodriguez.
- Meeting of experts in DBS Talks II. Madrid, 1/12/2022. Speaker: Dr. Rodriguez.
- Semi-Invasive and Surgical Therapies Workshop for Headaches and Neuralgias. Trigeminal Neuralgia Surgery and other craniofacial neuralgia. Surgical technique. Hospital de la Santa Creu i Sant Pau (Modernista Site), Barcelona, 15-16/12/2022. Professors: Dr. Rodríguez and Dr. Aibar.
- European Congress of Otorhinolaryngology (CEORL-HNS). Speaker at the Instructional Course. Milan, Octoner 2022. Dr. Munoz.
- Congress SENEC. Moderator of two round tables on Skull Base Surgery. Speaker: Dr. Munoz.
- 14th Congress of European Skull Base Society. Moderator of two round tables on Skull Base Surgery. April 2022. Dr. Munoz.
- Theoretical-practical course on Skull Base (Hands-on Workshop). SKULL BASE WEEK. Approaches to the middle fossa, cavernous sinus, subtemporal infratemporal and clivus. Minimally invasive approaches (minipterional craniotomy, transorbital approach, endoscope-assisted surgery). Neurosurgery Service. Hospital of Santa Creu i Sant Pau. Barcelona, March 2022. Course supervisor: Dr. F. Muñoz.
- Ultrasound Training Course. Barcelona, 25/03/2022. International. Teacher: Dr. de Quintana.
- Symposium Tractography (Online). 6/10/2022. International. Speaker: Dr. de Quintana.
- Ultrasound course for residents. 25/11/2022. National. Teacher: Dr. de Quintana.
- State of the art Intraoperative Ultrasound from Masters. Mumbai, 4-6703/2022. Moderator: Dr. de Quintana.
- Cranial Advisory Board (Medtronic). Rome, 11-13/05/2022. Moderator: Dr. de Quintana.

SCIENTIFIC DISSEMINATION

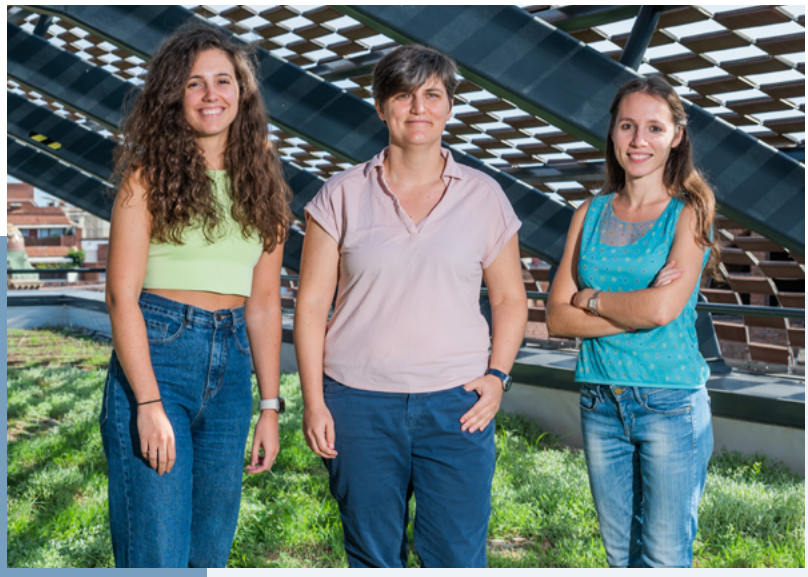
Participation by invitation in national or international scientific conferences and talks

- "Neurorestoration: Deep Brain Stimulation for refractory psychiatric disorders. Deep Brain Stimulation for Depression and Schizophrenia." Webinar presentation. Organized by Hospital La Princesa de Madrid, 4/10/2022. Speaker: Rodrigo Rodriguez.
- Psychosurgery. Presentation. 21st SONCAM Congress (Neurosurgery Society of the Autonomous Community of Madrid. Hospital de La Princesa. Madrid, 4711/2022. Speaker: Rodrigo Rodriguez.
- "DBS and Schizophrenia." XVII World Congress of Neurosurgery WFNS 2022. Bogotá (Colombia), 13-18/03/2022. Oral presentation. Rodrigo Rodriguez.
- "Deep Brain Stimulation for the treatment of Resistant Schizophrenia." Oral. XL Latin American Congress of Neurosurgery (CLAN). Miami (USA), 19-24/11/2022. Speakers: Rodrigo Rodriguez, Juan Angel Aibar, Cristian de Quintana, Fernando Muñoz.
- "Key Landmarks in middle fossa approach: easy, safe and fast." European Congress of ENT (CEORL-HNS). Milan, 2022. Speaker: Dr. Muñoz.
- "Management of the cerebral aneurysm with a casual troubadour." IX Neurological Update Conference. October 2022. Granollers. Speaker: Dr. Muñoz.
- "Lessons learned after 250 endoscopic surgeries" Speaker at the Skull Base Session 1. XXV Congress of the Spanish Society of Neurosurgery (SENEC). Oviedo, May 2022. Speaker: Dr. Muñoz.
- "Minipterional craniotomy for clipping of anterior circulation aneurysms. Pearls and Pitfalls according to my experience." Speaker at the pre-congress course Controversies in microsurgery. XXV Congress of the Spanish Society of Neurosurgery (SENEC). Oviedo, May 2022. Speaker: Dr. Muñoz.
- "Lessons learned after more than 250 cases of endoscopic endonasal approach. "14th Congress of the European Skull Base Society. Riva del Garda (Italy), April 2022. Speaker: Dr. Munoz.
- "Approach to the cavernous sinus in pituitary adenoma." Advanced Course in Skull Base Pathology. Organized by the Spanish Skull Base Society (SEBAC). March 2022. Online. Speaker: Dr. Munoz.
- "General concepts of tractography". Cordoba, 23/03/2022. Invited professor: Dr. de Quintana.
- Obtaining association fascicles in Medtronic Stealth Planning Station workstations; StealthVizTM with StealthDTITM. 24/03/2022. Invited professor: Dr. de Quintana.
- Ultrasound Training Course. 25/03/2022. Teacher: Dr. de Quintana.
- "Ultrasound in Neurosurgery: Good, Nice and Cheap." SENEC. Oviedo, 17-21/05/2022. Speaker: Dr. de Quintana.
- Symposium Tractography (Online) 6/10/2022. Invited professor: Dr. de Quintana.
- Ultrasound: Beyond the image . 25/11/2022. Speaker: Dr. de Quintana.

RESEARCH VISIBILITY ACTIVITIES: Outreach activities to society

- https://www.elnacional.cat/es/salud/10-mejores-neurocirujanos-catalunya-2022_903249_102.html; Interviewed: Dr. de Quintana.

MOLECULAR NEURODEGENERATION



Group leader
Belbin , Olivia Elizabeth (IR)

Researchers
Lidon Gil, Laia (UB)

Research technicians
Cervantes Gonzalez, Alba (IR)

Internship students
Perlaza Meneses,
Danna Alejandra (VHIR-UAB)

DESCRIPTION

The Molecular Neurodegeneration research line was formed in 2014 and was officially recognized as an emerging research group in 2022. Our focus is the search for novel biomarkers and therapeutic targets to aid the diagnosis and management of patients with neurodegenerative diseases characterized by synaptopathy, employing techniques in mass spectrometry, immunoassays, biochemical fractionation and in vitro cell-based assays. The group is supported by national and international research and knowledge transfer grants and our biomarkers are protected by a patent, licensed to ADx Neurosciences.

MAIN LINES OF RESEARCH

Development and validation of fluid biomarkers of synapse degeneration in neurodegenerative diseases characterized by synapse degeneration and dysfunction.

-omic approaches to understand the molecular basis of synapse degeneration in Alzheimer's disease.

Development of pathway-based polygenic risk scores to elucidate the genetic factors underlying Alzheimer's disease and use of in vitro cell-based assays to assess their function.

SCIENTIFIC CHALLENGES

Challenge - Strategic objectives - Strategic actions

a) Scientific excellence

Emerging group in a highly competitive field

To be at the forefront of the latest technical, bioinformatic and statistical methods, increase productivity and consolidate research pillars, expanding footprint in Psychiatry field.

Incorporate Bioinformatics personnel. Direct focus towards publishing data from synaptic biomarker research line. Seek further opportunities to present data at international meetings. Explore closer collaboration Mental Health group.

b) Innovation

Patent at critical stage (entry into national phase).

To achieve patent entry into national phases, strengthen IP and license remaining biomarkers included in patent.

Collaborate with JPND partners to make novel assays for unlicensed markers
Increase focus on blood-based biomarkers.

c) Strategic alliances

Limited resources (particularly contractual)

To increase internal IIB-SantPau and international connections and training capacity and to exploit experimental and bioinformatic skills in the lab for the provision of services to external partners.

Seek funding for co-direction of PhD thesis with PI in Down Alzheimer Unit to increase connections to Down syndrome research. Seek international funding with other MS/RYC reseachers. Explore funding opportunities to promote alliance with NeoNeuro. Seek industrial contracts with companies running AD clinical trials for testing synaptic biomarkers. Negotiate further contracts with industrial partners.
Develop proteomic and genomic bioinformatic pipelines that could be offered as services.

e) Sustainability

Attain balance between growth and sustainability.

To participate in financed international project and incorporate and train new talent.

Incorporate 2 MSc students/year.
Apply for a travel bursary for a short-term sabbatical in a strong research group. Apply for a Marie Curie Network PhD progam with the JPND network. Participate in H2020 calls.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Neurobiology of Dementia (PI: Juan Fortea)
Mental Health (PI: Maria Portella)
Molecular Physiology of the Synapse (PI: Alex Bayes)

EXTERNAL COLLABORATIONS

- Fernando Aguado, Institute of Neurosciences, University of Barcelona, Barcelona, Spain.
- Rocío Pérez-González, Instituto de Neurociencias de Alicante, Universidad Miguel Hernández-Consejo Superior de Investigaciones Científicas (CSIC), Instituto de Investigación Sanitaria y Biomédica de Alicante (ISABIAL), Spain
- Tanja Ducic. ALBA Synchotron Light Source, Cerdanyola del Vallés, Spain.
- Eugeen Vanmechelen, ADx NeuroSciences NV, Ghent, Belgium.
- Annakaisa Haapasalo, A.I. Virtanen Institute for Molecular Sciences, University of Eastern Finland, Kuopio, Finland.
- Henrik Zetterberg, Department of Psychiatry and Neurochemistry, Institute of Neuroscience and Physiology, The Sahlgrenska Academy at the University of Gothenburg, Gothenburg, Sweden.
- Barbara Borroni, Centre for Neurodegenerative Disorders, Department of Clinical and Experimental Sciences, University of Brescia, Brescia, Italy.
- Ashutosh Dhingra, German Center for Neurodegenerative Diseases (DZNE), Tübingen, Germany.
- Markus Otto, Department of Neurology, Martin-Luther-University Halle-Wittenberg, Halle (Saale), Germany.
- David Irwin, Penn FTD Center, Department of Neurology, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA, USA.
- Alice Chen-Plotkin, Penn Alzheimer's Disease Research Center, Department of Neurology, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA, USA.
- Edward B Lee, Center for Neurodegenerative Disease Research, Department of Pathology and Laboratory Medicine, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA, USA

ACTIVE GRANTS

- Belbin, Olivia Elizabeth. Early PROgnostic markers FOr Neurodegenerative Diseases (e-PROFOUND). 2019 PROD 00088. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2020-2022. 95.215,00 €
- Belbin, Olivia Elizabeth. Alteraciones preclíncas de sinapsis en enfermedades neurodegenerativas. AC21_2/00017. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 154.880,00 €
- Belbin, Olivia Elizabeth. Estudio multimodal de nuevos biomarcadores sinápticos en cohortes de la enfermedad de Alzheimer y la demencia frontotemporal. PI18/00327. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 123.420,00 €
- 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 disease. AARG-22-974373. Alzheimer's Association. Duration: 2022-2025. 141.222,50 €

GRANTS AWARDED

- 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 €

DOCTORAL THESES IN PROGRESS

- Cervantes Gonzalez, Alba. Estudio traslacional de biomarcadores para la detección de la degeneración sináptica en la Enfermedad de Alzheimer. 2022-2027. Universitat Autònoma de Barcelona. Supervisors: Belbin, Olivia; Tutor: Lleó Bisa, Alberto.

SCIENTIFIC PRODUCTION

- Delaby C, Alcolea D, Hirtz C, Vialaret J, Kindermans J, Morichon L, Fortea J, Belbin O, Gabelle A, Blennow K, Zetterberg H, Lleo A, Lehmann S. Blood amyloid and tau biomarkers as predictors of cerebrospinal fluid profiles. *JOURNAL OF NEURAL TRANSMISSION*. 2022; 129(2). DOI:10.1007/s00702-022-02474-9. PMID:35169889. IF:3,850 (Q2/5D). Document type: Article.
- Delaby C, Estelles T, Zhu NU, Arranz J, Barroeta I, Carmona M, Illan I, Santos MA, Altuna M, Sala I, Sanchez MB, Videla L, Valldeneu S, Subirana A, Tondo M, Blanco F, Lehmann S, Belbin O, Blesa R, Fortea J, Lleo A, Alcolea D. The A beta 1-42/A beta 1-40 ratio in CSF is more strongly associated to tau markers and clinical progression than A beta 1-42 alone. *ALZHEIMERS RESEARCH & THERAPY*. 2022; 14(1):20. DOI:10.1186/s13195-022-00967-z. PMID:35105351. IF:8,823 (Q1/1D). Document type: Article.
- Gómez de San José N, Goossens J, Al Shweiki MR, Halbgebauer S, Oeckl P, Steinacker P, Danzer KM, Graf H, Schönfeldt C, Belbin O, Lleó A, Vanmechelen E, Otto M. Glutamate receptor 4 as a fluid biomarker for the diagnosis of psychiatric disorders. *JOURNAL OF PSYCHIATRIC RESEARCH*. 2022; 156. DOI:10.1016/j.jpsychires.2022.10.010. PMID:36323141. IF:5,250 (Q2/3D). Document type: Article.
- Gonzalez AC, Belbin O. Fluid markers of synapse degeneration in synucleinopathies. *JOURNAL OF NEURAL TRANSMISSION*. 2022; 129(2). DOI:10.1007/s00702-022-02467-8. PMID:35147800. IF:3,850 (Q2/5D). Document type: Review.
- Gonzalez AC, Irwin DJ, Alcolea D, McMillan CT, Chen A, Wolk D, Sirisi S, Dols O, Querol M, Illan I, Santos MA, Fortea J, Lee EB, Trojanowski JQ, Grossman M, Lleo A, Belbin O. Multimarker synaptic protein cerebrospinal fluid panels reflect TDP-43 pathology and cognitive performance in a pathological cohort of frontotemporal lobar degeneration. *MOLECULAR NEURODEGENERATION*. 2022; 17(1):29. DOI:10.1186/s13024-022-00534-y. PMID:35395770. IF:18,879 (Q1/1D). Document type: Article.
- Illan I, Montal V, Borrego S, Mandelli ML, Falgas N, Welch AE, Pegueroles J, Santos M, Bejanin A, Alcolea D, Dols O, Belbin O, Sanchez MB, Bargallo N, Gonzalez S, Llado A, Blesa R, Dickerson BC, Rosen HJ, Miller BL, Lleo A, Gorno ML, Sanchez R, Fortea J. Cortical microstructure in primary progressive aphasia: a multicenter study. *ALZHEIMERS RESEARCH & THERAPY*. 2022; 14(1):27. DOI:10.1186/s13195-022-00974-0. PMID:35139897. IF:8,823 (Q1/1D). Document type: Article.
- Iulita MF, Chavez DG, Christensen MK, Tamayo NV, Plana O, Rasmussen SA, Figuls MR, Alcolea D, Videla L, Barroeta I, Benejam B, Altuna M, Padilla C, Pegueroles J, Fernandez S, Belbin O, Carmona M, Blesa R, Lleo A, Bejanin A, Fortea J. Association of Alzheimer Disease with Life Expectancy in People with Down Syndrome. *JAMA NETWORK OPEN*. 2022; 5(5):e2212910. DOI:10.1001/jamanetworkopen.2022.12910. PMID:35604690. IF:13,353 (Q1/1D). Document type: Article.
- Jansen RE, van der Lee SJ, Gomez D, de Rojas I, Dalmasso MC, Grenier B, Zettergren A, Mishra A, Ali M, Andrade V, Bellenguez C,

Kleineidam L, Kucukali F, Sung YJ, Tesi N, Vromen EM, Wightman DP, Alcolea D, Alegret M, Alvarez I, Amouyel P, Athanasiu L, Bahrami S, Bailly H, Belbin O, Bergh S, Bertram L, Biessels GJ, Blennow K, Blesa R, Boada M, Boland A, Buerger K, et al. [Dols-Icardo O, Fortea J, Lleo A]. Genome-wide meta-analysis for Alzheimer's disease cerebrospinal fluid biomarkers. *ACTA NEUROPATHOLOGICA*. 2022; 144(5). DOI:10.1007/s00401-022-02454-z. PMID:36066633. IF:15,887 (Q1/1D). Document type: Article.

- Querol M, Sirisi S, Molina L, Molina B, Pegueroles J, Ferrer P, Nunez R, Dols O, Balasa M, Iulita MF, Blesa R, Belbin O, Clarimon J, Fortea J, Gelpi E, Sanchez R, Lleo A. Neuropathology of a patient with Alzheimer disease treated with low doses of verubecestat. *NEUROPATHOLOGY AND APPLIED NEUROBIOLOGY*. 2022; 48(3):e12781. DOI:10.1111/nan.12781. PMID:34825396. IF:6,250 (Q1/2D). Document type: Article.
- Reyes D, Dols O, Sirisi S, Cortes E, Turon J, De Luna N, Blesa R, Belbin O, Montal V, Alcolea D, Fortea J, Lleo A, Rojas R, Illan I. Pathophysiological Underpinnings of Extra-Motor Neurodegeneration in Amyotrophic Lateral Sclerosis: New Insights From Biomarker Studies. *FRONTIERS IN NEUROLOGY*. 2022; 12:750543. DOI:10.3389/fneur.2021.750543. PMID:35115992. IF:4,086 (Q2/5D). Document type: Review.
- Sirisi S, Querol M, Dols O, Pegueroles J, Montal V, Munoz L, Torres S, Ferrer P, Iulita MF, Sanchez E, Blesa R, Illan I, Molina L, Borrego S, Sanchez R, Clarimon J, Belbin O, Fortea J, Lleo A. Myelin loss in C9orf72 hexanucleotide expansion carriers. *JOURNAL OF NEUROSCIENCE RESEARCH*. 2022; 100(10). DOI:10.1002/jnr.25100. PMID:35766328. IF:4,433 (Q2/4D). Document type: Article.
- Valle N, Pérez R, Chiva G, Belbin O, Serrano S, Sirisi S, González AC, Giró O, Sánchez É, Dols O, Alcolea D, Carmona M, Jimenez A, Lleó A, Fortea J, Iulita MF. Enrichment of Astrocyte-Derived Extracellular Vesicles from Human Plasma. *JOVE-JOURNAL OF VISUALIZED EXPERIMENTS*. 2022; 2022(186):e64107. DOI:10.3791/64107. PMID:35993755. IF:1,424 (Q3/7D). Document type: Article.

SCIENTIFIC DISSEMINATION

- Kuopio Alzheimer symposium. University of Eastern Finland. Kuopio, Finland, 24/08/2022. International (oral). Speaker: Olivia Belbin.
- FinFTD network satellite meeting *& 3rd Nordic Memory Clinic Conference.* University of Eastern Finland. Kuopio, Finland, 25/08/2022. International (oral). Speaker: Olivia Belbin.
- Quanterix SiMOA Mini-Symposium. Quanterix *& BBRC Barcelona.* BBRC & Virtual, 16/06/2022. International (oral).Speaker: Olivia Belbin.
- Olivia Belbin. JPND-SynaDeg, KICK-OFF SYMPOSIUM. University of Eastern Finland. Virtual, 17/10/2022. International (oral).
- CIBERNED WEBINAR SERIES. CIBERNED. Virtual, 29/09/2022. National (oral). Speaker: Olivia Belbin.

EPILEPSY



Group leader
Boronat Guerrero, Susana (FGS)

Researchers
Aledo Serrano, Angel (IR)
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, in order to increase knowledge about natural history of epilepsy. We offer also 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)

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

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Collaboration with the Molecular Physiology of the Synapse laboratory (PI: Alex Bayés), we have created the **Synaptic Signaling Group,** acknowledged by the AGAUR (Agència de Gestió d´Ajuts Universitaris i de Recerca) as a GRC (consolidated research group). Reference: 2021 SGR 01005 G60136934

EXTERNAL COLLABORATIONS

Collaborative project for developing a holter device for recording seizures. Partners: FINCE (Fundación Iniciativa para las Neurociencias), Universitat de Girona and Institut d´investigació en Intel. ligència artificial (IIIA)

Collaborative project with ISGlobal (PI: Quique Bassat, ICREA professor) in the project: Study of genomic disease burden to comoplement Cause of Death investigation in Sub-Saharan African: a pilot study from Child Health and Mortality Prevention Surveillance (CHAMPS) Network. Funder: Bill and Melinda Gates Foundation, through the CHAMPS Project.

Collaborative project: IMPaCT (Infrastructure of Precision Medicine associated to Science and Tecnology). IP: Ángel Carracedo Álvarez. Ministerio de Ciencia e Innovación. IMP/00009 2021-2023

Collaborative project: Catalan Interhospital web of genetic variants to improve genetic diagnosis in rare diseases. IP: Delia Yubero (Hospital Sant Joan de Déu). Fundació La Marató de TV3. 2021-2023

ACTIVE GRANTS

- 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 €

GRANTS AWARDED

- Boronat Guerrero, Susana. VISOR EEG (dispositiVo reglStro hOlter seRas EEG). CPP2021-008311. Ministerio de Ciencia e Innovación (MICINN). Duration: 2022-2025. 121.887,00 €

DOCTORAL THESES IN PROGRESS

- Gómez Galván, Juan Bernardo. Prevalence and burden of Headache Disorders in children and adolescents of Catalonia. 2022-2024. Universitat Autònoma de Barcelona. Supervisor: Boronat Guerrero, Susana.
- Iznardo Ruiz, Helena. Role of sclerotic bone lesions as new minor diagnostic criteria in the clinical reclassification of patients with possible CET and genetic reclassification of variants. 2022-2024. Universitat Autònoma de Barcelona. Supervisor: Boronat Guerrero, Susana.

AWARDS

- Dravet Award from the Dravet Foundation for Dr Susana Boronat and her group. Awarded during the Dravet Syndrome Conference in Madrid, 30-31 March 2022

SCIENTIFIC PRODUCTION

- Aledo A, Mingorance A, Villanueva V, Garcia JJ, Gil A, Boronat S, Aibar J, Camara S, Yaniz MJ, Aras LM, Blanco B, Sanchez R, Charlotte GRP. The Charlotte Project: Recommendations for patient-reported outcomes and clinical parameters in Dravet syndrome through a qualitative and Delphi consensus study.

FRONTIERS IN NEUROLOGY. 2022; 13:975034. DOI:10.3389/fneur.2022.975034. PMID:36119672. IF:4,086 (Q2/5D). Document type: Article.

- Alias L, de Heredia ML, Luna S, Cliville N, Gonzalez L, Gallano P, de Juan J, Pujol A, Diez S, Boronat S, Orus C, Lasa A, Venegas MD. Case report: De novo pathogenic variant in WFS1 causes Wolfram-like syndrome debuting with congenital bilateral deafness. *FRONTIERS IN GENETICS*. 2022; 13:1024742. DOI:10.3389/fgene.2022.998898. PMID:36330437. IF:4,772 (Q1/3D). Document type: Article.
- Blasco L, Costa M, Leno J, Bernal S, Alias L, Codina M, Martinez D, Castiglioni C, Bertini E, Travaglini L, Millan JM, Aller E, Sotoca J, Juntas R, Hoei CE, Moreno A, Guillen E, Costa L, Munell F, Boronat S, Rojas R, Povedano M, Cusco I, Tizzano EF. Deep Molecular Characterization of Milder Spinal Muscular Atrophy Patients Carrying the c.859G > C Variant in SMN2. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(15):8289. DOI:10.3390/ijms23158289. PMID:35955418. IF:6,208 (Q1/3D). Document type: Article.
- Bullich G, Matalonga L, Pujadas M, Papakonstantinou A, Piscia D, Tonda R, Artuch R, Gallano P, Garrabou G, González JR, Grinberg D, Guitart M, Laurie S, Lázaro C, Luengo C, Martí R, Milà M, Ovelleiro D, Parra G, Pujol A, Tizzano E, Macaya A, Palau F, Ribes A, Pérez LA, Beltran S, Schlüter A, Rodriguez A, Cáceres A, Nascimento A, García À, Cueto A, Marcé A, NELLOAR, et al. [Díaz-Manera J, Rojas-García R, Bernal S, Boronat S]. Systematic Collaborative Reanalysis of Genomic Data Improves Diagnostic Yield in Neurologic Rare Diseases. *JOURNAL OF MOLECULAR DIAGNOSTICS*. 2022; 24(5). DOI:10.1016/j.jmoldx.2022.02.003. PMID:35569879. IF:5,341 (Q1/3D). Document type: Article
- Moliner E, Rabella N, Turón E, Ginovart G, Figueras J. Relevancia de los enterovirus en la meningitis neonatal. *ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA*. 2022; DOI:10.1016/j.eimc.2022.07.010. IF:1,994 (Q4/9D). Document type: Article.
- Turon-Viñas E, Boronat S, Trabazo M, Brio S, Coca E, Moron G, Badell I. Neurologic Complications in Pediatric Allogeneic Stem Cell Transplantation: Analysis of Risk Factors and Outcome. *JOURNAL OF CHILD NEUROLOGY*. 2022; 37(2). DOI:10.1177/08830738211067974. PMID:35001699. IF:2,363 (Q3/6D). Document type: Article.

SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- ENTEROVIRUS INFECTION ASSOCIATED NEUROLOGIC DISEASE IN A TERTIARY HOSPITAL IN SPAIN: CLINICAL CHARACTERISTICS, RISK FACTORS AND OUTCOMES. 9th Congress of the European Academy of Pediatric Societies (EAPS 2022) 7-11/10/2022. Speakers: Eulàlia Turon-Viñas, Fátima Castillo-Gómez, Elisenda Moliner Calderon, Emma Carbonell Estarellas, Anna Turon-Viñas, Laura Armendáriz, Nuria Ra beautiful, daisy From the Corps Casas, Susana Boronat-Guerrero.
- STATUS EPILEPTICUS IN COVID. 9th Congress of the European Academy of Pediatric Societies (EAPS 2022) 7-11/10/2022. Speakers: Elisabet Coca-Fernandez, Eulàlia Turon-Viñas, Sonia Brió-Sanagustin, Rodrigo Antonio Burgueño-Rico, Manuel Rodríguez-Martínez, Emma Carbonell-Estarellas, Marta Espinet-Pedrol, Lucy Dougherty-De Miguel, Jose Maria Valle - T. Figueras, Susana Boronat-Guerrero.
- ENTEROVIRUS INFECTION ASSOCIATED NEUROLOGICAL DISEASE IN A SPANISH TERTIARY HOSPITAL: CORRELATION WITH GENOTYPE. European Academy of Paediatric Societies Congress. Speakers: Emma Carbonell Estarellas; Eulália Turón Viñas; Fatima Castillo; Laura Armendariz Lacasa; Anna Turón Viñas; Elisenda Moliner Calderon.
- ROLE OF ENTEROVIRUSES IN THE ETIOLOGY OF NEONATAL MENINGITIS 9th Congress of the European Academy of Pediatric Societies (EAPS 2022) 7-11/10/2022. osep Figueras-Aloy, Susana Boronat-Guerrero.
- PEDIATRIC STROKE CODE. EXPERIENCE IN A 3RD LEVEL CENTER. 9th Congress of the European Academy of Pediatric Societies (EAPS 2022) 7-11/10/2022. Speakers: Josep Figueras-Aloy, Susana Boronat-Guerrero. Rodrigo Antonio Burgueño-Rico, Eulàlia Turon-Viñas, Elisabet Coca-Fernandez, Sonia Brió-Sanagustin, Emma Carbonell Estarellas, Fátima Castillo-Gómez, Manuel Rodríguez-Martínez, Susana Boronat-Guerrero.
- ACUTE ENCEPHALITIS IN A TERTIARY HOSPITAL IN SPAIN. European Academy of Paediatric Societies Congress 07/10/2022. Speakers: Bruna Surinach; Eulalia Turón Viñas; Jose Maria Valle T-Figueras; Elisabet Coca Fernandez; Sonia Brio Sanagustin; Susana Boronat Guerrero.
- SEIZURES IN CHILDREN UNDERGOING STEM CELL TRANSPLANTATION. European Epilepsy Congress 09/07/2022 - 13/07/2022. Speakers: Eulalia Turón Viñas; Asuncion Diaz Gomez; Elisabet Coca Fernandez; Alba Sierra Marcos; Roser Ribosa Nogue; Susana Boronat Guerrero.
- VIDEOELECTROENCEPHALOGRAM AT THE BEDFOOT IN NEUROLOGICAL PATHOLOGY IN PICU. 36th National Congress of the Spanish Pediatric Intensive Care Society, 12-15/06/2022. Speakers: Elisabet Coca Fernández, Eulàlia Turón Viñas, Sònia Brió Sanagustin, Manuel Rodríguez Martínez, Rodrigo Burgueño Rico, Adriana Devolder Nicolau, Laura Roig Soria, Susana Boronat Guerrero.
- ACUTE ENCEPHALOPATHY. IMPORTANCE OF PATHOLOGICAL HISTORY. 36th National Congress of the Spanish Pediatric Intensive Care Society, 12-15/06/2022. Speakers: Elisabet Coca Fernandez, Eulàlia Turón Viñas, Sònia Brió Sanagustin, Rodrigo Burgueño Rico, Roger Esmel Vilomara, Manuel Rodríguez Martínez, Fátima Castillo Gómez, Susana Boronat.
- A NEW MISSENSE MUTATION IN SCN1A IN A FAMILY WITH DRAVET SYNDROME. XLIV ANNUAL MEETING OF THE SPANISH SOCIETY OF PEDIATRIC NEUROLOGY. May 2022. Speakers: Roser Ribosa-Nogué, Alba Sierra-Marcos, Elisabet Coca, Eulalia Turon, Benjamín Rodríguez-Santiago, Susana Boronat.
- APPEARANCE OF EPILEPTIC SEIZURES IN CHILDREN SUBJECTED TO TRANSPLANTATION OF HEMATOPOIETIC STEM. XLIV ANNUAL MEETING OF THE SPANISH SOCIETY OF PEDIATRIC NEUROLOGY. May 2022. Speakers: Eulàlia Turón Viñas, Elisabet Coca Fernández, Asunción Díaz Gómez, Lucía Dougherty De Miguel, Alba Sierra Marcos, Roser Ribosa Nogué, Isabel Badell Serra, Susana Boronat Guerrero
- AN ATYPICAL CASE OF PCDH19 WITHOUT EPILEPSY. XLIV ANNUAL MEETING OF THE SPANISH SOCIETY OF PEDIATRIC NEUROLOGY. May 2022. Speakers: Elisabet Coca Fernández, Eulàlia Turón Viñas, Lucy Dougherty De Miguel, Asunción Díaz Gómez, Sara Iglesias Fernández, Alba Sierra Marcos, Roser Ribosa Nogue, Benjamin Rodríguez Santiago, Susana Boronat Guerrero
- European Epilepsy Congress. "A novel SCN1A missense mutation in familial Dravet Syndrome". Geneva (Switzerland), 9-3/07/2022. Speaker: Sierra A. 14th
- VIII Congress of the Spanish Epilepsy Society. "Clinical experience on Dravet Syndrome in the adult population and review of the literature". Santander, 20-22/10/2022. Speaker: Sierra A.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- "Challenges in the management of young children with epilepsy". Webinar: "Challenges in the management of epilepsy in pediatric and adolescent patients". 10/05/22 Eisai. National. Speaker: E. Turón-Viñas.
- "Not Only Epilepsy: Therapies Targeting Dravet Syndrome Comorbidities". A: Dravet Syndrome satellite symposium. 16th EILAT Conference on new antiepileptic drugs and devices. 22/05/22. International. Speaker: E. Turón-Viñas.
- "Role of members of the central team and other professionals in the management of Dravet syndrome". In: "Summer course: Diagnosis, treatment and management of Dravet syndrome". Organized by the Dravet Syndrome Foundation and the University of the Basque Country. 22/07/22. National. Speaker: E. Turón-Viñas.
- "Encephalitis viriques". A: Day of updating in pediatric infectology. Terrassa, organization of the Pediatric Infectious Diseases Group of the Catalan Pediatric Society. 14/10/22. National. Speaker: E. Turón-Viñas.
- "Pediatric stroke". Round table: "What needs to be done before...?". Pediatric emergencies conference. Organized by the Althaia hospital in Manresa. 03/11/22. National.E. Turón-Viñas: "metabolic epilepsies". In: Best practices in Epileptic encephalopathies. Organized by Luzan5 and Jazzpharma. 24/11/2022. International. Speaker: E. Turón-Viñas.
- "The death suffered from a neurological cause". A: XII Multidisciplinary Conference: Death in pediatric age. Organized by the Catalan Society of Pediatrics. 26/11/2022. National. Speaker: E. Turón-Viñas.
- "Update in Neurology: brief clinical cases" at the Acadèmia de Ciències Mèdiques, organized by the Catalan Society of Pediatrics. 27/01/2022. National. Speaker: S Boronat.
- "CNS infections: SARS-COVID 19" at the EPNS (European Pediatric Neurology Society) training course: Immune mediated diseases and infections. 31/03/2022 Latvia. On-line. International. Speaker: S Boronat.
- "Precision medicine in Dravet and other developmental epileptic encephalopathies". II Congress of STXBP1 for professionals and families. 3-4/06/2022. National. Speaker: S Boronat.
- "Diagnosis, treatment and management of Dravet syndrome. Classes: 1) Signs and symptoms of Dravet syndrome. Differential diagnosis with respect to other related epilepsies. 2) Genetic diagnosis of DS and related epilepsies. 3) Clinical challenges when making a diagnosis. Organized by the Dravet Syndrome Foundation and the University of the Basque Country. 20/07/22. National. Speaker: S Boronat.
- "Genotype-phenotype correlation: first step towards personalized treatment" III Scientific Conference for parents and professionals. La Paz Hospital. Madrid, 26/11/2022. National. Speaker: S Boronat.
- XVI EILAT Conference on New Antiepileptic Drugs and Devices. Dravet Syndrome Satellite Symposium. 22/05/2022. International. Speaker: A Sierra:.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- "Precision medicine in Dravet and other developmental epileptic encephalopathies". II Congress of STXBP1 for professionals and families. 3-4/06/2022. Speaker: S Boronat.
- "Genotype-phenotype correlation: first step towards personalized treatment" III Scientific Conference for parents and professionals. Hospital La Paz. Madrid, 26/11/2022. Speaker: S Boronat.

05.1.4

EPIDEMIOLOGY, PUBLIC HEALTH AND PRIMARY CARE

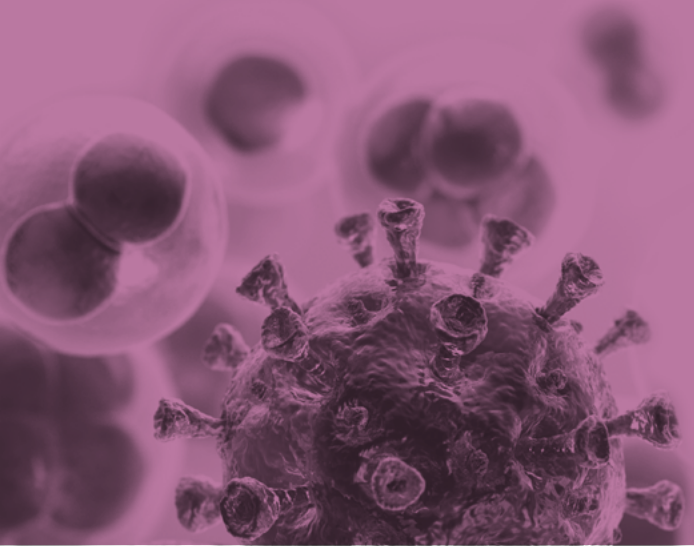


Area Director:
Pablo Alonso Coello

Research in this area involves the study of the 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 in order to make health intervention more effective, appropriated 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
  Pablo Ignacio Alonso Coello
- Evaluation of Public Health Policies and Programmes
  Xavier Continente
- Urban Health Inequalities
  Catherine Pérez
- Transmissible Diseases
  Cristina Rius
- Primary Care Research
  Carles Brotons



CLINICAL EPIDEMIOLOGY AND HEALTHCARE SERVICES



Group leader
Alonso Coello, Pablo Ignacio (IR)

Researchers
Bolibar Ribas, Ignasi (FGS)
Bonfill Cosp, Xavier (FGS)
Canelo Aybar, Carlos Gilberto (CIBERESP)
Casino Rubio, Gonzalo (ACCIB)
De La Torre Perez, Laura (IR)
Gich Saladich, Ignasi Jo. (FGS)
Leon Garcia, Montserrat (IR)
Martinez Garcia, Laura (IR)
Martinez Zapata, Maria Jose (IR)
Medina Aedo, Nedavia Melixa (ACCIB)
Merchan Galvis, Angela Maria (IR)
Perez Bracchiglione, Javier Andres (CIBERESP)
Puig Reixach, M.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
Beltran Puerta, Jessica (IR)
Boldu Minguell, Andrea (IR)
Cervera Alepuz, Andrea (ACCIB)
Garcia Lopez, Yasmin (ACCIB)
Garcia Mas, Margarita (ACCIB)
Giros Boixados, Meritxell (IR)
Gorgues Sendra, Marta (FGS)
Popova , Ekaterine (IR)
Roque Figuls, Marta Cristina (IR)
Savall Esteve, Olga (IR)
Sola Roca, Judit (ACCIB)
Valli , Claudia (IR)

Internship students
Cantero Fortiz, Yahveth (UAB)
Clua Serra, Marina (UAB)
Maestro Moral, Claudia (UAB)
Pons Boyero, Clara (UAB)
Song, Yang (UAB)
Trujillo Vargas, Laura Lizeth (UAB)

DESCRIPTION

Our group develops an intense research activity, participating in national and international projects, mainly applied clinical research studies, healthcare service assessment studies and non-commercial clinical trials. Additionally, we carry out an intense training activity, mainly in different evidence-based medicine tools, as well as other health sciences. The group also includes researchers responsible for the Iberomerican Cochrane Centre, promoting systematic review production about the effects of healthcare interventions by providing methodological and technical support to researchers.

MAIN LINES OF RESEARCH

Clinical practice guidelines and decisions making – Coordinator: Pablo Alonso Coello

Primary clinical research – Coordinator: Mª José Martínez Zapata

Knowledge synthesis, knowledge transfer and health services research – Coordinator: Xavier Bonfill Cosp

SCIENTIFIC CHALLENGES

To develop and promote systematic-reviews and health care guidelines production about the effects of healthcare interventions, in order to contribute to healthcare and clinical decision-making based on the best available scientific evidence.

To promote national and international clinical and applied research projects that will contribute with new knowledge to solve clinical or healthcare problems that are relevant to the needs of the system (applied clinical studies, healthcare services assessment studies, clinical trials).

To foster, organise and/or conduct training activities in order to promote healthcare professionals' acquisition of skills and knowledge on evidence-based Medicine (EBM) tools.

To promote methodological research projects aiming to provide guidance and tools to improve scientific information analysis, interpretation and communication.

To develop knowledge transfer activities (clinical practice guidelines) and scientific-knowledge dissemination tools.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Addictive Behaviours

Anaesthesiology
Cardiac Surgery
Cerebrovascular Diseases
Clinical Research and Clinical Trials Unit (UICEC)
Clinical and Translational Cardiology
Clinical Oncology
Endocrinology, Diabetes and Nutrition
Evaluation of Public Health Policies and Programmes
Locomotor System Research
Nursing Care Research
Palliative Care
Pituitary Gland Disorders
Pharmacy
Plastic Surgery
Primary Care Research
Thrombosis and Haemostasis
Urology
Women and Perinatal Health Research

EXTERNAL COLLABORATIONS

Agència de Qualitat i Avaluació Sanitàries de Catalunya (AQUAS)
Applied Health Research Center - Saint Michael's Hospital (Canada)
Clinical Trial Service Unit and Epidemiological Studies Unit, University of Oxford (United Kingdom)
Cochrane Collaboration
European Academy of Allergy and Clinical Immunology
European Centre for Disease Prevention and Control (ECDC)
European Food Safety Authority (EFSA)
European Respiratory Society
European Society of Anaesthesiology and Intensive Care (ESAIC)
Facultad de Ciencias de la Salud, Universidad Tecnológica Equinoccial (Ecuador).
Fundación Avedis Donavedian
GRADE Working Group
Guidelines International Network
Hospital Universitario Ramón y Cajal
Hospital Vall d'Hebron
International Agency for Research on Cancer
Institut Català d'Oncologia
Instituto Aragonés de Ciencias de la Salud (IACS)
Instituto de Investigación en Servicios de Salud Kronikgune
Joint Research Centre - European Commission
Population Health Research Institute, Mc-Master University (Canada)
Servicio Navarro de Salud Osasunbidea
Universidad de La Frontera (Chile)
Universitat Pompeu Fabra
Universität Düsseldorf (Germany)

ACTIVE GRANTS

- Alonso Coello, Pablo Ignacio. Optimisation of antibiotic prescription in acute non-complicated respiratory tract infections in children: a multicenter randomised controlled clinical trial with a 2x2 factorial design to assess two strategies targeting health professionals and pare. MARATO 20180410. Fundació La Marató de TV3. Duration: 2019-2022. 199.648,13 €
- Alonso Coello, Pablo Ignacio. La toma de decisiones compartida de la terapia tromboprofiláctica durante el embarazo: el valor añadido del método de Análisis de Decisión. PI17/01874. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2022. 62.920,00 €
- 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 €
- Alonso Coello, Pablo Ignacio. COMPAR-EU - Comparing effectiveness of self-management interventions in 4 high priority chronic diseases in Europe. COMPAR-EU 754936. Unión Europea. Duration: 2018-2022. 707.786,25 €
- 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 sobe 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 Researh 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 €
- Leon Garcia, Montserrat. La toma de decisiones compartida de la terapia tromboprofiláctica 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 Garcia, 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 Garcia, 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(P). Instituto de Salud Carlos III (ISCIII). Duration: 2019-2022. 40.000,00 €
- Martinez Garcia, 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 €
- Rojas Reyes, Maria Ximena. Living Evidence to inform health decisions: Development of capacity for the production and use of reliable, friendly and updated health evidence synthesis. LIVING EVIDENCE 894990. Unión Europea. Duration: 2020-2022. 172.939,86 €
- 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 €
- Urrutia Cuchi, Gerard. Resutados centrados en el paciente y utilización de recursos después de la cirugia no cardiaca (España) (PACORUS-S). PI21/01742. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 75.020,00 €

GRANTS AWARDED

- 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 €

DOCTORAL THESES DEFENDED

- **Álvarez Bustins, Gerard.** Retos metodológicos en la evaluación de la eficacia de la Terapia Manual. 04/03/2022. Universitat Autònoma de Barcelona. Supervisors: Urrútia Cuchí, Gerard; Bonfill i Cosp, Xavier. http://hdl.handle.net/10803/674940.
- Antequera Martín, Alba María. Sex and gender considerations in clinical research on sepsis: sex-and gender-based analysis and prognostic effect. 17/01/2022. Universitat Autònoma de Barcelona. Supervisors: Bonfill i Cosp, Xavier; Zamora Romero, Javier; Urrútia Cuchí, Gerard. http://hdl.handle.net/10803/675106.
- Armora Verdú, Miriam. Efectivitat d'una aplicació per a smartphone en pacients de Cirurgia Major Ambulatòria. 11/11/2022. Universitat Autònoma de Barcelona. Supervisors: Puig Reixach, Maria Teresa; Robleda, Gemma. http://hdl.handle.net/10803/688447.
- Canelo Aybar, Carlos Gilberto. Incorporating decision analysis models in the development of health recommendations. 28/06/2022. Universitat Autònoma de Barcelona. Supervisors: Alonso Coello, Pablo; Bonfill i Cosp, Xavier. http://hdl.handle.net/10803/675457.
- Chirinos Muñoz, Monica Susana. Identificación de eventos adversos en hospitales de Venezuela. 12/12/2022. Universitat Autònoma de Barcelona. Supervisors: Orrego Villagran, Carola; Suñol Sala, Maria Rosa; Puig Reixach, Maria Teresa. http://hdl.handle.net/10803/688406.
- Schonhaut Berman, Luisa. Validez predictiva del Ages and Stages Questionnaire (ASQ®), un cuestionario de cribado del desarrollo psicomotor infantil basado en el reporte de padres o cuidadores principales. 29/03/2022. Universitat Autònoma de Barcelona. Supervisors: Demestre Guasch, Xavier; Seron Silva, Pamela Jeannette del Carmen; Bonfill i Cosp, Xavier. http://hdl.handle.net/10803/675531.
- Song, Yang. Adaptación de guías clínicas: avances en los métodos y la presentación. 21/07/2022. Universitat Autònoma de Barcelona. Supervisors: Alonso Coello, Pablo; Martínez García, Laura; Bonfill i Cosp, Xavier. http://hdl.handle.net/10803/687900.
- Valcárcel Pérez, Ivette. Tuberculosis latente y pulmonar activa en prisioneros Guayaquil-Ecuador 2016-2019. 10/02/2022. Universitat Autònoma de Barcelona. Supervisors: Molina Colina, José Luis; Bonfill i Cosp, Xavier. http://hdl.handle.net/10803/675174.

DOCTORAL THESES IN PROGRESS

- Aguilera Eguía, Raúl. Tratamiento y nivel de actividad física en mujeres sobrevivientes de cáncer de mama. 2020-2025. Universitat Autònoma de Barcelona. Supervisors: Seron Silva, Pamela Jeannette del Carmen; Zaror Sánchez, Carlos Elias; Urrútia Cuchí, Gerard.
- Alemán Riganti, Alicia Valentina. Exposición al humo de segunda y tercera mano (cannabis) en población general con énfasis en poblaciones vulnerables (embarazadas y niños). 2018-2024. Universitat Autònoma de Barcelona. Supervisors: Urrútia Cuchí, Gerard; Bonfill i Cosp, Xavier.
- Arias Alonso, Lucía. Desarrollo y evaluación de una intervención formativa en habilidades de comunicación dirigida a profesionales de la salud del ámbito de la pediatría de atención primaria y farmacéuticos comunitarios. 2022-2027. Universitat Autònoma de Barcelona. Supervisors: Alonso Coello, Pablo; Barragan Brun, Maria Nieves; González Lama, Jesús; Bolibar Ribas, Ignasi.
- Ariel Franco, Juan Víctor. Estrategias para la síntesis de tópicos prioritarios en patología benigna de la próstata. 2020-2025. Universitat Autònoma de Barcelona. Supervisors: Jung, Jae Hung; Bonfill i Cosp, Xavier.
- Asenjo Lobos, Claudia. Evidència de l'ús d'antipsicòtics atípics a l'esquizofrènia. 2017-2024. Universitat Autònoma de Barcelona. Supervisors: Madrid Aris, Eva Montserrat; Bonfill i Cosp, Xavier.
- Auladell Rispau, Ariadna. Aproximación metodològica para el diseño, desarrollo y el reporte de síntesis de Evidencia viva. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Masià Ayala, Jaime; Rojas Reyes, Maria Ximena; Urrútia Cuchí, Gerard.
- Bendersky Kohan, Josefina. Research gaps in orthognathic surgery. 2022-2027. Universitat Autònoma de Barcelona. Supervisors: Urrútia Cuchí, Gerard; Villanueva Maffei, Julio Alberto; Bonfill i Cosp, Xavier.
- Bracchiglione Pérez, Javier Andrés. Evaluación y desarrollo de las estrategias para la resolución de desafíos metodológicos de las síntesis amplias de la evidencia. 2019-2025. Universitat Autònoma de Barcelona. Supervisors: Urrútia Cuchí, Gerard; Bonfill i Cosp, Xavier; Madrid Aris, Eva.
- Buchanan Vivot, Cecilia. Fortalecimiento del primer y segundo nivel de atención mediante la utilización de evidencias para la toma de decisiones. 2020-2023. Universitat Autònoma de Barcelona. Supervisors: Jiménez de Tavarez, Michelle Maria; Rojas Reyes, Maria Ximena; Urrútia Cuchí, Gerard.
- Chahin Inostroza, Natalia Patricia. Corredores de maratón: perfil de salud, hábitos de entrenamiento y riesgo cardiovascular asociado. 2020-2025. Universitat Autònoma de Barcelona. Supervisors: Seron Silva, Pamela Jeannette del Carmen; Puig Reixach, Maria Teresa.
- Cortés Jofré, Patricia Marcela. Abordaje preventivo y terapèutico en cáncer de pulmón. 2017-2024. Universitat Autònoma de Barcelona. Supervisors: Martínez Zapata, Maria José; Bonfill Cosp, Xavier.
- Cuervo Amore, Luis Gabriel. Evaluaciones dinámicas de accesibilidad geográfica para mejorar la equidad en salud: prueba en Cali, Colombia. 2020-2025. Universitat Autònoma de Barcelona. Supervisors: Jaramillo Molina, Ciro. Martínez Herrera, Eliana; Bonfill i Cosp, Xavier.
- De la Rosa Toribio, Andelys. Evaluación de la evidencia disponible para adaptar e implementar guías de calidad que permitan abordar los Objetivos de Desarrollo Sostenible en relación a la mortalidad materna y su desigual afectación. 2018-2024. Universitat Autònoma de Barcelona. Supervisors: Reveiz Herault, Ludovic; Bonfill i Cosp, Xavier.
- De la Torre Pérez, Laura. Guidance on the certainty of Economic Evidence: looking into the certainty of evidence through the evaluation of methodological limitations of economic analysis. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Alonso Coello, Pablo; Xie, Feng; Bonfill i Cosp, Xavier.
- De los Ríos Pérez, Ana María. Lesions de causa externa en menors de 18 anys: caracterització i càrrega al sistema sanitari. 2017-2025. Universitat Autònoma de Barcelona. Supervisors: Fandiño Losada, Carlos Andrés; Bonfill i Cosp, Xavier.
- Domingos Rodrigues Machado, Nelson. Función Sexual en Mujeres Diagnosticadas con cáncer de Mama. 2018-2024. Universitat Autònoma de Barcelona. Supervisors: Quintana Ruiz, Anna; Selva Olid, María Jesús; Bonfill Cosp, Xavier.
- Fuentes Aspe, Rocío. Risc de desenvolupar atròfia muscular respiratòria i múscul esquelètica en pacients connectats a

ventilació mecànica en pacients d'unitats de cures crítiques. 2017-2025. Universitat Autònoma de Barcelona. Supervisors: Seron Silva, Pamela Jeannette del Carmen; Bonfill i Cosp, Xavier.

- Ganem, Fabiana. Anàlisi de les condicions de salut i dels factors de risc en el desenvolupament d'infeccions parenterals de baix risc ocupacional i sexuals associats al treball dels recol·lectors de materials reciclables de la ciutat estructural. 2017-2023. Universitat Autònoma de Barcelona. Supervisors: Casabona Barbara, Jordi; Bonfill i Cosp, Xavier.
- Hernández Álvarez, Edgar Debray. Efecto de intervenciones basadas en modificación medioambiental en hábitos nutricionales y de actividad física. 2018-2024. Universitat Autònoma de Barcelona. Supervisors: Seron Silva, Pamela Jeannette del Carmen; Bonfill i Cosp, Xavier.
- Kauffmann, Stephanie. Validación del dispositivo MAPLe® como instrumento para la valoración de la actividad muscular del suelo pélvico y sus valores de normalidad en mujeres españolas sanas. 2018-2023. Universitat Autònoma de Barcelona. Supervisors: Girabent Farrés, Montserrat; Ramírez Garcia, Inés; Puig Reixach, María Teresa.
- León Garcia, Montserrat. Shared decision-making in healthcare: the added value of decision analysis. 2018-2024. Universitat Autònoma de Barcelona. Supervisors: Alonso Coello, Pablo; Perestelo Pérez, Lilisbeth; Montori, Víctor.
- López Alcalde, Jesús. Intervencions no farmacologiques per prevenir la infeccio adquirida en el medi hospitalari. 2015-2024. Universitat Autònoma de Barcelona. Supervisors: Bonfill Cosp, Xavier; Zamora Romero, Javier.
- López Romero, Luis Alberto. Coste-Efectividad de programas o intervenciones de Tele-ACV en la prevención de secuelas permanentes en personas adultas con ACV isquémico agudo versus la atención habitual. Revisión sistemática y metaanálisis. 2022-2027. Universitat Autònoma de Barcelona. Supervisors: Camargo-Figuera, Fabio Alberto; Cortés Aguilar, Alexandra; Bolibar Ribas, Ignasi.
- Martín Orive, Francisco José. Validez y fiabilidad de la prueba de velocidad de ejecución en comparación con la prueba de 1 repetición máxima para la evaluación de la fuerza muscular en población sedentaria, pacientes con hipertensión arterial y supervivientes de cáncer. 2020-2025. Universitat Autònoma de Barcelona. Supervisors: Mila Villarroel, Raimon; Vilaró Casamitjana, Jordi; Urrútia Cuchí, Gerard.
- Martín Roncero, Unai. Migracions internes i desigualtats socials en salut: el cas de les migracions cap a la Comunitat Autònoma del País Basc a les dècades de 1950 a 1970. 2017-2023. Universitat Autònoma de Barcelona. Supervisors: Bolíbar Ribas, Ignasi; Jansa Lopez Vallado, Josep M; Puig Reixach, Teresa.
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- Medina Aedo, Melixa Nedavia. Identificación y análisis crítico de ensayos clínicos controlados en enfermería en España y Latinoamérica. 2019-2025. Universitat Autònoma de Barcelona. Supervisor: Bonfill i Cosp, Xavier.
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SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- Conference on the Cochrane Library in the ecosystem of health evidence. Madrid, 7/06/2022. National. Organizer: Xavier Bonfill Cosp.
- GuiaSalud Scientific Conference – Palliative care based on scientific evidence. Madrid, 7/10/2022. National. Scientific Organizing Committee: Pablo Alonso Coello.
- XVIII Meeting of the Ibero-American Cochrane Network - Promotion and application of critical thinking in Medicine: challenges and perspectives. Barcelona, 17-20/10/2022. International. Organizer: Xavier Bonfil Cosp.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- Knowledge transfer to society in Cochrane Iberoamérica. Civil Hospital of Guadalajara. Guadalajara (Mexico) – internet, 04/03/2022. International. Conference. Speaker: Gonzalo Casino.

- Knowledge transfer to society in Cochrane Iberoamérica. Jaén Official College of Nursing. Jaén, 21/04/2022. National. Conference. Speaker: Gonzalo Casino.
- Critical analysis of information on food and health: the Nutrimedia project. Catalan Nutrition Center of the Institute of Catalan Studies. Barcelona, 28/04/2022. National. Conference. Speaker: Gonzalo Casino.
- 2nd Cochrane Colombia Symposium: advances in evidence synthesis for decision-making. Cochrane Colombia. Virtual, 03/06/2022. International. Conference. Speaker. Xavier Bonfill.
- Knowledge transfer in Cochrane Iberoamérica. Ministry of Health; Wiley; Cochrane Iberoamerica. Madrid, 07/06/2022. National. Conference. Speaker: Gonzalo Casino.
- The Cochrane Library in Spanish. Ministry of Health; Wiley; Cochrane Iberoamerica. Madrid, 07/06/2022. National. Conference. Speaker: Andrea Cervera.
- Evidence to improve health management. Ministry of Health; Wiley; Cochrane Iberoamerica. Madrid, 07/06/2022. National. Conference. Speaker: Ivan Solà.
- Living evidence to make health decisions. Ministry of Health; Wiley; Cochrane Iberoamerica. Madrid, 07/06/2022. National. Conference. Speaker: Mª Ximena Rojas.
- Formulation of recommendations for decision making. Ministry of Health; Wiley; Cochrane Iberoamerica. Madrid, 07/06/2022. National. Conference. Speaker: Pablo Alonso Coello.
- Transparency of clinical trials. Ministry of Health; Wiley; Cochrane Iberoamerica. Madrid, 07/06/2022. National. Conference. Speaker: Gerard Urrútia.
- The Cochrane Library in the health evidence ecosystem. Ministry of Health; Wiley; Cochrane Iberoamerica. Madrid, 07/06/2022. National. Conference. National. Moderator: Xavier Bonfill.
- Critical evaluation and dissemination of information on nutrition and health: the Nutrimedia project. Barcelona University. Barcelona, 07/07/2022. National. Conference. Speaker: Gonzalo Casino.
- "Cochrane responds" or how we know if a treatment works. Spanish Science and Technology Foundation. La Laguna, Tenerife, 06/10/2022. National. Conference. Speaker: Gonzalo Casino.
- Promotion and application of critical thinking in Medicine: challenges and perspectives. Round table: Research. Cochrane Iberoamerica. Barcelona, 17/10/2022. International. Moderator: Marta Roqué Fíguls.
- Quality clinical research: something more than good design. Cochrane Iberoamerica. Barcelona, 17/10/2022. International. Conference. Speaker: Gerard Urrútia.
- Promotion and application of critical thinking in Medicine: challenges and perspectives. Round table: Knowledge transfer. Cochrane Iberoamerica. Barcelona, 17/10/2022. International. Moderator: Gonzalo Casino.
- Promotion and application of critical thinking in Medicine: challenges and perspectives. Round table: Patients, citizenship. Cochrane Iberoamerica. Barcelona, 17/10/2022. International. Moderator: Ivan Solà Arnau.
- "Informed Decisions in Health", promoting critical thinking in school. Cochrane Iberoamérica. Barcelona, 17/10/2022. International. Conference. Speaker: Laura Martínez García.
- Introduction to Cochrane systematic reviews: evaluation of health interventions. Cochrane Iberoamerica. Barcelona, 18/10/2022. International. Workshop by María José Martínez-Zapata, Stefanie Suclupe.
- Introduction to Cochrane systematic reviews: evaluation of health interventions. Cochrane Iberoamerica. Barcelona, 18/10/2022. International. Workshop by David Rigau, Carlos Canelo; Jessica Beltrán, Pablo Alonso.
- Critical thinking about healthcare: where have we been and where are we going? Cochrane Iberoamerica. Barcelona, 18/10/2022. International. Moderator: Pablo Alonso Coello.
- 50th anniversary of the book "Effectiveness and Efficiency" by Archie Cochrane. Ibero-American Cochrane Center. Barcelona, 20/10/2022. International. Moderator: Xavier Bonfill.
- On critical thinking. Faculty of Health Sciences Blanquerna University Ramon Llul. Barcelona, 09/11/2022. National. Conference. Speaker: Xavier Bonfill.
- Design of clinical trials. Master of Dentistry from the University of the Frontera. Chile, 24/11/2022. International. Conference. Speaker: María José Martínez-Zapata.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Workshop: "Informed Decisions in Health". Sant Pau Research Institute. 24 September 2022. children, children and families. Open doors La Mercè, 30th anniversary of the Sant Pau Research Institute. Laura Martinez Garcia.
- Nutrimedia. Scientific evaluation of messages on food and health. Iberoamerican Cochrane Center; Pompeu Fabra University. Internet, 2022. General public. https://www.upf.edu/web/nutrimedia. Speakers: Gonzalo Casino, Pablo Alonso.
- Blogshots. Iberoamerican Cochrane Center; Pompeu Fabra University. Internet, 2022. General public. https://es.cochrane.org/es/dissemination/blogshots. Speakers: Andrea Cervera, Yasmín García, Gonzalo Casino.
- Podcasts. Iberoamerican Cochrane Center; Pompeu Fabra University. Internet, 2022. General public. https://es.cochrane.org/es/podcasts-en-español. Authors: Andrea Cervera, Josefina Bendersky; Montserrat Leon, Gonzalo Casino.
- Articles in the OCU Salud magazine. Iberoamerican Cochrane Center; Pompeu Fabra University. Internet, 2022. General public. https://es.cochrane.org/es/divulgacion/cochrane-en-ocu-salud. Authors: Gonzalo Casino, Marta Roqué.
- Cochrane Responds Project. Iberoamerican Cochrane Center; Pompeu Fabra University. Internet, 2022. General public. https://es.cochrane.org/es/divulgación/cochrane-responde. Authors: Gonzalo Casino, Andrea Cervera, Marta Roqué.
- Informed Decisions in Health. Iberoamerican Cochrane Center; Pompeu Fabra University. Barcelona, 2022. Schoolchildren aged 10-12, teachers. https://es.cochrane.org/es/divulgacion/decisiones-informadas-en-salud. Authors: Laura Martinez, Pablo Alonso, Gonzalo Casino.
- Keys to critical thinking in health. Iberoamerican Cochrane Center; Pompeu Fabra University. Internet, 2022. General public. https://es.cochrane.org/es/divulgacion/critical-thinking-in-health. Authors: Gonzalo Casino, Andrea Cervera.

EVALUATION OF PUBLIC HEALTH PROGRAMMES AND POLICIES



Group leader
Continente Garcia, Xavier (ASPB)

Researchers
Bartroli Checa, Montse (ASPB)
Calderon Delgado, Josep (ASPB)
Cortes Francisco, Nuria (ASPB)
Garcia Altes, Anna (AQUAS)
Lopez Medina, Maria Jose (ASPB)
Perez Gimenez, Anna (ASPB)
Puigpinos Riera, Rosa (ASPB)
Sanchez Martinez, Francesca (ASPB)
Serral Cano, Gemma (ASPB)

Research technicians
Barbaglia Navarro, Maria Gabriela (ASPB)
Henderson Mercader, Elisabet-Mae (IR)
Leon Pujades, Gabriel (ASPB)
Planell Cerezo, Raquel (ASPB)
Sabate Camps, Sara (ASPB)

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 behaviours and other health risk factors such as environmental exposure (FRESC survey, DAMA cohort, and HUMO cohort).

Evaluation of public health policies and Action Plans (Barcelona mental health action plan, energy poverty, housing with services, Plan for play in Barcelona's Public Areas, adaptation of schools to climate change and transformation of schoolyards in Barcelona,).

Evaluation of public health programmes and services (school-based prevention programmes, community interventions, breast cancer screening programmes)

SCIENTIFIC CHALLENGES

To promote research into the evaluation of policies and programmes.
To support the debate on conceptual and methodological aspects of the impact evaluation of interventions on population health.
To consolidate the group's research, fostering 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 under 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 and equity and gender perspective.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Desigualtats en salut urbana (PI: Catherine Pérez).

EXTERNAL COLLABORATIONS

CIBER-Epidemiology and Public Health (Group 18: Evaluation of public health policies and programmes).

CIBER-Respiratory Disease (Group CB19/06/00004; PI: Esteve Fernández Muñoz)

Tobacco Working Group of the Spanish Epidemiology Society.

Foreign universities: Johns Hopkins University, USA.

Spanish universities: Universitat de Barcelona, Universitat Pompeu Fabra, Universitat de Girona, Universitat Ramon Llull, Universitat de Vic, Universitat Internacional de Catalunya, Universitat Oberta de Catalunya, Universidad de Santiago de Compostela, Universidad de Alcalá de Henares, Escuela Andaluza de Salud Pública.

Hospitals: Catalan Institute of Oncology (ICO), Hospital de la Vall d'Hebron, Hospital de la Santa Creu i Sant Pau, Hospital del Mar.

Other groups from the Public Health Agency of Catalunya and the Catalan Health Information and Quality Agency (AQUAS).

ACTIVE GRANTS

- Lopez 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 €
- Lopez Medina, Maria Jose. Exposición al humo ambiental y residual del tabaco en niños y niñas: cohorte HUMO. PI17/01359. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2022. 88.330,00 €

DOCTORAL THESES IN PROGRESS

- Carrilero Carrió, Neus. Social inequalities in health in childhood in Catalonia. 2019-2024. Universitat Pompeu Fabra. Supervisors: López Medina, Mª José; Continente García, Xavier.
- Sanz Mas, Marta. Title: *pending*. 2022-2024. Universitat Pompeu Fabra. Supervisors: López Medina, Mª José; Continente García, Xavier.

SCIENTIFIC PRODUCTION

- Avino CJ, Peralta A, Carrere J, Mari M, Benach J, Lopez MJ. Qualitative evaluation of an intervention to reduce energy poverty: Effects perceived by participants according to typologies of social vulnerability. *ENERGY POLICY*. 2022; 167:113006. DOI:10.1016/j.enpol.2022.113006. IF:7,576 (Q1/1D). Document type: Article.
- Bartroli M, Angulo A, Bosque M, Clotas C, Espelt A. The Emotional Competence Assessment Questionnaire (ECAQ) for Children Aged from 3 to 5 Years: Validity and Reliability Evidence. *EDUCATION SCIENCES*. 2022; 12(7):489. DOI:10.3390/educsci12070489. Document type: Article.
- Bullich I, García A, Miralles R, Juvé ME, Melendo EM, Santaeugènia S. Results Centre of Social and Health Care Network in Catalonia. Evolution 2013–2018. *REVISTA ESPANOLA DE GERIATRIA Y GERONTOLOGIA*. 2022; 57(2). DOI:10.1016/j.regg.2022.01.008. PMID:35193784. Document type: Article.
- Carrere J, Belvis F, Peralta A, Mari M, Lopez MJ, Benach J, Novoa AM. Effectiveness of an Energy-Counseling Intervention in Reducing Energy Poverty: Evidence from a Quasi-Experimental Study in a Southern European City. *JOURNAL OF URBAN HEALTH-BULLETIN OF THE NEW YORK ACADEMY OF MEDICINE*. 2022; 99(3). DOI:10.1007/s11524-022-00642-6. PMID:35622196. IF:5,801 (Q1/3D). Document type: Article.
- Carrilero N, Mora T, Garcia A. The impact of an easy access drug supply management policy law on the consumption and abuse of opioids in Catalonia: A population-based study. *INTERNATIONAL JOURNAL OF DRUG POLICY*. 2022; 101:103562. DOI:10.1016/j.drugpo.2021.103562. PMID:34952278. IF:5,931 (Q1/2D). Document type: Article.
- Casanovas LVL, Serra L, Canals CS, Sanz B, Vives C, Lopez MJ, Otero L, Perez G, Renart G. Prevalence of sexual harassment among young Spaniards before, during, and after the COVID-19 lockdown period in Spain. *BMC PUBLIC HEALTH*. 2022; 22(1):1888. DOI:10.1186/s12889-022-14264-9. PMID:36221078. IF:4,135 (Q2/4D). Document type: Article.
- Checa MB, Bosque M, Martinez OJ, Bote CC, Teixido E, Vaquero PR, Espelt A. Design and pilot testing of a school-based emotional education program for health promotion and prevention for children from 3 to 5 years of age. *REVISTA ESPANOLA DE SALUD PUBLICA*. 2022; 96:e202211080. IF:1,333 (Q4/10D). Document type: Article.
- Dalmau A, Saura A, Busquets JM, Bullich I, Garcia A. Advance directives and real-world end-of-life clinical practice: a case-control study. *BMJ SUPPORTIVE & PALLIATIVE CARE*. 2022; 12(E3). DOI:10.1136/bmjspcare-2020-002851. PMID:33753359. IF:4,633 (Q1/3D). Document type: Article.
- Díaz JL, García A, Villalbí JR. Improving the systematization of benchmarking in public health services. *GACETA SANITARIA*. 2022; 36(3). DOI:10.1016/j.gaceta.2021.01.005. PMID:33642098. IF:2,479 (Q3/7D). Document type: Article.
- Gallus S, Lugo A, Liu XQ, Borroni E, Clancy L, Gorini G, Lopez MJ, Odone A, Przewozniak K, Tigova O, van den Brandt PA, Vardavas C, Fernandez E, TackSHS I. Journal of Epidemiology. *JOURNAL OF EPIDEMIOLOGY*. 2022; 32(3). DOI:10.2188/jea.JE20200248. PMID:33456019. IF:3,809 (Q2/5D). Document type: Article.
- Lapena C, Continente X, Mascunano AS, Dell'Olmo MM, Lopez MJ. Effectiveness of a community intervention to reduce social isolation among older people in low-income neighbourhoods. *EUROPEAN JOURNAL OF PUBLIC HEALTH*. 2022; 32(5). DOI:10.1093/eurpub/ckac100. PMID:36074028. IF:4,424 (Q2/3D). Document type: Article.
- Mari M, Oliveras L, Vergara C, Artazcoz L, Borrell C, Gotsens M, Palencia L, Lopez MJ, Martinez MA. Geographical inequalities in energy poverty in a Mediterranean city: Using small-area Bayesian spatial models. *ENERGY REPORTS*. 2022; 8. DOI:10.1016/j.egyr.2021.12.025. IF:4,937 (Q2/5D). Document type: Article.
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gaceta.2020.12.033. PMID:33563478. IF:2,479 (Q3/7D). Document type: Article.

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SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- XII Congress of Prevention and Control of Smoking of the CNPT. National Committee for the Prevention of Tobacco. Virtual. 25/04/2022 – 05/05/2022. National. Invited presentation. Speaker: Mª José López Medina.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Art and Health Exhibition "Climate Shelter Schools: What do the children think?". Barcelona Public Health Agency. Barcelona, ASPB headquarters. March-June 2022. Citizenship. Speaker: Xavier Continente.
- Informative videos "Secondhand smoke exposure in outdoor and indoor settings in Europe". ASPB, CIBERESP. February 2022. Dissemination on Twitter and web. Citizenship. Speaker: Maria José López.

URBAN HEALTH INEQUALITIES



Group leader
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Researchers
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Arechavala Roe, Teresa (ASPB)
Artazcoz Lazcano, Lucia (ASPB)
Bartoll Roca, Xavier (ASPB)
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Borrell Thio, Carme (ASPB)
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Cortes Franch, Immaculada (ASPB)
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Gomez Gutierrez, Anna (ASPB)
Gotsens Miquel, Merce (CIBER)
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Rodriguez Sanz, Maica (ASPB)
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Oliveras Puig, Laura (ASPB)
Ruiz Muñoz, Dolores (ASPB)
Sanchez Ledesma, Esther (ASPB)

DESCRIPTION

The research group on Urban Health Inequalities results from the merger of two groups SGR2017: The research group on the Social Determinants of Health and Health Inequalities (SGR 1223) led by Dr. Carme Borrell and the research group for the Study of Mobility and Traffic Injuries led (SGR1622) by Dr. Catherine Pérez. They merge in 2021 to be able to work more efficiently and competitively. It has been accredited with funding (2021SGR 01462). The current team is made up of 35 researchers, 27 of whom have a PhD degree.

MAIN LINES OF RESEARCH

The main objective of the group is to deepen the knowledge of health determinants in urban areas and their unequal distribution in population groups, and to evaluate the impact of policies on the reduction of inequalities in health.

The lines of research are guided by the model of social determinants of health. It is structured in 7 main areas: urban planning and health, housing and health, environmental health, road safety and health, community health, healthy, sustainable, and safe food, and work and health. Inequalities in health, prevention and promotion of health, policy evaluation and transfer and translation of knowledge are transversal to all groups.

The main lines of research are:

Deepen knowledge of the social and political determinants of health and how they influence the definition of policies and their effects, with a special focus on the COVID-19 pandemic and its consequences.

Deepen knowledge of 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.

Deepen knowledge of the effects on health 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.

Evaluate the health impact of urban planning policies and other policies aimed at reducing air pollution and environmental noise (e.g. superblocks, low-emission zones), as well as policies for mitigating and adapting to climate change (e.g. climate shelters).

Evaluation of the health impact of policies related to mobility (motorized or non-motorized) and of road safety policies and programs, safe route to school, active transport (on foot and by bicycle).

Evaluate the impact 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.

Deepen knowledge of 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.
Evaluate programmes implemented at neighbourhood level (within the framework of Barcelona Salut als Barris) aimed at reducing social inequalities in health and analyse the mechanisms that influence the effectiveness of the programmes.

Deepen knowledge of the health effects of determinants to safe, healthy and sustainable eating, and evaluate the results, consistency and effectiveness of control and surveillance programmes and interventions related to food and marketing, production and consumption environments.

Deepen knowledge of the relationship between working conditions and health, including lack of access to work, job insecurity or involuntary reduced working hours, among other situations.

SCIENTIFIC CHALLENGES

Addressing health disparities: Health disparities based on gender, country of origin, socioeconomic status, and other factors remain a significant public health challenge. Developing effective interventions to address health disparities requires a deeper understanding of the social determinants of health and how they impact health outcomes.

Digitalization, access to data and big data analytics. Difficulties to access to large, data sets, sophisticated analytical tools and methods to extract meaningful insights. Developing effective methods for accessing, managing, analysing and interpreting data.

Multi-disciplinary and inte-research groups collaboration. Public health problems are complex and require expertise from multiple disciplines. Collaborating across different fields and groups, integrating different types of data is crucial for increasing impact of research in public health.
Translating research into practice. Bridging the gap between research and practice is a major challenge for public health research.

Competitiveness and limitations of combining research with daily public health practice.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

S'han establert col·laboracions amb els grups de l'IIB Sant Pau següents:

- Avaluació de les Polítiques i Programes de Salut Pública (IP: Xavier Continente)
- Malalties Transmissibles (IP: Cristina Rius)
- Recerca en Atenció Primària (IP: Carlos Brotons)
- Servei Psiquiatria / Salut Mental (José Soriano)

EXTERNAL COLLABORATIONS

CIBERESP (Centro de Investigación Biomédica en Red de Epidemiología y Salut Pública). Spain.

- CB06/02/0046 - Alonso Caballero, Jordi Consorci (Mar Parc Salut de Barcelona).
- CB06/02/0052 - Borrell Thio, Carme (Agencia de Salud Pública de Barcelona).
- CB06/02/1014 - Bueno Cavanillas, Aurora (Universidad de Granada).
- CB06/02/1024 - Daponte Codina, Antonio (Escuela Andaluza de Salud Pública).
- CB06/02/0062 - López Medina, María José (Agencia de Salud Pública de Barcelona)
- CB06/02/1002 - Sáez Zafra, Marc (Universidad de Gerona).

CIBERSAM (Centro de Investigación Biomédica en Red de Salut Mental). Spain.
School of Public Health, Johns Hopkins University. Baltimore, EEUU.
International Transport Forum (ITF). Paris, França.
Fundación para la Investigación y Docencia Sant Joan de Déu Barcelona. Spain.
Universitat de Barcelona. Facultat de Medicina. Barcelona. Spain.
Istituto Superiore di Sanita (ISS). Roma. Italia.
Ajuntament de Barcelona. Barcelona. Spain.
Institut de Recerca en Energia de Catalunya. Barcelona, Spain.
Consorci Metropolità de l'Habitatge. Barcelona, Spain.
Observatori DESC.
Dirección General de Tràfico (DGT). Madrid, Spain.
Universidad Politécnica de Catalunya.
Instituto de Salud Global (ISGLOBAL). Barcelona, Spain.
Escuela Andaluza de Salud Pública, Granada, Spain.
Observatorio de Salud y Medio Ambiente de Andalucía, Algeciras, Spain.
Universitat Autònoma de Barcelona. Facultat de Veterinària. Barcelona, Spain.

ACTIVE GRANTS

- Diez David, Elia. Efectividad de una intervención sobre la reticencia 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. PI18/01761. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 75.020,00 €
- Perez Albarracin, Gloria. Promoción de activos protectores de la violencia de género en la adolescencia y pre-adolescencia. PI18/00544. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2022. 27.830,00 €
- Vasquez Vera, Maria Constanza. VASQUEZ VERA MARIA CONSTANZA 2021 FI_B00935. 2021 FI_B00935. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2021-2025. 23.774,97 €

GRANTS AWARDED

Perez Gonzalez, Catherine. Surveillance: Enhance public health data and monitoring Systems. 2022. (ASPB)

DOCTORAL THESES DEFENDED

- Larrea Izaguirre, Sara Lucía. Feminist initiatives supporting self-managed abortion in legally restrictive settings of Latin America and the Caribbean: Social inequalities and quality care. 23/03/2022. Universitat Pompeu Fabra. Supervisors:

Palència Fernández, Laia; Borrell i Thió, Carme. http://hdl.handle.net/10803/673910.

- López Contreras, Natalia. Una Aproximación a los efectos en salud y calidad de vida de un programa de regeneración urbana en Chile. 07/04/2022. Universitat Pompeu Fabra. Supervisors: Puig i Barrachina, Vanessa; Gotsens Miquel, Mercè. http://hdl.handle.net/10803/674107.
- Oliveras Puig, Laura. Pobresa energètica i salut: Una aproximació des de les desigualtats socials. 24/02/2022. Universitat Pompeu Fabra. Supervisors: Marí Dell'Olmo, Marc; Borrell i Thió, Carme. http://hdl.handle.net/10803/673673.

DOCTORAL THESES IN PROGRESS

- Forcadell, Lluís. Promoció de les relacions equitatives i saludables en la població infantil i adolescent escolaritzada a Barcelona. 2020-2023. Universitat Pompeu Fabra. Supervisors: Pérez Albarracín, Glòria; Juárez Martínez, Olga.
- Grau Noguer, Eduard. Towards food safety official controls with digital technologies and its digital transformation in Barcelona. 2020-2024. Universitat Autònoma de Barcelona. Supervisors: Serratosa Vilageliu, Jordi; Rodríguez-Sanz, Maica; Suppi Boldrito, Remo; Portaña Tudela, Samuel.
- Olivella Cirici, Marc. L'efecte de la COVID_19 en la salut de la joventut. 2022-2024. Universitat Pompeu Fabra. Supervisors: Pérez Albarracín, Glòria; Pasarín Rúa, Maribel.
- Quijal-Zamorano, Marcos. Temperature impacts on mortality in different geographical and temporal scales. 2022-2024. Universitat Pompeu Fabra. Supervisors: Marí Dell'Olmo, Marc; Ballester, Joan.
- Reyes Segura, Alexia. El impacto en la salud y la calidad de vida de las personas que participan en un modelo cooperativo de vivienda en cesión de uso en Cataluña. 2021-2023. Universitat Pompeu Fabra. Supervisors: Borrell i Thió, Carme; Fernández Sánchez, Ana; Novoa Pardo, Ana.
- Vásquez-Vera, Constanza. Desigualdades de género, vivienda y salud. 2021-2023. Universitat Pompeu Fabra. Supervisors: Borrell i Thió, Carme; Fernández Sánchez.

AWARDS

- Marc Marí-Dell'Olmo, Mercè Gotsens , M Isabel Pasarín, Maica Rodríguez-Sanz, Lucía Artazcoz, Patricia Garcia de Olalla, Cristina Rius and Carme Borrell. XXVIII Premio al mejor artículo original en Epidemiología 2022: Socioeconomic Inequalities in COVID-19 in a European Urban Area: Two Waves, Two Patterns. Int. J. Environ. Res. Public Health 2021, 18, 1256. 01/09/2022. Atorgat per la 'Sociedad Española de Epidemiología'

SCIENTIFIC PRODUCTION

- Artazcoz, L. (2022). Psicosociología del trabajo. In: C. Ruiz-Frutos, J. Delclós, E. Ronda, A. M. García, & F. G. Benavides (Eds.), Salud Laboral: conceptos y técnicas para la prevención de riesgos laborales. 5a. edición (pp. 67–76). Barcelona: Elsevier. Document type: Book chapter.
- Bacigalupe A, Martín U, Franco M, Borrell C. Socioeconomic inequalities and COVID-19 in Spain. SESPAS Report 2022. *GACETA SANITARIA*. 2022; 36. DOI:10.1016/j.gaceta.2022.01.011. PMID:35781142. IF:2,479 (Q3/7D). Document type: Review.
- Ballesteros V, Oliveras L, Munoz JB, Lima A, Carrere J, Ruiz EM, Peralta A, Leon AC, Rodriguez IM, Daponte A, Marí dell'Olmo M. What are the effects of energy poverty and interventions to ameliorate it on people's health and well-being?: A scoping review with an equity lens. *ENERGY RESEARCH & SOCIAL SCIENCE*. 2022; 87:102456. DOI:10.1016/j.erss.2021.102456. IF:8,514 (Q1/1D). Document type: Review.
- Barbaglia MG, Borrell C, Daban F, Fernandez A, Olabarría M, Palencia L, Pasarín MI, Rubies A, Sabate S, Salvador M, Villalbí JR, Planter G. Reinventing a public health organization. *GACETA SANITARIA*. 2022; 36(1). DOI:10.1016/j.gaceta.2020.06.011. PMID:32972781. IF:2,479 (Q3/7D). Document type: Article.
- Bartoll-Roca X, Marí dell'Olmo M, Gotsens M, Palencia L, Pérez K, Diez E, Borrell C. Neighbourhood income inequalities in mental health in Barcelona 2001-2016: a Bayesian smoothed estimate. *GACETA SANITARIA*.2022;36(6).DOI:10.1016/j.gaceta.2022.03.007. PMID:35644735. IF:2,479 (Q3/7D). Document type: Article.
- Bartoll-Roca X, Palència L, Gotsens M, Borrell C. Socioeconomic inequalities in self-assessed health and mental health in Barcelona, 2001-2016. *GACETA SANITARIA*.2022; 36(5). DOI:10.1016/j.gaceta.2021.02.009. PMID:33771401. IF:2,479 (Q3/7D). Document type: Article.
- Bartoll-Roca X, Rodríguez-Sanz M, Sánchez-Ledesma E, Pérez K, Borrell C. Inequalities in life expectancy by educational level and its decomposition in Barcelona, 2004-2018. *GACETA SANITARIA*. 2022; 36(6). DOI:10.1016/j.gaceta.2021.11.008. PMID:35337685. IF:2,479 (Q3/7D). Document type: Article.
- Carbonell C, Rubio M, Marqués S, Peñarrubia MT, Gil M, Garcia V, Pasarín MI, Parody E, Aznar I. Pediatric Medication Noninitiation in Spain. *PEDIATRICS*. 2022; 149(1):e2020034371. DOI:10.1542/peds.2020-034371. PMID:34957504. IF:9,703 (Q1/1D). Document type: Article.
- Carrere J, Belvis F, Peralta A, Marí dell'Olmo M, López MJ, Benach J, Novoa AM. Effectiveness of an Energy-Counseling Intervention in Reducing Energy Poverty: Evidence from a Quasi-Experimental Study in a Southern European City. *JOURNAL OF URBAN HEALTH-BULLETIN OF THE NEW YORK ACADEMY OF MEDICINE*. 2022; 99(3). DOI:10.1007/s11524-022-00642-6. PMID:35622196. IF:5,801 (Q1/3D). Document type: Article.
- Carrere J, Vasquez H, Pérez A, Novoa AM, Borrell C. Housing Insecurity and Mental Health: the Effect of Housing Tenure and the Coexistence of Life Insecurities. *JOURNAL OF URBAN HEALTH-BULLETIN OF THE NEW YORK ACADEMY OF MEDICINE*. 2022; 99(2). DOI:10.1007/s11524-022-00619-5. PMID:35303243. IF:5,801 (Q1/3D). Document type: Article.
- Domínguez-Berjón MF, Pérez G, Gotsens M, Genova R, Martín U, Ruiz M, IMCRISES Project Working GRP [Puig-Barranchina V, Rodríguez-Sanz, M]. Socioeconomic Inequalities in Small-for-Gestational-Age Births Before and During the Economic Crisis: An Ecologic Study of Trends in 13 Spanish Cities. *INTERNATIONAL JOURNAL OF HEALTH SERVICES*. 2022; 52(1):0020731420923532. DOI:10.1177/0020731420923532. PMID:32408791. IF:1,851 (Q4/9D). Document type: Article.
- Forcadell L, Benlliure JB, Martínez C, Pérez G. An in-depth analysis of the sexuality needs of Barcelona's youth: a holistic view using mixed method. *SEXUAL AND REPRODUCTIVE HEALTH MATTERS*. 2022; 30(1):2135728. DOI:10.1080/26410397.2022.2135728. PMID:36399103. IF:5,732 (Q1/2D). Document type: Article.
- Hogberg P, Henriksson G, Borrell C, Ciutan M, Costa G, Georgiou I, Halik R, Hoebel J, Kilpelainen K, Kyprianou T, Lesnik T, Petrauskaite I, Ruijsbroek A, Scintee SG, Vasic M, Olsson G.

Monitoring Health Inequalities in 12 European Countries: Lessons Learned from the Joint Action Health Equity Europe. *INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH*. 2022; 19(13):7663. DOI:10.3390/ijerph19137663. PMID:35805322. IF:4,614 (Q1/3D). Document type: Article.

- Jacques-Aviñó C, Peralta A, Carrere J, Marí dell'Olmo M, Benach J, López MJ. Qualitative evaluation of an intervention to reduce energy poverty: Effects perceived by participants according to typologies of social vulnerability. *ENERGY POLICY*. 2022; 167:113006. DOI:10.1016/j.enpol.2022.113006. IF:7,576 (Q1/1D). Document type: Article.
- Lapena C, Continente X, Sánchez Mascuñano A, Marí dell'Olmo M, López MJ. Effectiveness of a community intervention to reduce social isolation among older people in low-income neighbourhoods. *EUROPEAN JOURNAL OF PUBLIC HEALTH*. 2022; 32(5). DOI:10.1093/eurpub/ckac100. PMID:36074028. IF:4,424 (Q2/3D). Document type: Article.
- Larrea S, Hidalgo C, Jacques C, Borrell C, Palencia L. "No one should be alone in living this process": trajectories, experiences and user's perceptions about quality of abortion care in a telehealth service in Chile. *SEXUAL AND REPRODUCTIVE HEALTH MATTERS*. 2022; 29(3):1948953. DOI:10.1080/26410397.2021.1948953. PMID:34252017. IF:5,732 (Q1/2D). Document type: Article.
- Larrea S, Palència L, Assis MP, Borrell C. Social inequalities in utilization of a feminist telehealth abortion service in Brazil: A multilevel analysis. *FRONTIERS IN REPRODUCTIVE HEALTH*. 2022; 4:1040640. DOI:10.3389/frph.2022.1040640. Document type: Article.
- Lopez A, Spijker J, Cole HVS, Marques AG, Triguero M, Anguelovski I, Marí dell'Olmo M, Modenes JA, Alamo D, Lopez F, Borrell C. Sociodemographic determinants of intraurban variations in COVID-19 incidence: the case of Barcelona. *JOURNAL OF EPIDEMIOLOGY AND COMMUNITY HEALTH*. 2022; 76(1). DOI:10.1136/jech-2020-216325. PMID:34158409. IF:6,286 (Q1/2D). Document type: Article.
- Malmusi D, Pasarín MI, Marí dell'Olmo M, Artazcoz L, Diez E, Tolosa S, Rodríguez-Sanz M, Pérez G, Peña-Gallardo C, Borrell C. Multi-level policy responses to tackle socioeconomic inequalities in the incidence of COVID-19 in a European urban area. *INTERNATIONAL JOURNAL FOR EQUITY IN HEALTH*. 2022; 21(1):28. DOI:10.1186/s12939-022-01628-1. PMID:35183189. IF:4,666 (Q1/3D). Document type: Article.
- Marí dell'Olmo M, Oliveras L, Barón-Miras LE, Borrell C, Montalvo T, Ariza C, Ventayol I, Mercuriali L, Sheehan M, Gómez-Gutiérrez A, Villalbí JR. Climate Change and Health in Urban Areas with a Mediterranean Climate: A Conceptual Framework with a Social and Climate Justice Approach. *INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH*. 2022; 19(19):12764. DOI:10.3390/ijerph191912764. PMID:36232063. IF:4,614 (Q1/3D). Document type: Article.
- Marí dell'Olmo M, Oliveras L, Vergara C, Artazcoz L, Borrell C, Gotsens M, Palencia L, López MJ, Martínez MA. Geographical inequalities in energy poverty in a Mediterranean city: Using small-area Bayesian spatial models. *ENERGY REPORTS*. 2022; 8. DOI:10.1016/j.egyr.2021.12.025. IF:4,937 (Q2/5D). Document type: Article.
- Martí M, German D, Pérez G, Bartoll-Roca X, Diez E, Pont A, Garin O, Alonso J, Hernandez G, Mayoral K, Zamora V, Vilagut G, Ferrer M. Health Inequalities by Sexual Orientation: Results from the 2016-2017 Barcelona Health Survey. *LGBT HEALTH*. 2022; 9(7). DOI:10.1089/lgbt.2021.0171. PMID:35802488. IF:5,150 (Q1/2D). Document type: Article.
- Martín JM, Arenas A, Bengoa R, Borrell C, Franco M, García AL, Gestal J, González López B, Hernández I, Legido H, March JC, Minué S, Muntaner C, Vives C. Insight on how to assess and improve the response to the COVID-19 pandemic. *GACETA SANITARIA*. 2022; 36(1). DOI:10.1016/j.gaceta.2020.11.008. PMID:33518411. IF:2,479 (Q3/7D). Document type: Article.
- Mercuriali L, Oliveras L, Marí M, Gómez-Gutiérrez A, Montalvo T, García A, Pérez G, Villalbí JR. A public health surveillance system applied to climate change for cities. *GACETA SANITARIA*. 2022; 36(3). DOI:10.1016/j.gaceta.2021.01.003. PMID:33722402. IF:2,479 (Q3/7D). Document type: Article.
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SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- Jornada Reptes de la sostenibilitat alimentària per a la salut pública. Barcelona (Spain), 25/10/2022. National. Organizers: Carme Borrell, Maribel Pasarín (ASPB).
- II Jornades d'Acció Comunitària. Barcelona (Spain), 9-10/05/2022. National. Organizers: Maribel Pasarín i Ferran Daban (ASPB).
- John Hopkins Fall Institute. Workshop "How research on food safety control may contribute to better implementation and enforcement by authorities". Barcelona (Spain), 21/11/2022. National. Organizers: Eduard Grau, Assun Bolao i Samuel Portaña (ASPB).
- 300.851.98 Workshop: Innovative Experiences and Lessons Learned in the Epidemiological Surveillance of the Covid 19 Pandemic. Barcelona, 25/10/2022. Organizers: Marc Olivella and Alèxia Reyes (ASPB).
- John Hopkins Fall Institute. 300.855.98 Workshop: Cooperative Housing and Health; The Experiences of Uruguay and Barcelona. 24/11/2022. Organizers: Catherine Pérez and Gustavo Machado.

SCIENTIFIC DISSEMINATION

- "Two decades of experience of the Public Health Agency of Barcelona". XL Annual Meeting of the Spanish Society of Epidemiology (SEE) and XVII Congress of the Portuguese Association of Epidemiology (APE) "Challenges of the XXI Century". Carlos Santa Maria Center; UPV/EHU of Donostia-San Sebastián, 08/30/2022. Speaker: Carmen Borrell.
- Table 2. Inequality in health and gender. Social and gender dimension of health, disease and pain. Institute for Advanced Social Studies. Campo Santo de los Mártires, 7 14004 Córdoba (Spain), 10/20/2022. Speaker: Carmen Borrell.
- Challenges Conference on food sustainability for public health. Pedralbes Monastery. Barcelona, 10/25/2022. Speaker: Carmen Borrell.
- Climate change from a public health perspective in Barcelona. Lancet Countdown Europe Launch. Palau Macaya, Barcelona, 10/28/2022.
- Table 1: Quality of Life and Mental Health. IV Norbienestar Congress: Good Practices in Mental Health. Quality of life and social inclusion in the socio-sanitary sector. Luis Adaro Fairgrounds (Gijón), 11/11/2022. Speaker: Carmen Borrell.
- Evaluation of the Smoke-Free Beaches project in Barcelona. Seminar of the Spanish Network of Healthy Cities. On-line. 10/06/2022. Speaker: Elia Diez.
- Day #Salutsensellar. Table moderation: clinical perspective. Official College of metges of Barcelona. 10/06/2022. Speaker: Maribel Pasarín.
- Challenges of food sustainability for public health. Carme Borrell opened the event.
- Moderation of the table of experiences "Projects in currents at the voltant of food sustainability in the current context of climate emergency". Royal Monastery of Santa Maria de Pedralbes. 10/25/2022.
- Research in gender perspective. Conference on gender perspective in health. Sant Pau Modernist Site. Barcelona, 5/20/2022. Speaker: Lucía Artazcoz.
- "COVID-19: gender impact on care and participatory local governance. Multidisciplinary approach to the COVID-19 pandemic. Assembly Hall "Ernest Lluch" Ministry of Health. Madrid, 06/9/2022. Speaker: Lucía Artazcoz.
- Eva does not have an expiration date. The bet for senior talent with a positive value for companies. Taula rodona WOMUP 2022. Roca Barcelona Gallery. Barcelona, 10/20/2022. Speaker: Lucía Artazcoz.
- Dialogue between experts. Multidisciplinary approach to the COVID-19 pandemic. Sklandestino. Espai Serrahima. Barcelona, 11/10/2022. Speaker: Lucía Artazcoz.
- Sex education to deal with sexist violence. European seminar of the Cut All Ties project. La Bonne. Culture Center for Women Francesca Bonnemaison. 11/28/2022. Speaker: Esther Sánchez-Ledesma.
- The bo i the bad use of the temps. Time use week. Allow time to reduce inequality. Gracia Moral Center. Barcelona, 10/24/2022. Speaker: Lucía Artazcoz.
- Assessment of energy rehabilitation in buildings in Barcelona. Pla de Salut de Catalunya Day. MNAC. Barcelona, 03/17/2022. Speaker: Catherine Perez.
- Environmental and health effects of superblocks in Barcelona. Salut als Carrers project. I InterNational XarxaSalut Conference. General Directorate of Public Health and Addictions. Valencia, 18/07/2022.

TRANSMISSIBLE DISEASES



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DESCRIPTION

Our group focus 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, vaccinable 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 migrant population with the communicable diseases prevention and control.

MAIN LINES OF RESEARCH

1.- 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 presentation and evolution of TB.

Evaluation of COVID-19 pandemic in the prevention and control activities in tuberculosis patients and the impact in the future incidence.

Evaluation of interventions to improve surveillance and tuberculosis (TB) control, diagnostic, 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.

2.- 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 contacts tracing.

Study of the proportion pelvic inflammatory disease due to chlamydia.

Study of HIV contacts to determine the incidence among them.

3.- Community health workers (CHW) for communicable diseases control: with the immigration increase we have incorporated

CHW that aid in the prevention and control of these diseases. They act as mediators and translators.

4.- 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.

5.- Outbreaks and COVID-19:

Investigation of the causes and implementation of control measures as in the case of different outbreaks by norovirus.

COIVD-19 outbreaks characterization in different setting in Barcelona city.

Impact of COVID-19 in incidence and mortality in nursing homes and associated factors

Vaccination hesitancy and COVID-19

To assess the if there is difference in the amount of viable SARS-CoV-2 virus released by the vaccinated individuals in comparison with non-vaccinated. Can vaccinated people transit CVID-19? To study the systemic and local immune response in both groups of patients.

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

Estimation of vaccine refuse in families with children under 15 years-old in Barcelona.

knowledge, attitudes, and beliefs about systematic childhood vaccines in paediatric healthcare workers in Barcelona.

7.- 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 gay saunas.
- Improve detection and research into causes of C hepatitis.
- Improve detection and control measures of outbreaks.
- Improve adherence of tuberculosis and latent tuberculosis infection.
- STD/HIV and TB contract tracing and screening
- Cost effective analysis on public health interventions
- Describe the threats and improve the procedures of vector born transmitted diseases.

EXTERNAL COLLABORATIONS

GESIDA: grupo de estudio del SIDA de la Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica (SEIMC). http://gesida-seimc.org/
PII-TB SEPAR: Programa integrado de investigación en Tuberculosis de la Sociedad Española de Patología Torácica.
AGAUR: Agència de gestió d'ajuts Universitaris i de Recerca. http://agaur.gencat.cat/ca/inici
TB-NET: Tuberculosis European Network. http://www.tb-net.org/
CIBERESP: CIBER of Epidemiology and Public Health. http://www.ciberesp.es/
CIBERINFEC: CIBER of Infectious Diseases. http://www.ciberinfec.es/
SERVEIS CLÍNICS
IGTP: Institut Germans Trias i Pujol. https://www.germanstrias.org/
UITB: Unitat d'Investigació en Tuberculosi de Barcelona.
HEPSCREEN: Screening for hepatitis Project. http://hepscreen.eu/
CASCADE
GEMES
COHERE

ACTIVE GRANTS

- Rius Gibert, Cristina. Prueba rápida de hepatitis C en hombres que tienen sexo con hombres: conocimientos, prevalencia e implicaciones para el cribado en VIH negativos. PI17/02077. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2022. 38.962,00 €
- Garcia De Olalla Rizo, Patricia. Agentes de cambio en reducción de riesgos en VIH/ITS y chemsex para el ocio nocturno LGTBIQ+. Federación Española de Municipios y Provincias (FEMP). Duration: 2022-2023. 20.000,00 €

GRANTS AWARDED

- 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 €

DOCTORAL THESES DEFENDED

- Brugueras Torrella, Silvia. Caracterització, prevenció i control de la tuberculosi en poblacions vulnerables a Catalunya. 16/12/2022. Universitat Autònoma de Barcelona. Supervisors: Rius Gibert, Cristina; Millet Vilanova, Joan Pau. http://hdl.handle.net/10803/688446.

DOCTORAL THESES IN PROGRESS

- García Carrasco, Mireia. Reticència vacunal en els professionals sanitaris de pediatria de Barcelona. 2017-2023. Universitat Autònoma de Barcelona. Supervisor: Rius Gibert, Cristina.
- Prieto García, Raquel. Latent tuberculosis infection impopulations and hider risk of progression to tuberculosis. 2022-2025. Universitat Pompeu Fabra. Supervisors: Rius Gibert, Cristina; Millet Vilanova, Joan Pau.

AWARDS

- Rius Gibert, Cristina. Accèssit en l'àmbit de serveis finalistes premis Alfons Ortuño Projecte Servei de testatge, traçat, aïllament i suport (TTAS) a casos i contactes. Secretaria de Salut Pública del Departament de Salut. 02/11/2022.

SCIENTIFIC PRODUCTION

- Alarcón M, Palma D, Arando M, García de Olalla P. Prevalence of Dating App Usage in Gay, Bisexual, and Other Men Who Have Sex with Men (GBMSM). *ENFERMEDADES EMERGENTES*. 2022; 21(2):73-80. Document type: Article.
- Alarcón M, Palma D, Fernández-Quevedo M, García de Olalla P. Uso de aplicaciones móviles para promoción de pruebas rápidas de VIH y otras ITS entre hombres que tienen sexo con

otros hombres en diferentes contextos geográficos. Barcelona 2016-2020. *REVISTA MULTIDISCIPLINAR DEL SIDA*. 2022;8(21). Document type: Article.

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- Altet N, Latorre I, Jimenez MA, Soriano A, Villar R, Mila C, Rodriguez P, Muriel B, Comella P, Godoy P, Millet JP, de Souza ML, Jimenez CA, Dominguez J, PII Smoking SEPAR Working GRP. Tobacco Smoking and Second-Hand Smoke Exposure Impact on Tuberculosis in Children. *JOURNAL OF CLINICAL MEDICINE*. 2022; 11(7):2000. DOI:10.3390/jcm11072000. PMID:35407608. IF:4,964 (Q2/4D). Document type: Article.
- Amigo F, Aragón A, Asúnsolo del Barco A, Campos M, González A, López N, Martínez de Salázar A, Molina JD, Ortí RM, Parellada M, Pelayo JM, Pérez B, Pérez A, Polentinos E, Portillo A, Urreta I, Kessler RC, Bruffaerts R, Pérez V, Alonso J, Alayo I, Alonso M, Álvarez M, Amann B, Amigo FF, Anmella G, Aragón A, Aragonés N, Aragonès E, Arizón AI, Asunsolo A, et al. [Bonfill X, Puig-Reixach MT, Rius C]. Four-month incidence of suicidal thoughts and behaviors among healthcare workers after the first wave of the Spain COVID-19 pandemic. *JOURNAL OF PSYCHIATRIC RESEARCH*. 2022; 149. DOI:10.1016/j.jpsychires.2022.02.009. PMID:35217315. IF:5,250 (Q2/3D). Document type: Article.
- Antonio V, Cayla JA, Real J, Moreno A, Orcau A, Mauricio D, Mata M, Julve J, Mendez EN, Treserra RP, Millet JP, Garcia JLD, Vlacho B, Franch J. Glycemic control and the risk of tuberculosis in patients with diabetes: A cohort study in a Mediterranean city. *FRONTIERS IN PUBLIC HEALTH*. 2022; 10:1017024. DOI:10.3389/fpubh.2022.1017024. PMID:36466495. IF:6,461 (Q1/1D). Document type: Article.
- Antonio V, Franch J, Moreno A, Real J, Orcau A, Mauricio D, Mata M, Julve J, Mendez EN, Treserra RP, de la Puente JB, Millet JP, Garcia JLD, Vlacho B, Cayla JA. Subjects With Diabetes Mellitus Are at Increased Risk for Developing Tuberculosis: A Cohort Study in an Inner-City District of Barcelona (Spain). *FRONTIERS IN PUBLIC HEALTH*. 2022; 10:789952. DOI:10.3389/fpubh.2022.789952. PMID:35677764. IF:6,461 (Q1/1D). Document type: Article.
- Bueno R, Drago A, Montalvo T, Dutto M, Becker N. Classic and novel tools for mosquito control worldwide. *ECOLOGY AND CONTROL OF VECTOR-BORNE DISEASES*. 2022; 7. DOI:10.3920/978-90-8686-931-2_12. Document type: Article/Book chapter.
- Ciruela P, Vilaró M, Carmona G, Jané M, Soldevila N, Garcia T, Hernández S, Ruiz L, Domínguez A, Group of the Microbiological Reporting System of Catalonia and W [Rius C]. Estimation of the incidence of invasive meningococcal disease using a capture-recapture model based on two independent surveillance systems in Catalonia, Spain. *BMJ OPEN*. 2022; 12(6):e058003. DOI:10.1136/bmjopen-2021-058003. PMID:35728904. IF:3,006 (Q2/5D). Document type: Article.
- Galan MT, Solano J, Gonzalez G, Osuna A, Pascual J, Bueno R, Franco S, Peracho V, Montalvo T, Fuentes MV. Molecular detection of Leishmania infantum in rats and sand flies in the urban sewers of Barcelona, Spain. *PARASITES & VECTORS*. 2022; 15(1):211. DOI:10.1186/s13071-022-05309-4. PMID:35710435. IF:4,047 (Q1/2D). Document type: Article.
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- Guerras JM, Belza MJ, Fuster MJ, Fuente LD, de Olalla PG, Palma D, Garcia JN, Hoyos J. Knowledge and Prior Use of HIV Self-Testing in Madrid and Barcelona among Men Who Have Sex with Men More than One Year after Its Legal Authorization in Spain. *INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH*. 2022; 19(3):1096. DOI:10.3390/ijerph19031096. PMID:35162118. IF:4,614 (Q1/3D). Document type: Article.
- Guerras J-M, Hoyos J, de la Fuente L, Donat M, Pulido J, Sordo L, García de Olalla P, Belza M-J, on behalf of the Methysos Project G. Awareness and Use of HIV Self-Testing Among Men Who Have Sex With Men Remains Low in Spain 2 Years After Its Authorization. *FRONTIERS IN PUBLIC HEALTH*. 2022; 10:888059. DOI:10.3389/fpubh.2022.888059. PMID:35784245. IF:6,461 (Q1/1D). Document type: Article.
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SCIENTIFIC DISSEMINATION

- World Tuberculosis Day. Barcelona, 22/03/2022. National. Organizer: Joan Pau Millet.
- XII Conference on Emerging Diseases. Barcelona, 25-26/05/2022.
- National. Organizer: Joan Pau Millet.
- XXVI InterNational Conference on Tuberculosis. Barcelona, 14-15/11/2022. International. Organizer: Joan Pau Millet.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

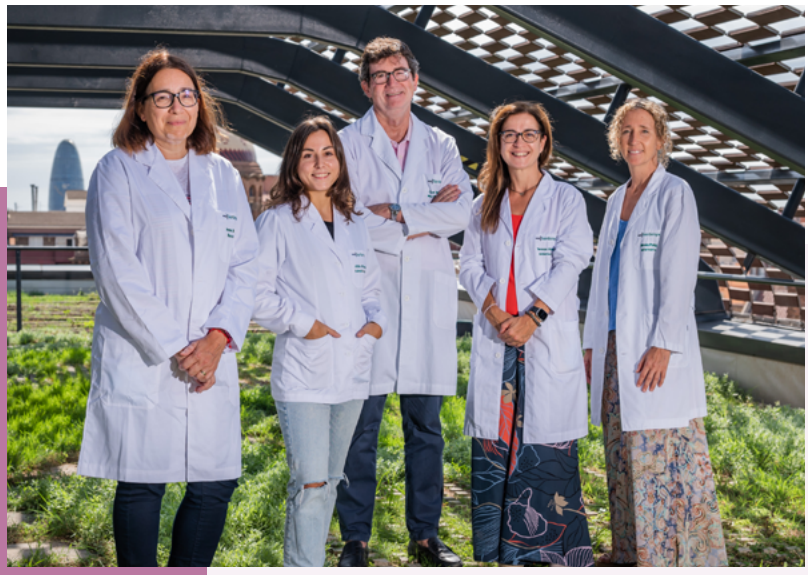
- World Tuberculosis Day. Foundation of the Barcelona Tuberculosis Research Unit. Barcelona, 03/22/2022. National. Speaker: Joan Pau Millet.
- XII Conference on Emerging Diseases. Foundation of the Barcelona Tuberculosis Research Unit. Barcelona, 05/25-26/2022. National. Speaker: Tomás Montalvo.
- XII Conference on Emerging Diseases. Foundation of the Barcelona Tuberculosis Research Unit. Barcelona, 05/25-26/2022. National. Speakers: Raquel Prieto, Montserrat Guillaumes.
- XII Conference on Emerging Diseases. Foundation of the Barcelona Tuberculosis Research Unit. Barcelona, 05/25-26/2022. National. Speaker: Patricia Garcia de Olalla.
- XII Conference on Emerging Diseases. Foundation of the Barcelona Tuberculosis Research Unit. Barcelona, 05/25-26/2022. National. Speaker: Joan Pau Millet.

- XII Conference on Emerging Diseases. Foundation of the Barcelona Tuberculosis Research Unit. Barcelona, 05/25-26/2022. National. Speaker: Cristina Rius.
- Vaccine Reluctance Symposium. IS Global Institute. Barcelona, 10/26/2022. National. Speaker: Cristina Rius.
- XXVI InterNational Conference on Tuberculosis. Foundation of the Barcelona Tuberculosis Research Unit. Barcelona, 14-15/11/2022. International. Speakers: Pere Simón, Joan Pau Millet.

RESEARCH VISIBILITY ACTIVITIES: Outreach activities to society

- Dissemination of the Conferences organized (World TB Day Conference, Emerging Disease Conferences, International Conferences on TB). Dissemination of ongoing projects. Preparation and dissemination of the annual report on TB and notifiable diseases.

PRIMARY CARE RESEARCH



Group leader
Brotons Cuixart, Carles (EAP SARDENYA)

Researchers
Aguado Jodar, Maria Alba (EAP SAGRADA FAMILIA)
Casasa Plana, Albert (EAP SARDENYA)
Cuixart Costa, Lluis (EAP ROGER DE FLOR)
Fernandez Valverde, Diana Elisabeth (EAP SARDENYA)
Ferriz Villanueva, Gemma (EAP SARDENYA)
Galan Diez, Maria Luisa (EAP SARDENYA)
Jimenez Muñoz, Beatriz (EAP DRETA EIXAMPLE)
Monteserin Nadal, Rosa (EAP SARDENYA)
Moral Pelaez, Irene (EAP SARDENYA)
Muñoz Pena, Aser (EAP SARDENYA)
Pedro Pijoan, Anna Maria (EAP SAGRADA FAMILIA)
Rayo Martinez, Elisabet (EAP SARDENYA)
Riera Nadal, Clara (EAP SAGRADA FAMILIA)
Sellares Sallas, Jaume (EAP SARDENYA)
Serrano Pons, Helena (EAP SARDENYA)

Research technicians
Cabricano Canga, Lorena (EAP SARDENYA)
Checa Jimenez, Caterina (EAP SARDENYA)
Ichazo Tobella, Begoña (EAP SARDENYA)
Puig Palma, Mireia (EAP SARDENYA)
Vila Garcia, Judit (EAP SARDENYA)
Vilella Moreno, Maria Teresa (EAP SARDENYA)

DESCRIPTION
Our Research Unit was created in March 2002, and we carry out our own research work funded by competitive grants from public institutions as well as clinical trials in pathology prevalent in primary care , financed mostly by the pharmaceutical industry. At this moment, our main topics of research are cardiovascular risk estimation and cardiovascular risk factors such as hypertension, dyslipidemia and diabetes, and immunizations in adults. The Research unit is integrated by a Family Physician and epidemiologist, two research nurses, one statistician, and one administrative.

MAIN LINES OF RESEARCH
Cardiovascular risk
Prevention and Health Promotion
Hypertension
Diabetes
Lipids
Immunization
Telemedicine

SCIENTIFIC CHALLENGES
To implement multicenter reserach projects in primary care
To encourage the collaboration with other research groups of the Biomedical Research Institute Sant Pau

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS
Genetics, clinical pharmacology, epidemiology and public health.

EXTERNAL COLLABORATIONS
We are collaborating with the FUNDACIÓN BARCELONAßETA BRAIN RESEARCH CENTER in the following project "ß-AARC: Cohort study for the identification of blood-based biomarkers in a population with increased risk of Alzheimer's dementia".
We also collaborate with Associació Catalana d'Entitats de Base Associativa (ACEBA) in the evaluation of the professionals' quality of life.

ACTIVE GRANTS

- Brotons Cuixart, Carles. Validación externa de una ecuación de riesgo cardiovascular de por vida. PI17/01031. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2022. 49.610,00 €

DOCTORAL THESES IN PROGRESS

- Montenegro Lafont, Patricia. Impact of covid-19 infection on primary care patients. 2022-2025. Universitat Rovira i Virgili. Supervisors: Brotons Cuixart, Carlos; Cabrera Vila, Juan José.

SCIENTIFIC PRODUCTION

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- Brotons C, Moral I, Vicuña J. La complejidad del papel del colesterol unido a HDL. *REVISTA ESPANOLA DE CARDIOLOGIA*. 2022; 76(2). DOI:10.1016/j.recesp.2022.08.004. PMID:36228961. IF:6,975 (Q1/3D). Document type: Article.
- Brotons C. Healthy habits and risk factors of parents can have long-term clinical consequences in their offspring. *EUROPEAN JOURNAL OF PREVENTIVE CARDIOLOGY*. 2022; 29(6). DOI:10.1093/eurjpc/zwaa111. PMID:33624077. IF:8,526 (Q1/2D). Document type: Article.
- Checa C, Canelo C, Suclupe S, Ginesta D, Berenguera A, Castells X, Brotons C, Posso M. Effectiveness and Cost-Effectiveness of Case Management in Advanced Heart Failure Patients Attended in Primary Care: A Systematic Review and Meta-Analysis. *INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH*. 2022; 19(21):13823. DOI:10.3390/ijerph192113823. PMID:36360704. IF:4,614 (Q1/3D). Document type: Review.
- Gabriel R, Muniz J, Vega S, Moral I, Castro TRP, Rodriguez F, Suarez C, Novella B, Brotons C. Cardiovascular risk in the elderly population of Spain. The EPICARDIAN risk score. *REVISTA CLINICA ESPANOLA*. 2022; 222(1). DOI:10.1016/j.rce.2021.05.001. PMID:34565710. IF:3,064 (Q2/5D). Document type: Article.
- Lledó GM, Sellares J, Brotons C, Sans M, Antón JD, Blanco J, Bassat Q, Sarukhan A, Miró JM, de Sanjosé S. Post-acute COVID-19 syndrome: a new tsunami requiring a universal case definition Comment. *CLINICAL MICROBIOLOGY AND INFECTION*. 2022; 28(3). DOI:10.1016/j.cmi.2021.11.015. PMID:34826619. IF:13,310 (Q1/1D). Document type: Editorial material.
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- Orozco D, Brotons C, Banegas JR, Gil VF, Cebrián AM, Martín E, Jordá A, Vicuña J, Navarro J. Cardiovascular preventive recommendations. PAPPS 2022 thematic updates. Working groups of the PAPPS. *ATENCION PRIMARIA*. 2022; 54(Suppl 1):102444. DOI:10.1016/j.aprim.2022.102444. PMID:36435583. IF:2,206 (Q3/7D). Document type: Article.
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05.1.5

TRANSLATIONAL MEDICINE



Area Director:
Dídac Mauricio

Sant Pau Hospital is a tertiary high complexity university hospital and, together with Fundació Puigvert, covers all specialities 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, ageing-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
  Sílvia Vidal
- Endocrinology, Diabetes and Nutrition
  Dídac Mauricio
- Pituitary Gland Disorders
  Susan Webb
- Digestive Diseases
  Ma Àngels Escorsell
- Microbiology and Infectious Diseases
  Ferran Navarro
- Multi-organ Damage
  Jordi Casademont – until March 2022
  Héctor Corominas – from March 2022
- Chronic Respiratory Diseases (GREC)
  Vicente Plaza
- Research Group in HIV and AIDS
  Pere Domingo
- Regenerative Medicine and Tissue Bioengineering
  Cristina Castells
- General and Digestive Surgery
  Antonio Moral
- Nephrology
  Lluís Guirado
- Women and Perinatal Health
  Elisa Llurba

INFLAMMATORY DISEASES



Group leader
Vidal Alcorisa, Silvia (IR)

Researchers
Alserawan De Lamo, Leticia (FGS)
Calvet Lacruz, Anna (FGS)
Canto Naves, Elisabeth (IR)
D'Alessandro , Miriana (Univ. Siena (Italy))
De La Calle Martin, Oscar (FGS)
Franco Leyva, Teresa (FGS)
Juarez Rubio, Candido (FGS)
Lynton Pons, Elionor (FGS)
Mariscal Rodriguez, Anais (FGS)
Martinez Martinez, Laura (FGS)
Moga Naranjo, Maria Esther (FGS)
Mulet Gual, Maria (IR)
Osuna Gomez, Ruben (IR)

Research technicians
Alejandre Santiago, Jose (IR)
Ortiz De Juana, Maria Angels (IR)
Zamora Atenza, Carlos (IR)

Internship students
Adrian Ochoa, Aaron (UB)
Aliança Da Silva, Crislane (UB)
Alvarez Jimenez, Johana (UB)
Beltran Mestres, Claudia (UB)
Bofi I Cuadros, Alex Jacint (UB)
Boutitah , Imane (UB)
Bravo Gomez, Andrea Carolina (UB)
De La Torre Cevallos, Ronny Alejandro (UAB)
Guinart Cuadra, Albert (UB)

DESCRIPTION

The Inflammatory Diseases group is a multidisciplinary team. Our research aims are: a) to study etiopathogenic mechanisms of immune mediated diseases in order to develop tools to advance towards 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 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 immunosenesce 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.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Dr. C. Guarner, Dr. G. Soriano, Dra. Eva Roman, Dra. Esther Garcia-Planella i Dr. Jordi Gordillo, Dra. Edilmar Alvarado (Patologia Digestiva I CIBER): Mecanismes inflamatoris associats a la barrera epitelial en la cirrosi i malaltia inflamatòria intestinal.

Dra. Novelli; Dr. Nomdedeu i Dra. Garcia Cadenas (Hematologia): Regulación de la repuesta inmune en pacientes con patología hematoyetica.

Dr. Eduard Gallardo (Neurologia): Estudios moleculares y celulares en miastenia gravis: correlaciones clinicas y terapeuticas.

Dr. Cesar Diaz-Torné, Dr. Hector Corominas, Dr. Ivan Castellví, Dra. Patricia Moya, Dra. Berta Magallares, Dra. Hye Park (Reumatologia): Caracterización de las plaquetas "educadas" en un entorno inflamatorio crónico para optimizar las terapias inmunoreguladoras con plaquetes. Estudio inmunológico de la inflamación sistémica en enfermos con gota.

Dr. Diego Castillo, Dr. David De la Rosa, Dr. Vicente Plaza (Neumologia): PRedictores de INfecCión bronquial en Enfermedades Respiratorias Crónicas.

Dr. Lluís Puig, Dra. Serra i Dra. Vilarrassa (Dermatologia): Estudio de dianas inmunogenéticas en piel y suero de pacientes con psoriasis moderado-grave, dermatitis atópica y sialoadenitis y su posterior clasificación para selección de tratamiento biológico existente.

Dra. Majem, Dr. Barnades, Dr. Maroto, Dra Anguera, Dra. Arqueros (Oncologia): Fuentes de PD-1 y PD-L1 en el cancer de pulmón no microcítico y microcítico. Estudio traslacional prospectivo del sistema inmune y de los biomarcadores de células tumorales circulantes en el cancer de próstata metastásico resistente a la castración.

Dr. Joaquin Lopez-Contreras (IP) (Malalties Infeccioses.Medicina Interna) i Dra. Noelia Vilalta (Hematologia): Análisis de las trampas extracelulares de los neutrófilos en sepsis. Marató 2018-2021.

Dra: Olga Torres Bonafonte (IP) (Medicina Interna): Identificación de un inmunofenotipo de riesgo de mal pronóstico en ancianos que han sido ingresados por neumonía" finançat per l'Instituto de Salud Carlos III (PI18/00684).

EXTERNAL COLLABORATIONS

Dra. Manichanh (Patologia Digestiva, Hospital de la Vall d'Hebron).

Dr. Juan Jose de Agustí (Reumatologia, Hospital de la Vall d'Hebron).

Dra. Blanca Sanchez (Hematologia, Hospital del Mar).

Dr. Albert Selva i Dr. Moises Labrador (Alergia, Hospital de la Vall d'Hebron).

Dr. Porcel (Medicina Interna, Hospital Arnau de Vilanova).

Dra. Sabzevari i Dra. Semnani (Precigen MD, USA).
Dra. Catalfamo del Georgetown University School of Medicine (Washington DC, USA).

Dra. Monica Guma (University of California San Diego, CA, USA).

Dr. Nieto i Dr. Heyn (CNAG-CRG).

Dr. Oscar Rodríguez Faba (Fundació Puigvert).

Dr. Per Thor Straten (Dep Immunology and Microbiolog, Herlev, Denmark).

Dra. Elena Bargagli (Universidad Sienna).

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. 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. PNC00088/13. AstraZeneca Farmacéutica Spain SA. Duration: 2021-2022. 126.050,00 €
- 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 €
- Vidal Alcorisa, Silvia. Therapeutic targets in mechanisms of tolerance for autoimmune disease patients. IIBSP-TOL-2019-115. Non-competitive. PRECIGEN. Duration: 2020-2022. 95.000,00 €

GRANTS AWARDED

- Vidal Alcorisa, Silvia. Signature of regulatory cytokines as biomarkers of progressive fibrosing interstitial lung disease. Non-competitive. INN00010. Boehringer Ingelheim España. Duration: 2022-2024. 89.500,00 €

DOCTORAL THESES DEFENDED

- Mariscal Rodríguez, Anaís. Consecuencias funcionales de la unión de las plaquetes al monocito. 24/10/2022. Universitat Autònoma de Barcelona. Supervisors: Vidal Alcorisa, Silvia; Zamora Atenza, Carlos. http://hdl.handle.net/10803/687627.
- Mulet Gual, Maria. Estudi de la resposta immunitària en el vessament pleural maligne de pacients amb adenocarcinoma pulmonar. 01/12/2022. Universitat Autònoma de Barcelona. Supervisors: Vidal Alcorisa, Silvia; Zamora Atenza, Carlos. http://hdl.handle.net/10803/688261.
- Ujaldón Miró, Cristina. Neutrophilic asthma modelling and translational markers. 01/03/2022. Universitat Autònoma de Barcelona. Supervisors: Ramos Barbón, David; Juárez Rubio, Cándido. http://hdl.handle.net/10803/674923.

DOCTORAL THESES IN PROGRESS

- Alserawan de Lamo, Leticia. Caracterització d'iraes (immune-related adverse events) en tractaments oncològics amb inhibidors dels punts de control immune. 2020-2024. Universitat Autònoma de Barcelona. Supervisor: Vidal Alcorisa, Silvia.
- Anguera, Georgia. BÚSQUEDA DE FACTORS PREDICTIUS DE RESPOSTA A INMUNOTERAPIA. 2017-2024. Universitat Autònoma de Barcelona. Supervisors: Majem Tarruella, Marga; Vidal Alcorisa, Silvia.

- Julià Agulló, Germa. Comparació de la resposta immune als pacients de COVID-19 amb evolucio greu i moderada. 2017-2023. Universitat Autònoma de Barcelona. Supervisor: Vidal Alcorisa, Silvia.

SCIENTIFIC PRODUCTION

- Alserawan L, Anguera G, Atenza CZ, Lopez JS, Martinez L, Melia MR, Sullivan I, Joaquin AB, Tarruella MM, Vidal S. Association between Changes in the Patterns of Antinuclear Autoantibodies during Immune Checkpoint Inhibition Therapy and the Development of Severe Immune Related Adverse Events. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2022; 23(20):12641. DOI:10.3390/ijms232012641. PMID:36293498. IF:6,208 (Q1/3D). Document type: Article.
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- Castellví I, Vidal S, Valenzuela C. Autoimmunity in the Study of Interstitial Lung Disease: Are Serological Test Enough?. *ARCHIVOS DE BRONCONEUMOLOGIA*. 2022; 58(8). DOI:10.1016/j.arbres.2021.08.016. PMID:35312568. IF:6,333 (Q1/3D). Document type: Editorial material.
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- Mulet M, Osuna R, Zamora C, Porcel JM, Nieto JC, Perea L, Pajares V, Munoz AM, Calvo N, Sorolla MA, Vidal S. Influence of Malignant Pleural Fluid from Lung Adenocarcinoma Patients on Neutrophil Response. *CANCERS*. 2022; 14(10):2529. DOI:10.3390/cancers14102529. PMID:35626131. IF:6,575 (Q1/3D). Document type: Article.
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- Serra S, López-Granados L, Sisinni L, Serna JV, Martínez-Martínez L, Fernández de Gamarra E, de la Calle O, Badell I. Chronic hypogammaglobulinemia after allogeneic stem cell transplantation and their treatment with subcutanaeos inmunoglobulin in pediatric patients. *ANALES DE PEDIATRIA*. 2022; 97(2). DOI:10.1016/j.anpedi.2021.08.011. PMID:35869014. IF:2,377 (Q3/6D). Document type: Article.
- Simoes AM, Holmstrom MO, Aehnlich P, Rahbech A, Radziwon A, Zamora C, Klausen TW, Skov V, Kjaer L, Ellervik C, El Fassi D, Vidal S, Hasselbalch HC, Andersen MH, Straten PT. Patients With Myeloproliferative Neoplasms Harbor High Frequencies of CD8 T Cell-Platelet Aggregates Associated With T Cell Suppression. *FRONTIERS IN IMMUNOLOGY*. 2022; 13:866610. DOI:10.3389/fimmu.2022.866610. PMID:35603202. IF:8,786 (Q1/3D). Document type: Article.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- Immunology in Inflammation. DUPILUMAB: PRESENT AND FUTURE. Sanofi. Pamplona, Navarre, 22/11/2022. Speaker: Silvia Vidal.
- Search for biomarkers through multiparametric cytometry analysis with complex biological samples. Miltenyi. MAQSQuant User Day. Valencia, 29/11/2022. Speaker: Silvia Vidal.
- Immunology Workshop: From experts for experts. Novartis. Barcelona, 20-21/10/2022. Speaker: Silvia Vidal.
- New lines of research: PHYSIOPATHOLOGY. Dialogues between experts: what is cooking in atopic dermatitis?. Lilly, Barcelona, 2022. Speaker: Silvia Vidal.
- Role of antiCD 38 and Mechanism of Action. Update Debates meeting at MMRR. Sanofi. Barcelona, 23/11/2022. Speaker: Silvia Vidal.

ENDOCRINOLOGY, DIABETES AND NUTRITION



Group leade
Mauricio Puente, Didac (FGS)

Researchers
Chico Ballesteros, Ana Isabel (FGS)
Corcoy Pla, Rosa (FGS)
Cubero Marcos, Jose Maria (FGS)
Genua Trullos, Idoia (IR)
Gonzalez Blanco, Cintia (FGS)
Granado Casas, Minerva (CIBERDEM)
Julve Gil, Josep (IR)
Mateu Salat, Manuel (IR)
Mato Matute, Eugenia (CIBERDEM)
Mendoza Mathison, Lilian Cristina (FGS)
Miñambres Donaire, Inka (FGS)
Perez Perez, Antonio (FGS)
Real Gatius, Jordi (IDIAP JORDI GOL)
Rojo Lopez, Marina Idalia (IR)
Rossell Rusiñol, Joana (CIBERDEM)

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Figueroa Cruz, David (IR)
Garcia Patterson, Apolonia Gabriela (IR)
Lopez Argudo, Alicia (FGS)
Mangas Fernandez, Natalia (IR)
Martinez Mores, Santiago (IR)
Pujol Abajo, Montserrat (FGS)
Rodriguez Hernandez, Claudia (IR)
Subias Burrel, Miguel (IR)
Vlacho , Bogdan (CIBERDEM)

Internship master and graduate students
Almahdi , Yusur Ammar Husam (Manisa Celal Bayar University, Turkey)
Gil Millan, Pedro Alejandro (UAB)
Ruiz Auladell, Lara (UAB)
Vallverdu Gordi, Nuria-Fucui (UAB)

Internship secondary school students
Ortet Teixidor, Aïda (Escoles Freta Ed. Maresme)
Rodriguez Vallano, Laura (Col·legi El Pinar de Nostra Senyora)
Serven Escoda, Marina (Escoles Freta Ed. Maresme)

DESCRIPTION

The research group called Endocrinology, Diabetes, and Nutrition of the Sant Pau Research Institute, directed by Dr. Dídac Mauricio has grown considerably since its creation in 2018 and has acquired a clear multidisciplinary character. It is currently made up of professionals from different disciplines and areas, including endocrinologists, nutritionists, statisticians, biologists, pharmacologists, and pharmacists, along with support staff, consisting of a total of 22 members, of which 15 are women and 6 are men. The group is composed of several research lines that mainly focus on the study of diabetes and its complications both in the hospital and primary care settings, but also on the complications on a molecular basis. Furthermore, the group also includes research lines on endocrinology complications related to pregnancy and nodular thyroid malignancies. In general, the group has demonstrated a great ability to generate projects and publications in recent years.

Moreover, the group has several collaborations with external groups.

MAIN LINES OF RESEARCH

LINE 1: COMPLICATIONS OF DIABETES, ATHEROSCLEROSIS AND CARDIOVASCULAR DISEASE. Responsible researcher: Mauricio Puente, Didac. The main cause of morbidity and mortality in diabetes mellitus resides in chronic complications, especially atherosclerosis, but also microvascular complications. This line encompasses clinical and translational studies that deepen research into pathogenesis, biomarkers, and early detection and treatment of these complications.

LINE 2: EPIDEMIOLOGY OF DIABETES, PRIMARY CARE RESEARCH, AND RESEARCH WITH LARGE DATABASES. Responsible researcher: Mauricio Puente, Didac. The line of research includes research on diabetes mellitus in the Primary Health Care of Catalonia. In recent years, the group has developed projects using the SIDIAP database, in different aspects of diabetes in real practice (real-world evidence). The group is a pioneer at the State level in this area and has active collaborations with international groups. In this area, a coordinated group of the AGAUR (2021 SGR 00857) is led by the group of Dr. J. Franch of the IDIAP Jordi Gol.

LINE 3: ENDOCRINOLOGICAL DISEASES AND PREGNANCY. Responsible researcher: Corcoy Pla, Rosa. Endocrinological diseases are a frequent pathology during pregnancy with important repercussions for the mother and the child both in the short and long term and even for subsequent generations. Increasing knowledge about its prevalence, physiopathogenic mechanisms, and therapeutic options is very important for the population's health.

LINE 4: NODULAR DISEASE AND THYROID CANCER. Responsible researcher: Mato Matute, Eugenia. Tumoral pathology of the thyroid gland continues to pose a diagnostic and therapeutic challenge in endocrinological clinics. There are clinical problems to be solved through clinical and translational research, the first on the diagnostic side; in order to make an accurate diagnosis, which avoids otherwise unnecessary procedures and treatments, more knowledge is needed.

LÍNIA 5: DIABETIS AND CARDIOVASCULAR RISK FACTORS. Responsible researcher: Perez Perez, Antonio. Cardiovascular disease, derived from either early atherosclerosis or myocardial dysfunction, is the principal cause of mortality among the population with diabetes. The development of these alterations is associated, among others, with dysfunction in the lipoprotein metabolism, the inflammatory state, and the excess and dysfunction of ectopic adipose tissue. Since the beginning of the 90s, researchers from the Endocrinology and Nutrition Service and the Cardiovascular Biochemistry group have collaborated to study lipid metabolism and cardiovascular risk factors in patients with diabetes, dyslipidemia, and obesity. Currently, ongoing projects are aimed at studying the mechanisms that link diabetes, obesity, and dyslipidemias with cardiovascular disease, focusing especially on the role of epicardial adipose tissue and its relationship with adipokines and functional modifications of lipoproteins.

LINE 6 (NEW LINE): CELLULAR INJURY IN DIABETES AND ASSOCIATED METABOLIC DISEASES. Responsible researcher Julve Gil, Josep. The general objective of this line is to perform basic and translational research in cellular and animal models as well as in humans on cellular injury in diabetes and its associated metabolic conditions. As specific objectives, they raise [i] the study of the contribution of hyperglycemia in cellular damage in experimental models of diabetes; [ii] the identification of new biomarker candidates for the diagnosis/prognosis of liver and myocardial complications; and [iii] the evaluation of new therapeutic strategies in this area in experimental models and in patients.

SCIENTIFIC CHALLENGES

The Endocrinology, Diabetes, and Nutrition Research Group faces many scientific challenges, some centered in one of the research lines, while others are shared between lines. Here are presented, divided by topics:

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 glycated 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. And 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.

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.

Clinical trials related to the Endocrinology, Diabetes, and Nutrition Research Group.

- There are currently 28 ongoing clinical trials in our group, which involve scientific challenges.

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.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Oncogenesis and Antitumour Drugs (Ramon Mangues).

Ophthalmology (Fernando Rodríguez Álvarez).

Cardiovascular Biochemistry (Jorge Ordóñez, José Luis Quesada, Francisco Blanco).

General and Digestive Surgery (Antonio Moral, Ignacio Pérez).

Reproductive Health (Carmen Medina Mallén).

Bases Metabòliques i lipídiques del Risc Cardiovascular i Càncer (JC Escolà).

Metabolic Bases of Cardiovascular Risk (Francisco Blanco).

Group of Regulatory Mechanisms in Cardiovascular Remodeling (Maria Galán).

Posterior segment and ocular inflammation (Ignacio Vela).

Lipid and Cardiovascular Pathology (Concepción Vicenta Llorente).

Biomarkers of Cardiovascular Disease (Teresa Padró).

EXTERNAL COLLABORATIONS

University of East Anglia, Norwich Medical School - Helen Murphy

Mount Sinai Hospital, Toronto - Denice Feig.

Bioengineering and Telemedicine Group at the Universidad Politécnica de Madrid, Spain (GBT-UPM) - Enrique J. Gómez Aguilera.

Biomedical Engineering Research Group at the Universidad de Sevilla, Spain (GIB-US) - Laura Roa Romero.

Molecular Oncology Group at HVH - S. Schwartz, Jr.

Development of New Drugs Group at the Universidad del País Vasco, Spain - JL Pedraz.

CONCEPTT: Women with Type 1 Diabetes in Pregnancy Trial Collaborators.

Vitamin D and Lifestyle Intervention for Gestational Diabetes Mellitus (GDM) Prevention (DALI) Consortium.

Action Lada European Consortium - Paolo Pozilli, Richard David Leslie.

Real-world evidence studies (ERICAS). Kamlesh Khunti – University of Leicester.

Hospital and Institute for Health Science Research Germans Trias i Pujol (IGTP) - Nuria Alonso, Manel Puig-Domingo.

Medicine Department, University of Padova - Angelo Avogaro.

Bioinformatics and Biomedical Signals Laboratory - Alex Perera Lluna.

Vascular and renal translational research group - José Manuel Valdivielso.

Research Group on Obesity, Diabetes and Metabolism (ODIM) - Albert Lecube, Marta Hernández.

Department of Endocrine Physiopathology and the nervous system, Institut d'Investigacions Biomèdiques "Alberto Sols".

Departament de Medicina, Universitat de Buenos Aires UBA, (Argentina) - F. Pitoia.

Universidade Federal do Maranhão (Hospital Universitário - Serviço de Endocrinologia), São Luís, Maranhão, Brasil - Marcelo Magalhães Silva.

Glycotechnology CIC biomaGUNE. San Sebastián, Gipuzkoa - Niels Reichardt.

Lipoproteins and mitochondrial adaptations in age-related vascular & metabolic diseases (LIMITAGING) at Institut des Maladies Métaboliques et Cardiovasculaires, Toulouse, France - Laureant Martinez.

Obesidad y metabolismo, Instituto Murciano de Investigación Biosanitaria Pascual Parrilla, Múrcia - Bruno Ramos Molina

Artificial Intelligence in large databases, applying new Machine Learning tools, Universitat Politècnica de Catalunya - Dr. Àlex Perera

University of Helsinki- Per-Henrik Groop

Steno Diabetes Center, Copenhagen- Prof. Peter Rossing's group.

Division of Endocrinology, Diabetes & Metabolism in the Department of Medicine at the University of Florida- Prof. K. Cusi.

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 €
- Genua Trullos, Idoia. Contractes Rio Hortega 2021. CM21/00077. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 65.000,00 €
- Genua Trullos, Idoia. SED 2021. Sociedad Española de Diabetes (SED). Duration: 2021-2023. 20.000,00 €
- Julve Gil, Josep. Contribución de especies lipídicas bioactivas (esfingosina-1-fosfato) asociadas a HDL sobre la disfunción miocárdica en pacientes con diabetes mellitus tipo 2 y efecto del control glicémico. PI17/00232. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2022. 146.410,00 €
- 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 €
- Mateu Salat, Manuel. Microperimetría retiniana com a exploració de cribatge precoç d'alteracions neurocognitives en pacients amb diabetis mellitus tipus 1 i hipoglucèmies inadvertides. PCN 00034-ACD 2020. Fundació Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears. Duration: 2021-2023. 10.000,00 €
- Mateu Salat, Manuel. Ajuts per a la recerca de la societat catalana d'Endocrinologia i Nutrició. PCN00011-SCEN 2021. Societat Catalana d'Endocrinologia i Nutrició (SCEN). Duration: 2022-2023. 12.000,00 €
- Mauricio Puente, Didac. Descubrimiento y validación de marcadores de predicción de diabetes tipo 2: proyecto colaborativo de cohortes. PI18/00328. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2022. 176.357,50 €
- 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 epiCOVID19DM0. PCDE 2021/4. Primary Care Diabetes Europe. Research Grant 2020. COV20/01301 (EPICOVID19DM0). Duration: 2021-2023. 10.000,00 € (CIBER)
- Mendoza Mathison, Lilian Cristina. Relación entre los diferentes compuestos de la vitamina D (total, D2, D3, 3-epi-25(OH)D3) y las medidas de homeostasis de la glucosa durante la gestación. Subestudio del proyecto DALI. SED 2020. Sociedad Española de Diabetes (SED). Duration: 2020-2022. 19.999,80 €
- Perez Perez, Antonio. Observational study to assess the impact of COVID-19 on the DM1 population of the SED1 study. COVID-SED1. European Foundation for the Study of Diabetes. SED-INS-2017-01 (ESTUDIO SED-1). Duration: 2021-2022. 75.000,00 €
- Rojo Lopez, 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 €

GRANTS AWARDED

- Corcoy Pla, Rosa. Medical comorbities in bipolar disorder: clinical validation of risk factors and biomrkers to imporve prevention and treatment (BIPCOM). EraPerMed Corcoy. Unión Europea (GenCat FUNDING - Acciones complementarias). Duration: 2023-2025. 199.977,00 €
- Genua Trullos, Idoia. Estancia en un centro de referencia de enfermedad de hígado graso no alcohólico. MV22/00085. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2023. 13.685,00 €
- Granado Casas, Minerva. SUCNR1 targeting on myeloid cells in atherosclerosis (SUCMATH). CIBERDEM Intramural projects. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2023. 25.000,00 €

DOCTORAL THESES DEFENDED

- Diarte Añazco, Elena María Goretti. Effect of FTY720/Fingolimod on the development of diabetic cardiomyopathy and identification of new biomarker candidates derived from sphingolipid metabolism in an experimental model (db/db mice). 08/11/2022. Universitat Autònoma de Barcelona. Supervisors: Blanco Vaca, Francisco; Julve Gil, Josep. http://hdl.handle.net/10803/688060.
- Stantonyonge Sesnic, Nicole. Caracterización neurocogntivia y estructural cerebral en sujetos con Diabetes Mellitus tipo 1: Diferencias según percepción a la hipoglicemia. 01/03/2022. Universitat Autònoma de Barcelona. Supervisor: Chico Ballesteros, Ana; Corcoy Pla, Rosa. http://hdl.handle.net/10803/675814.
- Tundidor Rengel, Diana. Monitorización continua de la glucosa en la gestación: estudio y tratamiento de las alteraciones del metabolismo hidrocarbonado. 18/05/2022. Universitat Autònoma de Barcelona. Supervisors: Corcoy Pla, Rosa; de Leiva Hidalgo, Alberto. http://hdl.handle.net/10803/675409.
- Vlacho, Bogdan. Study on the results of the addition of a sulfonylurea, a dipeptidyl peptidase 4 (IDPP-4) inhibitor, or a sodium-glucose cotransporter type 2 (ISGLT-2) inhibitor as a second antidiabetic agent in patients with DM2 receiving treatment with metformin and insufficient glycemic control. eControl Met+ study. 21/07/2022. Universitat Autònoma de Barcelona. Supervisors: Farré Albaladejo, Magí; Mundet Tudurí, Xavier; Franch Nadal, Josep. http://hdl.handle.net/10803/687806.

DOCTORAL THESES IN PROGRESS

- Barranco Altirriba, Maria. New methods for the analysis and annotation of liquid chromatography couple to mass spectrometry data and discovery of new biomarkers. 2020-2024. Universitat Politècnica de Catalunya. Supervisor: Mauricio Puente, Dídac.
- Cuixart Carruesco, Gemma. Evaluation of the impact of mobile applications on the health and quality of life of people with chronic metabolic diseases. 2021-2024. Universitat Autònoma de Barcelona. Supervisors: González Blanco, Cintia; Corcoy Pla, Rosa.
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- Genua Trullos, Idoia. Lipoproteic alterations in obesity. Weight loss effects. Start date: 2019-2023. Universitat Autònoma de Barcelona. Supervisors: Pérez Pérez, Antonio; Pérez Pérez, Antonio; Miñambres Donaire, Inka.
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- Puig Jové, Carles. Marcadors sèrics i alteracions del metabolisme lipídic i la seva relació amb la disfunió miocàrdica subclínica en persones amb diabetis mellitus. 2019-2023. Universitat Autònoma de Barcelona. Supervisor: Mauricio Puente, Dídac.
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SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- 54th Diabetic Pregnancy Study Group Annual Meeting. Madrid, 8-10 September 2022. International. Organizing Committee: Rosa Corcoy.
- Simposio "Revisiones en diabetes". Hospital de la Santa Creu i Sant Pau. Barcelona, 14-15 October 2022. National. President scientific committee: Antonio Pérez.
- XXXIII Congreso Nacional de la Sociedad Española de Diabetes. Las Palmas de Gran Cararia, 27-29 April 2022. President of the Board of Supervisors of the SED: Antonio Pérez.
- X Jornades Codinucat. Girona, 19 November 2022, National. Member of the scientific committee and organization of the conferences: Minerva Granado.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- "Diabetes and sport: RECORD guide presentation. Spanish Society of Endocrinology and Nutrition. 24th February 2022. National. Webinar. Speaker: Ana Chico.
- Presentation "Guide closed loop systems". Spanish Diabetes Society (Technology Working Group). 14th February 2022. National. Webinar. Speaker: Ana Chico.
- "Closed-loop systems". Spanish Society of Endocrinology and Nutrition (SEEN resident course). Madrid, 21st April 2022. National. Workshop. Speaker: Ana Chico.
- "Continuous glucose monitoring systems". I RedGedaps DM Congress. Barcelona, 10th November 2022. National. Conference. Speaker: Ana Chico.
- "Online course on the management of flash glucose monitoring aimed at primary care physicians". Spanish Diabetes Society (SED). Las Palmas, 2022. National. Presentation. Speaker: Ana Chico.
- Participation with two classes and a simulation case in the UAB Endocrinology program Abroad, for students of Medicine. Puebla (Mexico), June 2022. Speaker: Ana Chico.
- "On som en el tractament de la Obesitat". XXXVIII Annual Meeting of the Catalan Society of Nephrology. Barcelona, 2022. National. Speaker: Inka Minambres.
- "Innovation: The clau in the DM's control". XVI Conference of the Catalan Diabetes Association. Reus, 2022. National. Symposium moderator: Inka Miñambres.
- "Agents for prevention and treatment of overweight and obesity". 27th International Society of Cardiovascular Pharmacotherapy, Annual Meeting. Bucharest, 2022. International. Speaker: Inka Minambres.
- "Gender Perspective in Obesity". XVIII National Congress of the Spanish Society for the Study of Obesity. Barcelona, 2022. National. Session Moderator: Inka Miñambres.
- "CGM time-in-range & HbA1c targets in pregnant women with type 1 diabetes". American Diabetes Association-Time in Range initiative. Washington (USA), 3/23/2022. International. Virtual. Speaker: Rosa Corcoy.
- EXPECT TRIAL. Diabetes in Pregnancy 2022-Diabetes Ireland. Dublin (Ireland), 06/10/2022. International. Virtual. Speaker: Rosa Corcoy.
- "Postpartum hyperglycemia in women with gestational diabetes mellitus". How to prevent it?. One day in Diabetes in Pregnancy

2022. Rome (Italy), 07/07/2022. International. Virtual. Speaker: Rosa Corcoy.

- "How to treat hyperglycemia in patients with metabolic liver disease?" Symposium: Reviews in diabetes. Francisco de Vitoria University, Madrid, 10/15/2022. National. Speaker: Idoia Genua.
- "New experimental approaches in obesity and diabetes". Master in Biochemistry, Molecular Biology and Biomedicine. Autonomous University of Barcelona. 12/02/2022. National. Research seminar. Speaker: Josep Julve.
- "Cardiometabolic effects of vitamin B3 in experimental and human models". Master of Nutrition and Metabolism from the University of Barcelona. 11/18/2022. National. Research seminar. Speaker: Josep Julve.
- "Nicotinamide: a new nutritional supplement for the prevention of cardiovascular diseases? Murcian Institute for Biosanitary Research. Murcia, 12/15/2022. National. seminar. Speaker: Josep Julve.
- "Vitamin B3 supplementation favorably modulates adipose biology in experimental mouse models of obesity". Lleida Biomedical Research Institute, Dr. Pifarré Foundation (IRBLleida). 05/04/2022. National. seminar. Speaker: Josep Julve.
- "Nicotinamide: a new NAD + dress for an old vitamin form in energy metabolism and inflammation." International Webinar on Biotechnology Research, Pulsus conferences. 02/25/2022. International. Conference. Speaker: Josep Julve.
- "High-density lipoproteins in cardiometabolic disease: the latest in experimental therapies." 2nd Global Virtual Summit on cardiology & Cardiovascular Medicine, Cardio Forum 2022. 05/16/2022. International. seminar. Speaker: Josep Julve.
- "Ceramide signature as a mediator of non-alcoholic fatty liver disease and associated diabetic cardiomyopathy". 8th METNET International Annual Meeting 2022, Section of Cell Senyalization and Metabolism, Catalan Society of Biology, Institut d'Estudis Catalans. 10/17/2022. National. Oral communication. Speaker: Josep Julve.
- "Innovation in the early detection of chronic complications. Introduction. V Conference on Innovation in Diabetes and other chronic complications". Cruces University Hospital. Bilbao, 11/03/2022. National. Moderator: Antonio Perez.
- "ISGLT2, its systemic scope. Kidney disease and diabetes." LXII International Congress of the Mexican Society of Nutrition and Endocrinology A.C. Merida (Mexico), 11/29/2022 to 12/03/2022. International. Conference. Speaker: Antonio Perez.
- "Implementing successful care models in Primary Care". III Virtual Congress of the Diabetes Movement. 9-15/05/2022. National. Speaker: Antonio Perez.
- "What is the socioeconomic benefit of strict and early control of DM2 in Spain?". 63 National Congress of the Spanish Society of Endocrinology and Nutrition. Las Palmas de Gran Canaria, 26-28/10/2022. National. Conference. Speaker: Antonio Perez.
- "Do we have this type of patient in our offices?". 1st National Congress of the redGDPS Foundation. Barcelona, 10-11/11/2022. National. Conference. Speaker: Antonio Perez.
- "Diabetes mellitus and atherogenic dyslipidemia". XVI National Congress of the Clinical Laboratory (LABCLIN 2022). Malaga, 19-21/10/2022. National. Conference. Speaker: Antonio Perez.
- "The great milestone in diabetes care: Cardio-reno-metabolic benefits of SGLT2 inhibitors". 8th Cardiometabolic Scientific Exchange ICC- 2022. Mexico City (Mexico), 06/20-21/2022. International. Conference. Speaker: Antonio Perez.
- "Should we advance or delay insulinization in view of the benefits of other therapeutic families? In Favor: Non-insulin Drugs". XVI Meeting of the SEMI Diabetes, Obesity and Nutrition Group. Cordoba, 03/24-25/2022. National. Conference. Speaker: Antonio Perez.
- "Update on medical nutritional therapy in head and neck tumors." Monographic Course of Clinical Nutrition of the SEEN: Update in clinical medical therapy of the SEEN. Madrid, 06/17/2022. National. Conference. Speaker: Rocío Puig Piña.
- Research in Diabetis i Nutrició, ADINU Lleida. Lleida, 11/03/2022, National. Conference. Speaker: Minerva Granado.
- Myths and scientific evidence about nutrition in autism. Celebration of Nutritionist Day 2022: Social inclusion for everyone in nutrition. Mexican College of Nutritionists, Mexican Association of Nutrition A.C. 01/22/2022. International. Conference. Virtual. Speaker: Marina Idalia Rojo López.
- Endocrine disruptors: current evidence. Second Interanahuac Nutrition Congress, Nutrition as a Pillar of Health. Anahuac University (Mexico), 03/31/2022. International. Conference. Virtual. Speaker: Marina Idalia Rojo López.
- Feeding in the patient with autistic disorder. Online session of the College of Nutritionists of Jalisco, A. C. (Mexico), 06/30/2022. International. Workshop. Virtual. Speaker: Marina Idalia Rojo López.
- Training of the clinical nutritionist for an effective approach to autism spectrum disorder (ASD). 5th Update Conference on Nutrition. Autonomous University of the State of Hidalgo. 11/04/2022. International. Conference. Virtual. Speaker: Marina Idalia Rojo López.
- "Practical guidelines on the treatment and prevention of the diabetic foot". 1st International Advance Course on Diabetic Neuropathy and its consequences. 4/29/2022. International. Online activity. Speaker: Didac Mauricio.
- "Epidemiology of diabetes and COID-19 hospitalization in Europe: a European collaboration: Data from Spain". 58th Annual Meeting of the European Association for the Study of Diabetes. Stockholm, 09/23/2022. International. Conference. Speaker: Didac Mauricio.
- "Not everything that looks like Type 2 Diabetes is." Hybrid symposium: Diabetes mellitus in 2022. Ecuadorian Society of Endocrinology, Metabolism, Diabetes and Nutrition. Quito, 11/17/2022. International. Symposium. Speaker: Didac Mauricio.
- "EHMet clinical practice guidelines and referral criteria for Primary Care and Hepatology". First course of metabolic liver disease Spanish Society of Endocrinology and Nutrition. 06/15/2022. National. Online activity. Speaker: Didac Mauricio.
- "The model of Sant Pau. Update in care models for glucose monitoring in interstitial fluid". Catalan Society of Health Management. Barcelona, 09/29/2022. National. Presentation. Speaker: Didac Mauricio.
- "How to establish an accurate diagnosis of diabetes in adults?". Reviews in diabetes, Hospital de la Sta. Creu i Sant Pau. Barcelona, 10/15/2022. National. Symposium. Speaker: Didac Mauricio.
- "Can we endocrinologists prevent liver cirrhosis?". 63rd Congress of the Spanish Society of Endocrinology and Nutrition. Las Palmas, 10/26/2022. National. Pre-congress course. Speaker: Didac Mauricio.
- "Current strategies for the management of LADA type diabetes". Meeting with the expert. 63rd Congress of the Spanish Society of Endocrinology and Nutrition. Las Palmas, 10/26/2022. National. Conference. Speaker: Didac Mauricio.

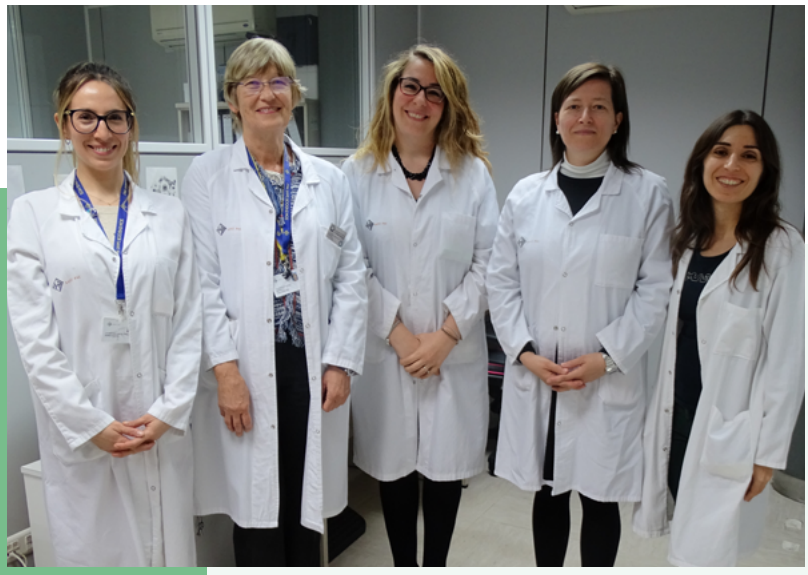
- "Evidence for precision medicine in diabetes". 43rd Congress of the Spanish Society of Internal Medicine. Gijón, 11/23/2022. National. Presentation. Speaker: Didac Mauricio.
- "Management of large databases for diabetes research". IV Conference of the Society of Endocrinology and Nutrition of Navarra and La Rioja. Pamplona, 11/12/2022. National. Closing conference. Speaker: Didac Mauricio. "Medicina personalizada de precisión en diabetes mellitus tipo 2". 1st Congreso Nacional de la redGDPS. Barcelona, 7/11/2022. National. Conference. Speaker: Dídac Mauricio.
- "How to measure endogenous insulin and autoimmunity. Clinical applicability". Advanced course of diabetes mellitus of the SED and the SEEN. Madrid, 11/17/2022. National. Presentation. Speaker: Didac Mauricio.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- ASD Dialogue Program: ASD entered my house, but no one told me that it would also enter my kitchen. Monterrey Association of Autistic Children, A.B.P. (Arena), Virtual 31/05/2022. Collective: parents of children with autism. Speaker: Marina Idalia Rojo López,

PITUITARY GLAND DISORDERS



Group leader
Webb Youdale, Susana (FGS)

Researchers
Asla Roca, Queralt (FGS)
Aulinas Maso, Anna (FGS)
Gil Ortega, Joan (CIBERER)
Resmini, Eugenia (CIBERER)
Yukhymchuk, Oleksandra (National Academy of Medical Sciences, Ukraine)

Research technicians
Santos Vives, Alicia (IR)

Internship students
Amodriu, Vincent Lucien (Aix-Marseille Université, France)

DESCRIPTION

The Research Group on Pituitary Diseases investigates their impact and residual morbidity. It includes acromegaly, Cushing's syndrome (coordinators of the European registry ERCUSYN), hypopituitarism and other pituitary diseases: Epidemiology in Catalonia, pathophysiology of oxytocin deficiency and residual myopathy, impact on psychological aspects and health-related quality of life (with specific questionnaires developed by us and used worldwide) and precision medicine in acromegaly, thanks to a recent 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 containing more than 2000 patients and is the largest one so far worldwide on these patients.

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.

Effects of Mindfulness therapy in patients with acromegaly and Cushing's syndrome

Spanish Molecular Registry on Pituitary Adenomas (REMAH study).

ACROFAST and ACROMICS: Personalized Medicine in acromegaly, to identify markers with a therapeutic value
Epidemiology of hypothalamic-pituitary diseases in Catalonia

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

Role of myosteatosis in the development and persistence of residual muscle weakness in treated acromegaly and Cushing syndrome. Study of the involved mechanisms.

Effect of an individualized exercise program on muscle structure and function, and patient well-being.

Etiology and extent of impaired quality of life, fatigue and cognitive, affective and emotional dysfunction in patients with Cushing's syndrome. Prospective studies using structural and functional magnetic resonance imaging, positron emission tomography, genetic and cerebrospinal fluid analysis.

SCIENTIFIC CHALLENGES

Evaluate long-term persistent morbidity and mortality in patients who have had Cushing's syndrome or acromegaly especially bone quality, psychological outcomes, muscular dysfunction and quality of life

Analyse and update the European database of patients with Cushing syndrome (ERCUSYN), which in 2022 included over 2300 patients, with partners from 53 centres in 26 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).

Analyse clinical and molecular aspects of pituitary adenomas diagnosed at 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.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Collaboration with the neuromuscular research group led by Dr Eduard Gallardo and Dr J Diaz Manero, to evaluate muscle in patients treated for acromegaly and Cushing's syndrome. This multidisciplinary group also includes Rehabilitation (Dr. H. Bascuñana and Mr. Jordi García), and Imaging (Dr. J. LLauger),

Collaboration by Dr. Alicia Santos with the Psychiatry research group (mainly with Dr Joaquim Soler, Dr Juan Carlos Pascual) in order to analyze the effects of compassionate therapy and oxytocin in patients with borderline personality disorder (FIS PI21/00505: Randomized controlled clinical trial to evaluate the efficacy of the combination oxytocin plus self-compassion training in patients with borderline personality disorder.)

Collaboration with Dr. H. Corominas of Rheumatology in patients with acromegaly and Cushing´s syndrome, in order to further evaluate persistent osteo-arthro-myopathy.

Collaboration with Dr. E. Urgell of the Biochemistry Department in order to analyze the pituitary hormone physiology and secretory patterns after CRH and GLP1-RA administration in the context of FIS PI20/01165.

Collaboration with Dr. X. Bonfill and Dr. T. Puig of the Clinical Epidemiology and Health Services research group in the study aimed at evaluating for the first time the epidemiology of hypothalamic-pituitary diseases in Catalonia, led by the Pituitary Research group.

EXTERNAL COLLABORATIONS

At the beginning of 2022 an agreement between the IIB-SPau and IR-GTiP was signed and specifically concerning the research groups of SM Webb and Manel Puig-Domingo, so that the investigators of GTiP (specifically M Puig-Domingo and E Valassi working on common pituitary related projects become members of the CIBERER Unit747 led by SM Webb.

Recognized as part of the 2021 SGR 00539 group (ENDOGRUP), coordinated by Manel Puig Domingo located in both IRGTiP and IIB-SPau.

- Participation in the project of Personalized Medicine of the ISCIII, number PMP 15/00027 "Improved and efficient therapy of acromegaly by implementation of a personalized and predictive algorithm including functional analysis, imaging and genomic information. Global PI: Manel Puig Domingo. Participanting PIs:
- IGTP Group/CIBERER GP: Manel Puig Domingo (PI); Sant Pau
- Group/CIBERER 747: Susan Webb (PI), E Resmini, E Valassi, A Santos, I Crespo, A Aulinas, J Gil
- IDIBAPS/Clínic Group/CIBERER GV: Irene Halperin (PI)
- Hospital de la Ribera Group (Alzira): Carmiña Fajardo (PI)
- Hospital de la Princesa Group (Madrid)/CIBERER GP: Mónica Marazuela (PI)
- Complejo Hospitalario de Santiago de Compostela Group: Ignacio Bernabéu (PI)
- Hospital Universitario de Alicante/CIBERER GV: Antonio Picó (PI)
- IMS Health: Montserrat Roset (PI)
- PMP 22/00021 Title: ACROMICS: next-generation precision medicine in the diagnosis and treatment of Acromegaly. Multicentric study financed in the IMPACRTcall of ISCIII with PI M Puig-Domingo of IRGTiP, and collaboration of 9 other groups in Spain including the Pituitary Research Group of IIB-SantPau (A Santos, A Aulinas, SM Webb)
- Clinical study protocol on recently diagnosed patients with Cushing's syndrome, in collaboration with investigators in Leiden and Göteborg (mainly Drs. Alberto Pereira and Oskar Ragnarsson): The etiology and extent of impaired quality of life, fatigue and cognitive, affective and emotional dysfunction in patients with Cushing's syndrome
- Collaboration with investigators in Bordeaux (mainly Dr. Antoine Tabarin) on cognitive outcome of patients having suffered Cushing's disease: Sequelles cognitives du syndrome de Cushing-MEMOCUSH
- Clinical and molecular characterization of pituitary adenomas in children and adolescents. A Santos, SM Webb collaborating with Drs. Itxaso Rica and Luis Castaño from Hospital Universitario Cruces, Instituto de Investigación Sanitaria BioCruces.
- Collaboration with investigators in Massachusetts General Hospital in Boston (mainly Dr. Elizabeth A Lawson, Dr. Jennifer Thomas) on several projects aimed at studying the pathophysiology of oxytocin in patients with obesity, eating disorders and hypothalamic and pituitary damage.
- Bilateral collaboration between E. Resmini & Dr Marco Losa, Universita' Vita e Salute of Milan, Italy, to study effects of different treatments modalities for acromegaly.
- Bilateral collaboration between E. Resmini, S.Webb & Dr.Carles Gaston-Massuet to evaluate "Genetic, molecular and clinical characterization of craniopharyngioma". St Bartholomew's Hospital & The London Charity Hospital.
- Bilateral collaboration between E. Valassi & Oskar Ragnarsson, University of Göteborg (Sweden) to investigate the association between polymorphisms of genes involved in the steroidogenesis and the responsiveness to treatment with steroidogenesis inhibitors in Cushing's syndrome.
- Bilateral collaboration between E. Valassi and Adolfo Díaz, Hospital del Mar, to investigate the role of microRNAs in the pathogenesis of bone alterations in patients with Cushing's syndrome and acromegaly.
- Bilateral collaboration between SM Webb, E. Valassi and Chaysavanh Manichanh, Hospital Vall d'Hebron, to investigate the role of microbiome in the pathogenesis of metabolic alterations in patients with Cushing's syndrome.
- Bilateral collaboration with Ospedale Papa Giovanni XXIII Bergamo; UOC Malattie Endocrine 1-Diabetologia. Bergamo, Italy. Effects of Mindfulness therapy in patients with acromegaly and Cushing's syndrome
- Collaboration with Institute of Health Research of Aragon (IIS Aragón), Miguel Servet University Hospital, Zaragoza, Spain. Effects of Attachment-Based Compassion Therapy in patients with Fibromyalgia.

ACTIVE GRANTS

- Aulinas Maso, Anna. Contractes Juan Rodés 2019. JR19/00013. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 180.000,00 €
- 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 aleatorizaado, 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.

DOCTORAL THESES IN PROGRESS

- Asla Roca, Queralt. Physiology and pathophysiology of endogenous oxytocin secretion in patients with hypopituitarism: identification and clinical relevance of an oxytocin deficient state. 2021-2026. Universitat de Vic-Universitat Central de Catalunya. Supervisors: Aulinas Maso, Anna; Webb Youdale, Susana.
- Galbiati, Francesca. Oxytocin effects on anterior pituitary hormone dynamics in humans with obesity. 2023-2027. Universitat de Vic-Universitat Central de Catalunya. Supervisors: Aulinas Maso, Anna; Lawson, Elizabeth (Harvard Medical School, Boston).
- Mateu Salat, Manuel. Aproximació epidemiològica, fisiopatològica i assistencial de les malalties hipofisiàries a Catalunya. 2020-2025. Universitat de Vic-Universitat Central de Catalunya. Supervisors: Webb Youdale, Susana; Aulinas Maso, Anna.

AWARDS

- Recognition by the Rare Disease patient platform to Prof. SM Webb in recognition for her dedication to Rare Diseases; 28th February 2022; 15th edition Of the World Day of Rare Diseases in Catalonia.
- Best oral short talk in Neuroendocrinology awarded to Dr. Joan Gil at the 63rd Congress of the Spanish Society of Endocrinology and Nutrition (SEEN); 28th October 2022; Sociedad Española de Endocrinología y Nutrición (SEEN).
- Third prize of the national clinical case competition ACRONET to Dr. Queralt Asla for a clinical case about early diagnosis of acromegaly. September 2022; IPSEN Pharma, S.A.

SCIENTIFIC PRODUCTION

- Aibar JA, Oladotun M, Asencio C, Valassi E, Webb S, Gras JR, Monserrat J, Ribo PT, Munoz F. Complication Rates after Endoscopic Transsphenoidal Surgery for ACTH-Secreting Pituitary Adenomas: A Comparative Analysis with GH and Nonfunctioning Adenomas. *JOURNAL OF NEUROLOGICAL SURGERY Part B-Skull Base.* 2022; 83. DOI:10.1055/s-0041-1725029. PMID:35832977. IF:1,407 (Q4/9D). Document type: Article.
- Arendt J, Aulinas A.2022 Oct 30. Physiology of the Pineal Gland and Melatonin.In: Feingold KR, Anawalt B, Blackman MR, Boyce A, Chrousos G, Corpas E, de Herder WW, Dhatariya K, Dungan K, Hofland J, Kalra S, Kaltsas G, Kapoor N, Koch C, Kopp P, Korbonits M, Kovacs CS, Kuohung W, Laferrère B, Levy M, McGee EA, McLachlan R, New M, Purnell J, Sahay R, Singer F, Sperling MA, Stratakis CA, Trence DL, Wilson DP, editors. Endotext [Internet]. South Dartmouth (MA): MDText.com, Inc.; 2000–.PMID: 31841296 Free Books & Documents. Document type: Review.
- Asla Q, Sarda H, Lerma E, Hanzu FA, Rodrigo MT, Urgell E, Perez JI, Webb SM, Aulinas A. 11-Deoxycorticosterone Producing Adrenal Hyperplasia as a Very Unusual Cause of Endocrine Hypertension: Case Report and Systematic Review of the Literature. *FRONTIERS IN ENDOCRINOLOGY*. 2022; 13:846865. DOI:10.3389/fendo.2022.846865. PMID:35432204. IF:6,055 (Q1/3D). Document type: Review.
- Aulinas A, Stantonyonge N, Garcia A, Adelantado JM, Medina C, Espinos JJ, Lopez E, Webb SM, Corcoy R. Hypopituitarism and pregnancy: clinical characteristics, management and pregnancy outcome. *PITUITARY.* 2022; 25(2). DOI:10.1007/s11102-021-01196-7. PMID:34846622. IF:3,599 (Q3/7D). 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, Menendez EL, Diez JJ, Simo R, Puig M. Factors associated with therapeutic response in acromegaly diagnosed in the elderly in Spain. *FRONTIERS IN ENDOCRINOLOGY.* 2022; 13:984877. DOI:10.3389/fendo.2022.984877. PMID:36187107. IF:6,055 (Q1/3D). Document type: Article.
- Gil J, Marques M, Sampedro M, Webb SM, Serra G, Salinas I, Blanco A, Valassi E, Carrato C, Pico A, Garcia A, Martel L, Sardon T, Simo A, Biagetti B, Villabona C, Camara R, Fajardo C, Alvarez C, Lamas C, Alvarez CV, Bernabeu I, Marazuela M, Jorda M, Puig M. Data mining analyses for precision medicine in acromegaly: a proof of concept. *SCIENTIFIC REPORTS.* 2022; 12(1):8979. DOI:10.1038/s41598-022-12955-2. PMID:35643771. IF:4,996 (Q2/3D). Document type: Article.
- Gil J, Marques M, Valassi E, Garcia A, Serra G, Hostalot C, Fajardo C, Carrato C, Bernabeu I, Marazuela M, Rodriguez H, Camara R, Salinas I, Lamas C, Biagetti B, Simo A, Webb SM, Pico A, Jorda M, Puig M, REMAH I. Implications of Heterogeneity of Epithelial-Mesenchymal States in Acromegaly Therapeutic Pharmacologic Response. *BIOMEDICINES*. 2022; 10(2):460. DOI:10.3390/biomedicines10020460. PMID:35203668. IF:4,757 (Q2/4D). Document type: Article.
- Luque J, Mendes I, Gomez B, Morte B, de Heredia ML, Herreras E, Corrochano V, Bueren J, Gallano P, Artuch R, Fillat C, Perez LA, Montoliu L, Carracedo A, Millan JM, Webb SM, Palau F, Lapunzina P. CIBERER: Spanish national network for research on rare diseases: A highly productive collaborative initiative. *CLINICAL GENETICS*. 2022; 101(5-6). DOI:10.1111/cge.14113. PMID:35060122. IF:4,296 (Q2/4D). Document type: Review.
- Pardo JC, de Porras VR, Gil J, Font A, Puig M, Jorda M. Lipid Metabolism and Epigenetics Crosstalk in Prostate Cancer. *NUTRIENTS.* 2022; 14(4):851. DOI:10.3390/nu14040851. PMID:35215499. IF:6,706 (Q1/2D). Document type: Article.
- Pupier E, Santos A, Etchamendy N, Lavielle A, Ferriere A, Marighetto A, Resmini E, Cota D, Webb SM, Tabarin A. Impaired quality of life, but not cognition, is linked to a history of chronic hypercortisolism in patients with Cushing's disease in remission. *FRONTIERS IN ENDOCRINOLOGY*. 2022; 13:934347. DOI:10.3389/fendo.2022.934347. PMID:36004342. IF:6,055 (Q1/3D). Document type: Article.
- Salvatori R, Maffei P, Webb SM, Brue T, Loftus J, Valluri SR, Gomez R, Wajnrajch MP, Fleseriu M. Patient-reported outcomes in patients with acromegaly treated with pegvisomant in the ACROSTUDY extension: A real-world experience. *PITUITARY.* 2022; 25(3). DOI:10.1007/s11102-022-01206-2. PMID:35022929. IF:3,599 (Q3/7D). Document type: Article.
- Santos A, Crespo I, Perez A, Beltran M, Puebla M, Garcia J. Attachment-Based Compassion Therapy for Reducing Anxiety and Depression in Fibromyalgia. *INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH.* 2022; 19(13):8152. DOI:10.3390/ijerph19138152. PMID:35805810. IF:4,614 (Q1/3D). Document type: Article.

- Tritos NA, Fazeli PK, McCormack A, Mallea SM, Pineyro MM, Christ M, Frara S, Labadzhyan A, Ioachimescu AG, Shimon I, Takahashi Y, Gurnell M, Fleseriu M, Valassi E, Wierman ME. Pituitary Society Delphi Survey: An international perspective on endocrine management of patients undergoing transsphenoidal surgery for pituitary adenomas. *PITUITARY*. 2022; 25(1). DOI:10.1007/s11102-021-01170-3. PMID:34283370. IF:3,599 (Q3/7D). Document type: Article.
- Valassi E, Castinetti F, Ferriere A, Tsagarakis S, Feelders RA, Netea RT, Droste M, Strasburger CJ, Maiter D, Kastelan D, Chanson P, Webb SM, Demtröder F, Pirags V, Chabre O, Franz H, Santos A, Reincke M. Corticotroph tumor progression after bilateral adrenalectomy: data from ERCUSYN. *ENDOCRINE-RELATED CANCER*. 2022; 29(12). DOI:10.1530/ERC-22-0074. PMID:36197784. IF:5,900 (Q1/3D). Document type: Article.
- van FM, Kaya M, Pelsma ICM, Cannegieter SC, Huisman MV, van BJM, Feelders RA, Stochholm K, Fliers E, Castinetti F, Brue T, Bertherat J, Scaroni C, Colao A, Giordano R, Druce MR, Beckers A, Spranger J, Driessens N, Maiter D, Feldt U, Feelders R, Webb SM, Dattani M, Husebye E, Zilaitiene B, Gaztambide S, Gatto F, Ferone D, Persani L, Chiodini I, Höybye C, Pereira AM, Biermasz NR, et al. Current clinical practice for thromboprophylaxis management in patients with Cushing's syndrome across reference centers of the European Reference Network on Rare Endocrine Conditions (Endo-ERN). *ORPHANET JOURNAL OF RARE DISEASES*. 2022; 17(1):178. DOI:10.1186/s13023-022-02320-x. PMID:35505430. IF:4,303 (Q2/4D). Document type: Article.
- Webb SM, Kristensen J, Nordenstrom A, Vitali D, Amodru V, Wiehe LK, Bolz M. Patient journey experiences may contribute to improve healthcare for patients with rare endocrine diseases. *ENDOCRINE CONNECTIONS*. 2022; 11(12):e220385. DOI:10.1530/EC-22-0385. PMID:36228311. IF:3,221 (Q3/7D). Document type: Review.
- Webb SM, Valassi E. Consequences of Cushing's Syndrome: Health Versus Personal Costs. *JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM*. 2022; 107(9). DOI:10.1210/clinem/dgac269. PMID:35511590. IF:6,134 (Q1/3D). Document type: Editorial material.
- Webb SM, Valassi E. Quality of life impairment after a diagnosis of Cushing's syndrome. *PITUITARY*. 2022; 25(5)DOI:10.1007/s11102-022-01245-9. PMID:35767164. IF:3,599 (Q3/7D). Document type: Article.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- IS THE RHYTHM OF CORTISOL RELEVANT WHEN TREATING CUSHING'S SYNDROME? Deutsche Gesellschaft für Endokrinologie (German Endocrine Society). Baden (Germany), 17/03/2022. International. On-line. Lecture by SM Webb.
- "2021 ESE Guidelines for pituitary adenomas in pregnancy: Pregnancy in Cushing syndrome". 21st National Congress of the Italian Endocrinologist Association (Associazione Medici Endocrinologi - AME–ETS). Rome (Italy), 21/10/2022. International. On-line. Lecture by SM Webb.
- Quality of life in acromegaly. LATIN AMERICAN COURSE OF NEUROENDOCRINOLOGY 2022-2023. Argentina, 28/11/2022. International. On-line. Lecture by SM Webb.
- Clinical cases of Cushing's syndrome. Defying the experts. 63rd Congress of the Spanish Society of Endocrinology. Las Palmas de Gran Canaria, 27/10/2022. National. Moderator and Lecture by SM Webb.
- "Quality of life, well-being, anxiety, depression: psychological care 2.0". Workshop during the meeting Clinical challenges of Cushing's syndrome across the lifespan. The long-lasting problems. Recordati Rare Disease Foundation. Munich (Germany), 03-05/11/2022. International. Lectures by Alicia Santos and SM Webb.
- "Aspects of Quality of Life in Acromegaly". National Update Meeting on Pituitary Pathology. GENOMICS, AGGRESSIVE TUMORS AND NON-ADENOMATOUS LESIONS. Organized by Sanofi-Argentina and the Argentine Society of Endocrinology. 11/25/2022. International. On-line. Lecture by SM Webb.
- At the forefront in the treatment of Cushing's Syndrome". Recordati Rare Diseases. Madrid, 23/09/2022. National. Moderator of the scientific lecture "Isturisa" by SM Webb.
- The importance of circadian rhythmicity of cortisol apart from the absolute values in health and disease. Pituitary Update course. European Society of Endocrinology and EndoERN. Tallinn (Estonia), 11-13/10/2022. International. Lecture by SM Webb.
- The European Register on Cushing's Syndrome (ERCUSYN). What can we learn from registers? Pituitary Update course. European Society of Endocrinology and EndoERN. Tallinn (Estonia), 11-13/10/2022. International. Lecture by SM Webb.
- ESE audit on management of adult growth hormone deficiency in clinical practice. Pituitary Update course. European Society of Endocrinology and EndoERN. Tallinn (Estonia), 11-13/10/2022. International. Lecture by SM Webb.
- Addressing Patients' Unmet Needs: Assessing and Addressing the Psychological Needs of Patients with Endocrine Conditions. European Congress of Endocrinology. Milan (Italy), 21/05/2022. International. Lecture by SM Webb.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- "Quality of life in acromegaly. Sponsored by the Spanish Society of Endocrinology. Registered on 09/03/2022. For specialists and patients. National. Podcast produced by SM Webb.
- "Can new technologies and artificial intelligence benefit long-term outcome in pituitary diseases? Towards a future personalized treatment". Organised by WAPO (World Alliance of Pituitary Organisations). 27/04/2022. For patients. International. On line. Webinar by SM Webb.
- "Panel 1: Outcomes after Surgical and Medical Interventions from a Patient Perspective" in the OUTCOME4MEDICINE Project and Consensus Conference 8-11/6/2022 conference. Zürich, Switzerland. Conclusions document currently in press in Nature Medicine. For World Health Organisation. International. Active participation by SM Webb.
- Acromegaly Day webinar for affected persons: WHAT DOES ACROMEGALY MEAN FOR YOUR DAILY LIFE?. Organised by Recordati Rare Diseases. 02/11/2022. International. For patients. On-line. Lecture of SM Webb.
- "Patient journeys: A tool to help patients with rare endocrine diseases". Webinar for patients organised by EndoERN. 14/12/2022. International. Lecture and Moderator SM Webb.

DIGESTIVE DISEASES



Group leader
Escorsell Mañosa, Maria Angels (FGS)

Researchers
Alvarado Tapias, Edilmar (FGS)
Bertoletti , Federico (FGS)
Brujats Rubirola, Anna (FGS)
Concepcion Martin, Maria Del Mar (FGS)
Cuyas Espi, Berta (FGS)
Gallego Moya, Adolfo (FGS)
Garcia Planella, Esther (FGS)
Gomez Oliva, Cristina (FGS)
Gonzalez Juan, Dolores (FGS)
Gonzalez Muñoza, Carlos (FGS)
Gordillo Abalos, Jorge (FGS)
Guarner Aguilar, Carlos (FGS)
Guarner Argente, Carlos (FGS)
Murzi Pulgar, Marianette Carolina (FGS)
Oblitas Susanibar, Elida (FGS)
Poca Sans, Maria (FGS)
Pujol Camps, Claudia (FGS)
Roig Ramos, Cristina (FGS)
Romero Mascarell, Cristina (FGS)
Romito , Raffaella (FGS)
Sainz Saenz-Torre, Sergio (FGS)
Sanchez Ardid, Elisabet (CIBEREHD)
Soriano Pastor, German (FGS)
Torras Colell, Javier (FGS)
Villanueva Sanchez, Candid (FGS)

Research technicians
Giordano , Antonio (IR)
Roman Abal, Eva Maria (FGS)

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 CIBERehd.

MAIN LINES OF RESEARCH

Experimental research (These research lines are led by: Dr. Carlos Guarner, Dr. Germán Soriano, Dr. Càndid 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 Guarner, Dr. Germán Soriano, Dr. Càndid Villanueva, Dra. Edilmar Alvarado, Dr. Gallego, Dr. Guarner Argente, Dra Esther Garcia Planella, Dr Xavier Torras)

- 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 nonvaricose 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 acute alcohol hepatitis.

SCIENTIFIC CHALLENGES

Consolidate the CIBEREHD, CIBER, Institut de salud Carlos IIIresearch group by studying
complications in cirrhosis.
Research Grup de Recerca de la UAB (Universitat Autònoma de Barcelona): Grup de Recerca de
Complicacions de la Cirrosis 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.
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-evs.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Collaborations of the IIB-Sant Pau Group with the other members of IIB Sant Pau:

· UNIVERSITAT AUTÒNOMA DE BARCELONA (UAB) (Facultat de Medicina e Enfermería)
· BANC DE SANG I TEIXITS

We establish relationships with different research scientific support areas and technical services such as:

· CIM
· AGDAC
· Plataforma de Genòmica i Transcriptòmica.
· Plataforma de Citometria
· Plataforma de Microscòpia.
· BIOBANK AND IMMUNOHISTOCHEMISTRY
· FLOW CYTOMETRY PLATFORM
· CELLULAR CULTURE SERVICE

The collaboration with different research areas of the IIB-Sant Pau, Institut de Recerca are:

TRANSLATIONAL MEDICINE (Dr. Didac Mauricio)
• Women and Perinatal Health (Elisa Llurba)
• General and Digestive Surgery (Dr. Antonio Moral)
• Inflammatory Diseases (Dra Silvia Vidal)
• Endocrinology, Diabetes and Nutrition (Dr. Didac Mauricio).
• Pituitary Gland Disorders (Susan Webb)
• Microbiology and Infectious Diseases (Dr. Ferran Navarro)
• Multi-organ Damage (Hèctor Corominas)
· CARDIOVASCULAR DISEASES (Dra. Lina Badimon)
• Pathophysiology of lipid-related disease (Francisco Blanco Vaca)
• Clinical Research in Transfusion Medicine (Ramón Salinas) Banc de teixits
· ONCOHEMATOLOGIC DISEASES (Javier Briones)
• Cancer predisposition and DNA repair syndromes (Jordi Surrallés)

NEUROLOGICAL DISEASES, NEUROSCIENCE & MENTAL HEALTH
• Genetic Diseases (Gallano Petit, Maria Pia)
• Neuroradiology (Beatriz Gómez Anson)

EPIDEMIOLOGY, PUBLIC HEALTH AND PRIMARY CARE (Pablo Alonso Coello)
• Primary Care Research (Carles Brotons)

ASSOCIATED GROUPS
• Radiophysics and Radioprotection (Pablo Carrasco de Fez)
• Dermatology (Lluís Puig)

EXTERNAL COLLABORATIONS

National collaborations

• CIBER Groups: CIBEREHD: (Dr. Albillos. Dr. Frances, Dr. Bosch, Dr. Bruix, Dr. Cabré, Dr. Forns, Dr. Genesca, Dr.Andrade, Dr. Romero Gomez, Dr. Bañares, Dr. Garcia-Pagán, Dra. Hernández-Gea (among others); CIBERSAM: Dr. Gish; CIBERER: Dr. Pia Gallano
• Instituto de productos Lácteos (IPLA) Asturias.
• IMIM
• UAB
• Danone Nutricia Research Barcelona Spain.
• Gastrointestinal Oncology Group of the Spanish Gastroenterological Association.
• Spanish Collaborative Group for the Study of the Use ofHepatitis C Direct-Acting Drugs.
• Spanish DILI registry.
• SportDiet Collaborative Group.
• BLEPS Study Group. Spanish Collaborative Group for the Study of the Use of Hepatitis C Direct-Acting Drugs.
• Variceal Bleeding Study Group.
• Spanish Working Group on Crohn's Disease and Ulcerative Colitis (GETECCU).
• Young Grp AEG GETECCU
• ENEIDA project.
• Covid-19-EII Consortium ENEIDA
• Spanish Microscopic Colitis Group (SMCG).
• EndoCAR group of the Spanish Gastroenterological Association and Spanish Digestive
• Endoscopy Society.
• AEGastrum
• Infogastrum
• Upper GI Tract Study Group from the Spanish Gastroenterology
• Grupo Español de Resección Endoscópica de la S. Clinical guidelines for endoscopic mucosal resection of nonpedunculated colorectal lesions
• Asociación Española de Gastroenterología
• Sociedad Española de Endoscopia Digestiva
• Societat Catalana de Pàncreas
• Societat Catalana de Digestologia
• Registro ColHai
• Programa Pacient Expert Catalunya
• Quecomiicat
• InTeam Consortium Study Investigators
• COHORTE HEPA-C
• ESTUDIO EPIBarrett
• PREDESCI STUDY GROUP
• Grp Invest PROCOLON
• ECUFIT estudio
• BIOSCOPE study
• LiverTAI

International collaborations

- Cleveland Abu Dhabi.
- University of Bologna Italia.
- EF Clif European Foundation for the study of chronic liver failure.
- CANONIC study investigators of the EASL-CLIF Consortium and the European Foundation for the Study of Chronic Liver Failure (EF-CLIF).
- Danone Nutricia Research.
- EPICOLON Consortium, Lynch Syndrome prediction model validation study group.
- BLEPS study group.
- Variceal Bleeding Study Group.
- European Study Group on Cystic Tumors of the Pancreas.
- Gilead
- Shionogui Group
- Actial
- Mendes
- Quintiles
- Tobira
- Astra Zeneka
- Boehringer Ingelheim
- American Society for Gastrointestinal Endoscopy
- Liverhope Study Grp
- Thesis Study Grp
- Cobalt Study Grp
- Preemptive TIPS Individual Data Me
- Int Variceal Bleeding Study
- Baveno Cooperation Study Grp
- EVODIS Study Grp
- EIIMIGRA
- Carvedilol-IPD-MA-group and the Baveno Cooperation: an EASL Consortium
- Variceal Bleeding Observational Study Group
- Third Translational Hepatology Meeting, endorsed by the Spanish Association for the Study of the Liver (AEEH)
- RIFA-AH

ACTIVE GRANTS

- 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 €
- 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 €

GRANTS AWARDED

- 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 €
- Villanueva Sanchez, 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 €

DOCTORAL THESES IN PROGRESS

- Brujats Rubirola, Anna. No name. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Villanueva Sanchez, Candid; Alvarado Tapias, Edilmar.

AWARDS

- Alvarado Tapias, Edilmar. Award for the best oral presentation in a national congress. Carvedilol associat a simvastatina modulen la inflamació sistèmica en la cirrosi amb hipertensió portal sense resposta a beta-bloquejants: Estudi doble-cec aleatoritzat. XXXI congrés de la Societat Catalana de Digestologia. Girona 02-04/06/2022.
- Alvarado Tapias, Edilmar. Award for the best oral presentation in a international congress. Carvedilol improve de inflammatory response associated with simvastatin in non-responder to non-selective beta-blockers. CONGRESO: EASLD 2022. Londres, Junio 2022.

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SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- Nursing Course in Hepatology AEEH. Madrid, 25/05/2022. National. Organization member. Speaker: Eva Roman.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- "Other TIPS indications". Autumn conference of the AEEH on portal hypertension. Bilbao, Octobe 2022.
- Management of Spontaneous Bacterial Peritonitis. XI National Emergency Course in Gastroenterology and Hepatology. June 2022
- Use and precautions of Beta-blockers. Autumn Conference, AEEH. October 2022.
- The best of the American Congress on Hypertension Portal 2022. Online Webinar. 17/11/2022.
- "Multidisciplinary Conference. Presentation of the Functional Unit of Hepatocarcinoma". Hospital of Santa Creu i Sant Pau. 23/11/2022.Coordinators: Adolfo Gallego, Paula Cerdà, Santiago Sanchez Cabús, Berta Cuyàs.
- "Hepatocarcinoma staging". Multidisciplinary Conference. Presentation of the Functional Unit of Hepatocarcinoma. Hospital of Santa Creu i Sant Pau. 23/11/2022.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Micro talks 15th Science Festival. Benefit of probiotics in people's quality of life. Barcelona, 29/05/2022. Speaker: Eva Román.
- Exhibition: Nurses in memory. The strength of a profession. Saint Pau Hospital. Barcelona, 29/08/22. Speaker: Eva Román.

MICROBIOLOGY AND INFECTIOUS DISEASES



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Lorenzo Sabido, Andrea (UB)

DESCRIPTION

CrePIMC is a multidisciplinary research group formed by microbiology specialists, physicians, nurses and technicians. All the scientific aspects are deeply covered by professionals in each area. The group focuses on different approaches to study infectious diseases and the patient implications. On one hand, the study of the etiological agents that cause infections isolated from clinical samples and their molecular mechanisms associated to drug resistance and epidemiology. On the other hand, the improvement of drug administration and patient isolation policies and renal associated infections.

MAIN LINES OF RESEARCH

Clinical Microbiology

- Detection and characterisation of different antimicrobial mechanisms of resistance.
- Tuberculosis, epidemiology and antituberculosis resistance mechanisms.
- Molecular biology applications in infectious disease detection, taxonomy and epidemiology.
- Microbiome description in different clinical samples.
- Leishmaniasis: Epidemiology, characterisation and diagnosis.
- Chagas diseases: Epidemiology, diagnosis and study of congenital infection
- Viral infections: epidemiology, diagnosis and respiratory viruses characterization and enteroviruses.
- Medical care projects.

Infectious Diseases

- Restricted-use policies for antibiotic and antimicrobial agents and suitable use of antimicrobial agents.
- Study of infections due to antimicrobial multiresistant microorganisms requiring patient isolation.
- Study of infections associated with foreign bodies (joint prostheses, catheters, cardiac prostheses and pacemakers).
- Tuberculosis.

Kidney transplant

- Biomarkers for BKV in urine samples.
- T CD8+ immunity from CMV in renal transplant patients treated with Thymoglobulin.
- Renal transplant program of hepatitis C virus positive donors.
- Hepatitis E virus positive in haemodialysis and renal transplant patients.

- Microbiota study in recurrent urinary tract infections

SCIENTIFIC CHALLENGES

Clinical Microbiology

Detection and characterisation of different antimicrobial mechanisms of resistance.

Description of the molecular bases of bacterial resistance to the main antibiotics used in clinical practice, as well as the vectors associated with the gene expression (plasmids, transposons, integrons or phages).

Tuberculosis, epidemiology and antituberculosis resistance mechanisms.

Prospective monitoring of primary and acquired Mycobacterium tuberculosis resistance to first and second-line drugs. Molecular detection of resistance using a molecular antibiogram. Study of the epidemiology and spread of resistant strains and assessment of the impact of immigration and the contribution of new Mycobacterium tuberculosis families (Beijing, EAI, CAS).

Molecular biology applications in infectious disease detection, taxonomy and epidemiology.

Study of the usefulness of the 16S RNA gene for microbiological diagnosis and molecular identification. Description of nosocomial outbreaks applied in antimicrobial multiresistant bacteria, mycobacteria, fungi or viruses. Government health department agreement (ongoing) regarding the development of epidemiological surveillance support functions for nosocomial infections

Use of the next generation sequencing as a tool for whole genome analysis. Genotype characterization of Cryptosporidium spp. oocysts from stool samples. Characterisation of Leishmania species. Genotyping of different viruses as hepatitis C virus, enterovirus or adenovirus.

Microbiome description in different clinical samples.

Role of the vaginal and intestinal microbiome in recurrent urinary tract infection.

Detection and characterization of Leishmania from clinical samples.

Diagnosis on Chagas.

Monitoring of congenital infection in pregnant women with Chagas disease.

Medical care projects.

Government health department agreement (ongoing) regarding the flaccid paralysis. Study of mycoses indepth, especially invasive fusariosis and aspergillosis and respiratory tract viral infections in patients with onco-haematological diseases. Multicentre studies of HIV (ongoing). Research related to bacteraemia and endocarditis, nosocomial infections, prosthetic joint infections, central nervous system infections, and tuberculosis.

Infectious Diseases

Restricted-use policies for antibiotic and antimicrobial agents and suitable use of antimicrobial agents.

To minimize resistance, reduce cost and improve compliance with surgical prophylaxis (at the time of administration) through suitable use of antimicrobial agents.

Study of infections due to antimicrobial multiresistant microorganisms requiring patient isolation.
To study epidemiology for our hospital to reduce incidence or to prevent/contain epidemic outbreaks and work with the Microbiology Unit in epidemiology and molecular studies.

Study of infections associated with foreign bodies (joint prostheses, catheters, cardiac prostheses and pacemakers).

To reduce incidence. To develop effective conservative treatment regimes. Infections in Transplant Patients (Heart, Haemopoietic Progenitors). To study current epidemiology. To assess the efficacy of prophylaxis and other preventive measures.

Tuberculosis. To cooperate with studies of resistance and with new treatment regimens for tuberculosis.

Chagas diseases. Collaboration in the protocol development of congenital infection in pregnant women with Chagas diseases.

Other Projects

To continue with the government health department agreement regarding the development of support functions as follows:

- Epidemiological surveillance of nosocomial infections (VINCat).
- Tuberculosis control: Barcelona-Dreta Tuberculosis Operations Committee.
- New influenza control: Barcelona-Dreta Epidemiological Surveillance Operations Committee.
- Database for monitoring CMV infections after renal transplantation.
- Database for monitoring BK virus infections after renal transplantation.
- Observational and multicentre case-controlled (1:2) study to compare the evolution of renal transplantation in patients with HIV infection, sponsored by the Andalusian Organ and Tissue Transplantation Society.
- A phase 3, multicenter, randomized, open-label, active-controlled study to assess the efficacy and safety of maribavir treatment compared to Investigator-assigned treatment in transplant recipients with cytomegalovirus (CMV) infections that are refractory or resistant to treatment with ganciclovir, valganciclovir, foscarnet, or cidofovir, sponsored by Shire.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

The CRePIMC group collaborates with other IIB Sant Pau research groups and Hospital Sant Pau groups depending on the projects that are undergoing.

EXTERNAL COLLABORATIONS

Julià González and Griselda Tudó. Hospital Clínic de Barcelona, Microbiology Department.
Christen Rune Stensvold. Department of Bacteria, Parasites and Fungi, Statens Serum Institut, Copenhagen, Denmark.
Montserrat Gàllego. Parasitology Section, Department of Biology, Healthcare and Environment, Faculty of Pharmacy and Food Science. Universitat de Barcelona.
Cristina Ballart. Institut de Salut Global from Barcelona (ISGlobal).
Maite Muniesa, Carlos Balsalobre and Cristina Marín. Universitat de Barcelona, Microbiology Department.
Juan José González and Nieves Larrosa. Hospital Vall d´Hebron, Barcelona.
Dr. Kathryn Harris. Camelia Botnar Laboratories al Great Ormond Street Hospital, Londres-Anglaterra

ACTIVE GRANTS

- Lopez-Contreras Gonzalez, Joaquin. Neutrophil Extracellular Traps in Sepsis: Discovering prognostic and diagnosis markers and therapy targets. MARATO 20182310. Fundació La Marató de TV3. Duration: 2019-2023. 156.875,00 €
- Navarro Risueño, Ferran. Papel del microbioma intestinal y genital en las infecciones urinarias recurrentes. PI19/00427. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 81.070,00 €

GRANTS AWARDED

- Escola Verge, Laura. Programa de intervención para optimizar el manejo de la bacteriemia por Enterococcus spp. PI21/01182. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 70.621,17 €
- 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 IN PROGRESS

- Berengua Pereira, Carla. Aportación del cultivo virológico en la interpretación de las pruebas moleculares en dos modelos de infección respiratoria: Citomegalovirus y SARS-CoV-2. 2021-2023. Universitat Autònoma de Barcelona. Supervisors: Marcos, M°Ángeles; Martino Bofarull, Rodrigo; Navarro Risueño, Ferran.
- Cruells Gascón, Adrià. Estudi de la microbiota en les infeccions urinàries de repetició. 2019-2023. Universitat Autònoma de Barcelona, Facultat de Biociències, Departament de Microbiologia. Supervisors: Navarro Risueño, Ferran; Miró Cardona, Elisenda.
- Lucena Nemirosky, Judith. Resistencia a azitromicina en Mycoplasma genitalium y Neisseria gonorrhoeae en Barcelona. 2018-2023. Universitat Autònoma de Barcelona, Facultat de Biociències, Departament de Microbiologia. Supervisors: Sánchez Reus, Ferran; Prim Bosch, Núria.
- Pereira Batista, Celso Soares. Etiología y factores relacionados con tratamiento inadecuado en las bacteriemias del servicio de urgencias. Utilidad de un antibiograma de combinación sindrómica de incidencia ponderada (WISCA) para guiar el tratamiento antibiótico empírico. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Navarro Risueño, Ferran; Rivera Martínez, Alba.

AWARDS

- Adria Cruells Gascón. Premi al millor pòster en microbiologia de les XXXI Jornades de la Societat Catalana de Malalties Infeccioses i Microbiologia Clínica. 15 d'Octubre de 2022. Atorgat per Societat Catalana de Malalties Infeccioses i Microbiologia Clínica.

SCIENTIFIC PRODUCTION

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F, Oliver A, Palacios ZR, Pascual A, Ruiz G, Vila J, Aracil B, Perez M, Oteo J, GEMARA GEIRAS C. CARB-ES-19 Multicenter Study of Carbapenemase-Producing Klebsiella pneumoniae and Escherichia coli From All Spanish Provinces Reveals Interregional Spread of High-Risk Clones Such as ST307/OXA-48 and ST512/KPC-3. *FRONTIERS IN MICROBIOLOGY*. 2022; 13:918362. DOI:10.3389/fmicb.2022.918362. PMID:35847090. IF:6,064 (Q1/3D). Document type: Article.

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RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- MicroMón@UAB_6.0: Search for new antibiotics. Universitat Autònoma de Barcelona (UAB), CESIRE of the Department of Education of the Government of Catalonia and with the support of the Microbiology Teaching and Dissemination Group of the Spanish Society of Microbiology. Secondary and high school centers in Catalonia. Secondary and high school students from Catalonia. Education. Teacher: Ferran Navarro.

MULTI-ORGAN DAMAGE AND RHEUMATOLOGY



Group leader
Corominas Macias, Hector (FGS) /
Casademont Pou, Jordi (FGS)
until March 2022

Researchers
Arroyo Diaz, Juan Antonio (FGS)
Barcelo Trias, Montserrat (FGS)
Casademont Pou, Jordi (FGS)
Castellvi Barranco, Ivan (FGS)
Diaz Torne, Cesar (FGS)
Hernandez De Sosa, Nerea (FGS)
Laiz Alonso, Ana Maria (FGS)
Magallares Lopez, Berta Paula (FGS)
Malouf Sierra, Jorge (FGS)
Moya Alvarado, Patricia (FGS)
Torres Bonafonte, Olga H. (FGS)

Research technicians
Dutren Tella, Adriana (IR)
Ros Abarca, Sandra (IR)

MAIN LINES OF RESEARCH

Bone Metabolism and Osteoporosis

- Analysis of genetic influence on osteoporosis by means of 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, analysing 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 prior to cardiac and vascular invasive procedures.
- Central Sensitization Syndromes.

Rheumatology and Rheumatoid Arthritis

- Immunological basis and pathogenic studies of rheumatoid arthritis and other inflammatory conditions.
- Pharmacogenetic studies of disease modifying and immuno-modulatory 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 hyperuricaemia and gout.
- Association of Parkinson and clinical gout and arthritis

Sjögren Syndrome, SLE and others

- Study of the patern 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.

ACTIVE GRANTS

- Torres Bonafonte, Olga H. Identificación de un inmunofenotipo de riesgo de mal pronóstico en ancianos que han sido ingresados por neumonía. PI18/00684. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 79.860,00 €

AWARDS

Adria Cruells Gascón. Premi al millor pòster en microbiologia de les XXXI Jornades de la Societat Catalana de Malalties Infeccioses i Microbiologia Clínica. 15 d'Octubre de 2022. Atorgat per Societat Catalana de Malalties Infeccioses i Microbiologia Clínica.

SCIENTIFIC PRODUCTION

- Alvarado PM, de Oro JJD, Espinar MA, Perez EA, Perez NB, Carmona L, Burgos EC, Poch TC, Aguilera AC, Mendieta ED, Alarcon PE, Casares EG, Perez SH, Lopez BM, Morillo MM, Soria LM, Pastor CM, Martinez MM, Fernandez AP, Busquets MP, Garcia JR, Sanz DR, Lizarzaburu MS, Santo Panero P, Alierta ES, Roc MV, Macias HC. Interobserver reliability of Masei index validation by a multicenter collaborative group of rheumatologists. *RHEUMATOLOGY INTERNATIONAL*. 2022; 42(3). DOI:10.1007/s00296-020-04733-y. PMID:33146762. IF:3,580 (Q3/7D). Document type: Article.
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CHRONIC RESPIRATORY DISEASES



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Segura Medina, Macarena (FGS)

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 research into asthma; 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 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.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Department of General and Digestive Surgery, Section of Hepatobiliary and Pancreatic Surgery. Mesenchymal stem cells for the derivation of pharmacological agents (Dres. D. Ramos Barbón, EF Mateus Medina, S. Sánchez Cabús).

Ear, Nose and Throat Cancers (collaboration of Dr. V. Plaza in the EPONA study).

Genetics and Vascular Surgery Departments (collaboration of Dr. V. Plaza in the TAGA study).

EXTERNAL COLLABORATIONS

The Respiratory Chronic diseases Research Group is associated with the Respiratory CIBER network (Centro de Investigaciones Biomédicas En Red, Instituto de Salud Carlos III, Ministry of Science and Innovation, Spain).

David Ramos Barbón. Steering Committee member of the "Severe Heterogenous Asthma Research collaboration, Patient-centered (SHARP)" Program of the European Respiratory Society. Since June 2017, ongoing.

Vicente Plaza Moral, Emergent Asthma Group, SEPAR.

Vicente Plaza Moral, INASMA Group.

Drs. V. Plaza and D. Ramos Barbón, Integrated Research Programme (PII) for Asthma, SEPAR.

Diego Castillo Villegas, National Institute for Rare Diseases, Insituto de Salud Carlos III, Madrid, Spain.

Diego Castillo Villegas, International Working Group on Langerhans Cell Histiocytosis and EUROHISTIONET.

David de la Rosa Carrillo. Miembro del Comité Ejecutivo del Programa de Investigación Integrada (PII) de Bronquiectasias de la SEPAR desde su creación en 2010.

David Ramos Barbón (PI), Multicentre Biobank of Bronchial Biopsies for Asthma Research, with collaborators as follows:

- Dr. Carlos Martínez Rivera from Hospital Universitari Germans Trias i Pujol, Badalona, Spain.
- Dr. Antolín López Viña from Hospital Universitario Puerta de Hierro, Madrid, Spain.
- Dr. Francisco Javier González Barcala from Complejo Hospitalario de Pontevedra, Spain.
- Dr. Teresa Bazús González from Hospital Universitario Central de Asturias, Oviedo, Spain.
- Dr. Luis Pérez de Llano from Hospital Lucus Augusti, Lugo, Spain (pending approval).
- Dr. Patrick Berger from Université Bordeaux 2, Bordeaux, France.
- Dr. James G Martin from McGill University, Montreal, Canada.

ACTIVE GRANTS

- Crespo Lessmann, Astrid. Exacerbaciones en pacientes con asma neutrofilica. Influye el microbioma bronquial. 4684-7105 LETI 2020. Fundació Catalana de Pneumologia (FUCAP). Duration: 2021-2022. 9.951,14 €
- Mayos Perez, Mercedes. 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 €
- Mayos Perez, Mercedes. Proyecto PASHOS: Plataforma avanzada para el estudio del síndrome de Apnea hipopnea Obstructiva del sueño (SAHS). SOCAP 2013-2014. Fundació Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears. Duration: 2014-2022. 11.999,99 €
- Pajares Ruiz, Virginia. Biopsia electrónica de tejido pulmonar in-vivo basada en espectroscopia de impedancia eléctrica. RTI2018-098116-B-C22. Ministerio de Ciencia, Innovación y Universidades (MICIU). Duration: 2019-2022. 30.250,00 €
- Plaza Moral, Vicente. Asma Neutrofílica y/o No Eosinofílica. Proyecto ANNE. PI17/01950. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2022. 105.270,00 €
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- Plaza Moral, Vicente. Asma neutrofílica y/o no eosinofílica (Proyecto ANNE). SEPAR 2017. Sociedad Española de Neumología y Cirugía Torácica (SEPAR). Duration: 2018-2022. 10.829,99 €
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SCIENTIFIC DISSEMINATION

- Autonomous University of Barcelona (UAB). December 2021-December 2022. COD: 4575/1. Coordinator: Ástrid Crespo Lessmann.
- I severe asthma course for Pulmonology residents. Asthma league. GSK. February-June 2022. Coordinator: Ástrid Crespo Lessmann.
- Practical oscillometry workshop. Gebro Pharma. Hotel H10 Art Gallery. Barcelona, 22/03/2022. Coordinator: Ástrid Crespo Lessmann.
- Chronic cough working group of the Catalan Pneumology Society. October 2022-to the present. Creator and coordinator: Ástrid Crespo Lessmann.
- Master's in Advanced Pneumology from the UAB. UAB FIRA. Webinar. 16/05/2022. Supervisor: Ástrid Crespo Lessmann.
- FENO workshop aimed at nursing staff. SANOFI. Barcelona (Spain), 14/06/2022. Organizer: Ástrid Crespo Lessmann.
- Scientific Committee 2nd Congress of the SCAIC and 21st Meeting of the ACADI. Catalan Society of Allergy and Clinical Immunology. Hotel AC Barcelona Forum. Barcelona, 27-28/05/2022. Speker: Lorena Soto Retes.
- SEPAR in-person course Theoretical-Practical Training in Sleep Medicine for Nursing. Separ Headquarters in Barcelona, 17-19/11/2022. Supervisor: Mercedes M. Mayos Pérez.
- Asthma Meeting Point 6th edition. Research meeting aimed at researchers from Catalan respiratory pathology projects. La Paz Hospital. Madrid, September 2022. Organizer: Vicente Plaza Moral.
- AGORA meeting of the BRN Foundation. Research meeting aimed at Spanish specialists in Pulmonology and Allergology, experts in asthma. Barcelona, October 2022. Organizer: Vicente Plaza Moral.

SCIENTIFIC DISSEMINATION

- Respiratory functional examination. from 01/03/2022 to 15/05/2022 Chiesi. Preparation of the Induced sputum chapter and collaboration of the chapter: oscillometry. Online course teacher: Ástrid Crespo Lessmann.
- Management of severe asthma. 25/01/2022. Virtual. AstraZeneca. Advisory Board member: strid Crespo Lessmann.
- "Latest news in COPD patients: What can we say about your heart? Presentation: Importance of preventing exacerbations. 22/02/2022. AstraZeneca. Barcelona. Spain. Speaker seminar: Ástrid Crespo Lessmann.
- Talk "Image in Severe Asthma". Severe asthma course. SOCAP 24/02/2022. Can Caralleu. Barcelona. Spain. Moderator: Ástrid Crespo Lessmann.
- ChestAir: Past, present and future of the acute patient. GSK: Innovating in airway diseases. GSK. RIU Plaza de España Hotel. Madrid 18-19/03/2022. Onsite. Speaker: Ástrid Crespo Lessmann.
- SOCAP Pulmonary Functionalism Course. Speaker: Methods of bronchial inflammation. 04/05/2022. Can Caralleu. Onsite. Barcelona. Spain. Speaker: Ástrid Crespo Lessmann.
- Respimat experience. Presentation: The importance of choosing the device in the treatment of COPD. 15/05/2022. Boehringer Ingelheim. Barcelona. Spain. Speaker: Ástrid Crespo Lessmann.

- Clinical case activity. "Changes of winds". Presentation. 17/05/22. With the collaboration of Novartis. Speaker: Ástrid Crespo Lessmann.
- Routes in AG. Presentation: Theory and clinical application of the count of inflammatory cells in induced sputum. GSK. National Institute of Severe Asthma. 20/05/2022. Headquarters: Hospital de la Santa Creu i Sant Pau. Barcelona. Spain. Speaker: Ástrid Crespo Lessmann.
- Speaker of the MSD chronic cough online course. Module 14: Complementary studies in chronic cough. 23/05/2022. Speaker: Ástrid Crespo Lessmann.
- Presentation: REDES study for pulmonologist in training to create severe asthma units. 26/05/2022. With the collaboration of GSK. Barcelona. Spain. Speaker: Ástrid Crespo Lessmann.
- REIMS Catalunya 2.0 Project. SANOFI. 30/05/2022. Barcelona. Spain. Advisory Board: Ástrid Crespo Lessmann.
- Webinars: Asma Zero training sessions. "presentations on exacerbations, withdrawal of systemic corticosteroids and real-life studies and comorbidities in severe asthma" on: 7, 20/06/2022 and 04/07/2022. Speaker: Ástrid Crespo Lessmann.
- Trixeo. Hotel Only You Atocha. Astrazeneca 08/07/2022. Madrid. Advisory Board member: Ástrid Crespo Lessmann.
- Virtual session: "ADDRESSING COPD. N-acetylcysteine 1200mg". Zambón. 20/09/2022. Speaker: Ástrid Crespo Lessmann.
- Virtual session: "Immune modulators in Viral Respiratory Infections". Zambón. 11/10/2022. H. Viladecans Emergency Service. Speaker: Ástrid Crespo Lessmann.
- Multidisciplinary group of eosinophilic diseases. 19/09/2022 (Madrid). Spain. Advisory Board member: Ástrid Crespo Lessmann.
- N-acetylcysteine. Professional scientific meeting. COPD and CAP Play your best. 17/11/2022. Igor Studio 2022. Zambon. Advisory Board member: Ástrid Crespo Lessmann.
- SANOFI workshop 01/12/2022. Reporter of a clinical case of severe eosinophilic asthma with nasal polyposis, corticosteroid dependent. Training workshop for SANOFI medical representatives. Barcelona. Spain. Speaker: Astrid Crespo Lessmann.
- Speaker of the face-to-face session for Family Doctors: "Immune Modulators in Viral Respiratory Infections". Zambón. 24/10/2022. CAP Stop Claret. Barcelona. Spain. Speaker: Astrid Crespo Lessmann.
- Online course on definition, epidemiology and diagnosis of chronic cough. Chapter 4. Diagnostic study of chronic cough. M14. Complementary studies in chronic cough. msd. December 2022-December 2023. Respiratory Society in Primary Care. GRAP. https://msd.mdicontenidos.com/toscronica/landing.html Barcelona. Spain. Teacher: Astrid Crespo Lessmann.
- Master's in Advanced Pneumology. Accredited by the Autonomous University of Barcelona, with 60 ECTS credits. Academic years 2021-22 and 2022-23. Teacher: Ana M. Fortuna Gutiérrez.
- Conference: ASTHMA CONTROL WITH FIXED TRIPLE THERAPY, TRANSFERRING THE EVIDENCE INTO CLINICAL PRACTICE. Date of realization: 29/10/2022. International Symposium on Personalized Allergology: Imunotherapy and Drug Allergy Palma de Mallorca 26-29/10/2022 Barcelona, Spain. Speaker: Lorena Soto Retes.
- Conference: EVALUATING CONTROL AT ALL STEPS OF THE GEMA GUIDE. Date of realization: 10/28/2022. International Symposium on Personalized Allergology: Imunotherapy and Drug Allergy Palma de Mallorca, 26-29/10/2022 Barcelona, Spain. Speaker: Lorena Soto Retes.
- SEPAR in-person course Theoretical-Practical Training in Sleep Medicine for SEPAR Nursing. November 2022. Teacher: Mercedes M. Mayos Pérez.
- Master in Advanced Pulmonology from the Hospital de Sant Pau. Subject: "Respiratory Infections and Bronchiectasis". Inspire Chair. Autonomous University of Barcelona. Teacher: David de la Rosa Carrillo. December 2021 – December 2022
- Assessment of the cost-effectiveness of inhaled antibiotic treatment in patients with chronic bronchial infection. Need for collaborative multicenter studies. BRN Research Forum. Online, 24/02/2022. Speaker: David de la Rosa Carrillo.
- Update on inhaled antibiotic therapy. IV Pneumological Day of the Balearic Islands, 06-07/05/2022. Speaker: David de la Rosa Carrillo.
- Preceptorship 2.0 in Severe Asthma. Latin American and Emerging Countries. Online., 05/04/2022, 26/04/2022, 11/05/2022, and 31/05/2022. Presentation – Speaker: David Ramos Barbón.
- Faculty. GlaxoSmithKline (GSK). NEXUS Live. Patient perspectives and disease management. Leading the change. Advisory Board (London, UK), 17-18/06/2022. Speaker: David Ramos Barbón. Speaker: Vicente Plaza Moral.
- Chestair Symposium 2022. Presentation: "Towards the future of Medicine". Madrid, 19/03/2022. Speaker: Vicente Plaza Moral.
- Session of the Catalan Society of Clinical Pharmacy (SCFC). Presentation: "View of T2 inflammation from Pulmonology." Barcelona, April 2022. Speaker: Vicente Plaza Moral.
- Special session of the Aragonese Respiratory System Society (SADAR). Presentation: "Presentation GEMA 5.2". Zaragoza, 26/05/2022. Speaker: Vicente Plaza Moral.
- Special session Lanzarote Hospital, Pulmonology Service. Presentation: "Presentation GEMA 5.2". Arrecife (Lanzarote), 01/07/2022. Speaker: Vicente Plaza Moral.
- 15th ALAT Congress, Lima (Peru). Presentation: "What we have learned in teaching after the COVID pandemic." July 2022. Speaker: Vicente Plaza Moral.
- 15th ALAT Congress, Lima (Peru). Presentation: "Treable features in asthma." July 2022. Speaker: Vicente Plaza Moral.
- 15th ALAT Congress, Lima (Peru). Presentation: "Practicing proactivity in moderate and severe asthma." July 2022. Speaker: Vicente Plaza Moral.
- 15th ALAT Congress, Lima (Peru). Presentation: "What GEMA says in the treatment of mild, moderate and severe asthma." July 2022. Speaker: Vicente Plaza Moral.
- XV Ibiza Pulmonology Conference. Presentation: "Phenotyping of severe asthma." September 2022. Speaker: Vicente Plaza Moral.
- I Course on key aspects in the management of bronchial asthma. Presentation: "How to apply this knowledge in practice." Alcalá Henares University, October 2022. Speaker: Vicente Plaza Moral.
- 50th Congress of the Argentine Association of Respiratory Medicine. "Dupilumab and asthma exacerbations." Mar del Plata (Argentina), November 2022. Speaker: Vicente Plaza Moral.
- 50th Congress of the Argentine Association of Respiratory Medicine. "Controversies in the Use of Biologics in Severe Asthma." Mar del Plata (Argentina), November 2022. Speaker: Vicente Plaza Moral.
- 50th Congress of the Argentine Association of Respiratory Medicine. "How I give a lecture." Mar del Plata (Argentina), November 2022. Speaker: Vicente Plaza Moral.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

World Asthma Day, World Health Organization. Event and activities at the Hospital de la Santa Creu i Sant Pau. 03/05/2022.

RESEARCH GROUP IN HIV AND AIDS



Group leader
Domingo Pedrol, Pere (FGS)

Researchers
Cereijo Tellez, Ruben (IR)
Malouf Sierra, Jorge (IR)
Mur Arizon, Isabel (IR)
Quesada Lopez, Tania Paloma (IR)

Research technicians
Dutren Tella, Adriana (IR)
Gutierrez Macia, Maria Del Mar (IR)
Herrera Bachs, Silvia (IR)
Mateo Garcia, Gracia Maria (IR)
Millan Revilla, Lucia (IR)
Muñoz Rodriguez, 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 dissease-19 and complications thereof.

SCIENTIFIC CHALLENGES
Medical Care Projects
Continuing with, expanding and, as appropriate, consolidating the care team for HIV-1 infected patients, consisting currently of 3 staff physicians, 4 granted research assistants (including a Río Hortega-funded research assistant) and 2 nurses).

Continuing with participation in multicenter projects (especially the AIDS network, Gesida, VACH, EuroSIDA and ART collaboration).

Exploration of possible participation in clinical trials of new antiretroviral drugs.

Increasing the number of HIV-1 infected patients attended to in our hospital (given current mortality rates, an estimated annual increase of 50 patients is required).

Continuing with current clinical research and mixed basic reserch-clinical research lines.

Pathogenic mechanisms altering body fat distribution
Study of metabolism in pyrimidines and derivatives in the genesis of lipodystrophy associated with HIV-1 and antiretroviral treatment.

Development of an animal (mouse) model of lipodystrophy.

Development of in vitro models (adipocyte cultures) to study the adipose toxicity of antiretroviral drugs.

Study of new manifestations of the lipodystrophy syndrome.

Development of measurements for antiretroviral drug concentrations in adipose tissue.

Exploration of the role of inflammation in the pathogenesis of lipodystrophy associated with HIV-1 and antiretroviral treatment.

Metabolism of uridine and its role in the pathogenesis of lipodystrophy.

Metabolic disorders associated with antiretroviral treatment
In vivo assessment of metabolic toxicity associated with antiretroviral treatment.

Development of in vitro models (adipocyte cultures) to study the adipose toxicity of antiretroviral drugs.

Study of factors contributing to hepatic steatosis in patients receiving antiretroviral treatment.

Study of the pathogenic role of FGF21 in insulin resistance in HIV-1- infected patients.

Study of role of FABP4 in metabolic disorders associated with antiretroviral treatment.

Body composition
Definition of normal fat distribution in the general population.

Establishment of abnormal fat distribution patterns.

Development of a definition of lipodystrophy associated with HIV-1 and antiretroviral treatment.

New antiretroviral drugs
Clinical trials of new antiretroviral drugs (phases 2 and 3).

Ritonavir and non-ritonavir pharmacokinetic potentiation of antiretroviral drugs.

Cardiovascular risk associated with antiretroviral treatment
Establishment of a multicentre cardiovascular risk cohort.

Study of antiretroviral treatmentdependent and nontreatmentdependent factors in multicentre cohorts.

Development of in vitro models (adipose cultures) to study adipose toxicity for antiretroviral drugs.

Comorbid conditions associated with HIV-1 infection
Study of ageing in different tissues associated with HIV-1 infection and antiretroviral treatment.

Study of fragility in patients with HIV-1 infection and the role of HAART.

Evaluation of the neurocognitive function in patients with HIV1 infection with and without antiretroviral treatment.

Participation in multicentre cohort studies to determine the incidence of specific comorbidities (cancer, HCV, cardiovascular disease, osteogenesis/osteoporosis): EuroSIDA, ART Collaboration, Gesida, VACH, etc.

Treatment of HCV in patients with HIV-1 and its prognostic significance.

Pharmacogenetics (toxicogenetics)
Role of enzyme polymorphism of the pyrimidine pathways in the pathogenesis of lipodystrophy.

Role of enzyme polymorphism of the pyrimidine pathways in the pathogenesis of clinical toxicity (neuropathy, pancreatitis).

Role of IL28B polymorphism in spontaneous HCV clearance in the response to antiviral treatment based on interferon and ribavirin.

Bacterial meningitis
Identification of prognostic factors in adult bacterial meningitis.

Continuation with a cohort study of adult bacterial meningitis. Identification of host-intrinsic factors in the in the pathogenesis and prognosis of adult bacterial meningitis and meningococcal disease.

Coronavirus infectious dissease-19 and complications thereof
Clinical trajectories of hospitalized and ambulatory patients.

The epidemiological impact of comorbidities in COVID-19.

The diagnostic values of proinflammatory cytokines, GDF15 and KL-6 in COVID-19.

Assessment of immunomodulating therapies in the therapeutic approach to COVID-19.

Small airway disease in the lung sequelae of long COVID-19 patients.

Markers of neurological harm in acute COVID-19 as a path to neuropsychological sequelae.

Neuropsichological sequelae in long COVID-19 patients.

Post-viral fatigue syndrome in long COVID-19 patients, neuropsychiatric implications.

ACTIVE GRANTS

- Cereijo Tellez, Ruben. Papel de la plasticidad adiposa en las alteraciones metabólicas en pacientes con VIH-1.. IJC2018-037142-I. Ministerio de Economia y Competitividad (MINECO). Duration: 2020-2023. 106.760,41 €
- Domingo Pedrol, Pere. Role of inter-organ signaling molecules in the fat-liver and gut-liver axes in non-alcoholic fatty liver disease in HIV-infected patients: contributiion to the spectrum and progression of the disease. GILEAD 2019-2. Gilead Sciences INC. Duration: 2019-2023. 49.995,00 €
- Domingo Pedrol, Pere. Prevalencia y progresión de la ateromatosis subclínica en pacientes con infección por VIH: correlación con marcadores de señalización inter-orgánica, disbiosis intestinal y estrés oxidativol. PI17/00498. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2022. 108.900,00 €
- Domingo Pedrol, Pere. Aproximación a los mecanismos de ganancia excesiva de peso asociada a INsTI y TAF en PVV: de la interferencia con la homeostasis ingreso-gasto energía a la alteración de la biología adipocitaria. PI20/00137. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 151.250,00 €
- Quesada Lopez, Tania Paloma. Ayudas para contratos Juan de la Cierva-Incorporación 2020. IJC2020-043380-1. Ministerio de Ciencia e Innovación (MICINN). Duration: 2021-2023. 97.800,00 €

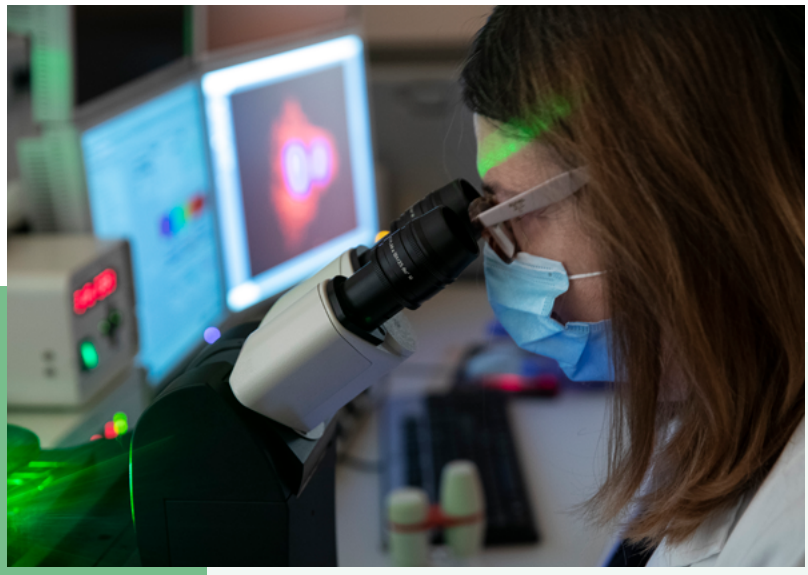
SCIENTIFIC PRODUCTION

- Amele S, Sandri AK, Rodger A, Vandekerckhove L, Benfield T, Milinkovic A, Duvivier C, Stellbrink HJ, Sambatakou H, Chkhartishvili N, Caldeira L, Laguno M, Domingo P, Wandeler G, Gisinger M, Kuzovatova E, Dragovic G, Knysz B, Matulionyte R, Rockstroh JK, Lundgren JD, Mocroft A, Peters L. HCV reinfection after HCV therapy among HIV/HCV-coinfected individuals in Europe. *HIV MEDICINE*. 2022; 23(6). DOI:10.1111/hiv.13212. PMID:34882940. IF:3,094 (Q3/8D). Document type: Article.
- Calabria M, Garcia C, Grunden N, Pons C, Arroyo JA, Gomez B, Garcia M, Belvis R, Morollon N, Igual JV, Mur I, Pomar V, Domingo P. Post-COVID-19 fatigue: the contribution of cognitive and neuropsychiatric symptoms. *JOURNAL OF NEUROLOGY*. 2022; 269(8). DOI:10.1007/s00415-022-11141-8. PMID:35488918. IF:6,682 (Q1/2D). Document type: Article.
- Calvet J, Berenguer A, Gay M, Massanella M, Domingo P, Llop M, Sanchez E, Arevalo M, Carrillo J, Albinana N, Arauz G, Orellana C, Delgado JF, Serrano A, Llobell A, Graell E, Garcia M, Moreno M, Galisteo C, Casado E, Navarro N, Gomez A, Garcia S, Rusinol M, Costa E, Clotet B, Vilaseca M, Blanco J, Gratacos J. Biomarker candidates for progression and clinical management of COVID-19 associated pneumonia at time of admission. *SCIENTIFIC REPORTS*. 2022; 12(1):640. DOI:10.1038/s41598-021-04683-w. PMID:35022497. IF:4,996 (Q2/3D). Document type: Article.
- Castellvi I, Castillo D, Corominas H, Mariscal A, Orozco S, Benito N, Pomar V, Baucells A, Mur I, de la Rosa D, Lobo D, Millan AM, de Sosa NH, Filella D, Matas L, Martinez L, Juarez C, Casademont J, Domingo P. Krebs von den Lungen-6 glycoprotein circulating levels are not useful as prognostic marker in COVID-19 pneumonia: A large prospective cohort study. *FRONTIERS IN MEDICINE*. 2022; 9:973918. DOI:10.3389/fmed.2022.973918. PMID:36004366. IF:5,058 (Q2/4D). Document type: Article.
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REGENERATIVE MEDICINE AND TISSUE BIOENGINEERING



Group leader
Castells Sala, Cristina (BST)

Researchers
Baptista Piteira, Ana Rita (BST)
Fariñas Barbera, Oscar (BST)
Lopez Chicon, Patricia (BST)
Martinez Conesa, Eva Maria (BST)
Rodriguez Martinez, Jose Ignacio (BST)
Ruiz Ponsell, Laia (BST)
Savio Lopez, Andres (BST)
Tabera Fernandez, Jaime (BST)

DESCRIPTION

BTB research lines can be divided in 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 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 products 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 with the donor and tissue processing in clean rooms

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 medical products (ATMP).

Development of new approaches and medical products of advanced therapies for regenerative medicine.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Ophthalmology (Dr Jose Antonio Buil, Dra Zoraida del Campo)

Locomotor System Research (Dr Pablo Gelber)

Women and Perinatal Health Research Group (Dr Marta Peró, Dra Elisa Llurba)

Genomics and Bioinformatics for Genetically Complex Disease (Dr Jose Manuel Soria)

Metabolic Bases of Cardiovascular Risk (Dr Josep Julve)

EXTERNAL COLLABORATIONS

NACIONALS

- University of Barcelona, Department of Surgery
- University of Barcelona, Biophysics and Bioengineering Unit
- Institute for Bioengineering of Catalonia (IBEC)
- Center of Regenerative Medicine (CMR)
- Center of Genomic Regulation (CRG)
- Image Diagnostic Institute (IDI)
- Vall d'Hebron Research Institute (VHIR)
- Advanced Therapies Committee – Hospital Clínic de Barcelona
- ICREC Group - Hospital Germans Trias i Pujol (IGTP)
- Department of Neurobiology (UAB)
- IQS School of Engineering, University of Ramon Llull, (IQS)
- Universitat de Girona - Laboratori de Gràfics i Imatge (GILAB) (UdG)
- Mutua Terrassa – Departament de ginecologia i obstetrícia
- Hospital Germans Tries i Pujol - Departament de ginecologia i obstetrícia
- Hospital Arnau Vilanova de Lleida - Departament de ginecologia i obstetrícia
- Hospital Clínic de Barcelona – Cirurgia ortopèdica y traumatologia COT
- University of Girona, Gilab Group of Research

INTERNACIONAL

- National Health Service Blood and Tissue (Liverpool, UK)
- Veneto Eye and Multitissue Bank (Mestre-Treviso, Italy)
- Irish Blood and Tissue Bank (Dublin, Ireland)
- Croatia National Tissue Bank (Zagreb, Croatia)
- EFS-National Blood Service (Paris, France)
- European Homograft Bank (Brussel, Belgium)
- German Society for Tissue Transplantation (Hannover, Germany)
- Fondazione Banca dei Tessuti di Treviso (Treviso, Italy)

ACTIVE GRANTS

- Castells Sala, Cristina. Development of a method of decellularization of heart valves to be used in valve replacement surgeries. 3a Convocatoria de Proyectos Internos (Ref I.2018.027). Banc de Sang i Teixits (BST). Duration: 2018-2022. 233.112,00 € (BST)
- Castells Sala, Cristina. New human decellularized and re-endothelialized tissue-engineered VASCular gRAFT for coronary artery bypass grafting. 4a Convocatoria de Proyectos Internos CONVENI BST (Ref PEP BT0000000027). Banc de Sang i Teixits (BST). Duration: 2019-2022. 11.780,00 € (BST)

GRANTS AWARDED

- 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)

DOCTORAL THESES IN PROGRESS

- Rodríguez Martínez, Jose Ignacio. Development of a method for decellularizing valve homografts and characterization of currently used grafts in valve replacement surgery. 2022-2025. Universitat de Barcelona. Supervisors: Castells Sala, Cristina; Casaroli Marano, Ricardo.

AWARDS

- Fariñas Barbera, Oscar. Best oral communication. Programa de Trasplante de tejido osteocondral fresco. 5 años de experiencia. Asociación Española de Bancos de Tejidos. 11th June 2022.

SCIENTIFIC PRODUCTION

- Contreras E, Bolivar S, Nieto N, Farinas O, Lopez P, Navarro X, Udina E. A novel decellularized nerve graft for repairing peripheral nerve long gap injury in the rat. *CELL AND TISSUE RESEARCH.* 2022; 390(3). DOI:10.1007/s00441-022-03682-1. PMID:36114915. IF:4,051 (Q3/7D). Document type: Article.
- Gelber PE, Ramirez E, Farinas O. Early Postoperative CT Scan Provides Prognostic Data on Clinical Outcomes of Fresh Osteochondral Transplantation of the Knee. *AMERICAN JOURNAL OF SPORTS MEDICINE*. 2022; 50(14). DOI:10.1177/03635465221129601. PMID:36322380. IF:7,010 (Q1/1D). Document type: Article.
- Gelber PE, Ramirez E, Grau A, Gonzalez A, Farinas O. Computerized tomography scan evaluation after fresh osteochondral allograft transplantation of the knee correlates with clinical outcomes. *INTERNATIONAL ORTHOPAEDICS*. 2022; 46(7). DOI:10.1007/s00264-022-05373-6. PMID:35411436. IF:3,479 (Q2/3D). Document type: Article.
- Lopez P, Riba T, Farinas O, Gelber PE, Casaroli RP, Vilarrodona A. A Comparative Study Using Fluorescent Confocal Microscopy and Flow Cytometry to Evaluate Chondrocyte Viability in Human Osteochondral Allografts. *BIOENGINEERING-BASEL*. 2022; 9(10):515. DOI:10.3390/bioengineering9100515. PMID:36290483. IF:5,046 (Q2/4D). Document type: Article.
- Nieto N, Lopez P, Torrico C, Bolivar S, Contreras E, Udina E, Navarro X, Casaroli RP, Farinas O, Vilarrodona A. "Off-the-Shelf" Nerve Matrix Preservation. *BIOPRESERVATION AND BIOBANKING.* 2022; 20(1). DOI:10.1089/bio.2020.0158. PMID:34542324. IF:2,256 (Q3/7D). Document type: Article.
- Perez ML, Barreales S, Sabater N, Martinez EM, Vilarrodona A, Casaroli RP. Amniotic membrane extract eye drops: a new approach to severe ocular surface pathologies. *CELL AND TISSUE BANKING*. 2022; 23(3). DOI:10.1007/s10561-021-09962-4. PMID:34549352. IF:1,752 (Q4/9D). Document type: Article.
- Pero M, Castells C, Alserawan L, Casani L, Juan JO, Jorba I, Pérez ML, Moga E, Otero J, López P, Badimon L, Vilarrodona A, Porta O. Comparison of a human acellular dermal matrix and a polypropylene mesh for pelvic floor reconstruction: a randomized trial study in a rabbit model. *SCIENTIFIC REPORTS*. 2022; 12(1):20698. DOI:10.1038/s41598-022-22190-4. PMID:36450745. IF:4,996 (Q2/3D). Document type: Article.
- Sabater N, Martinez E, Vilarrodona A, Casaroli RP. Lyophilized amniotic membrane graft for primary pterygium surgery: preliminary results. *CELL AND TISSUE BANKING*. 2022; 23(2). DOI:10.1007/s10561-021-09955-3. PMID:34628551. IF:1,752 (Q4/9D). Document type: Article.

SCIENTIFIC DISSEMINATION

- XVII Congress of "Asociación Española de Bancos de Tejidos". Leon, Spain. 09-11/06/2022. Scientific committee. Vocal: Oscar Fariñas.
- 30th Annual Congress of the EATCB – Warsaw, Poland, 14-16/09/2022. Scientific Committee. Vocal: Jaime Tabera.
- Quality Management for Tissue Establishments. European Directorate for the Quality of Medicines & HealthCare (EDQM), Council of Europe. 20/10– 24/11/2022. Teacher and Advisory Board: Jaime Tabera.
- "Clinical Application of Tissues and Cells: Towards Self-sufficiency in Spain" course. Spanish Association of Tissue Banks. On-line. From 17/03 – 19/04/2022. Speaker: Oscar Farinas.

SCIENTIFIC DISSEMINATION

- International Transplant Procurement Management course. Barcelona, February 2022. Organizing entity: DTI-TPM Foundation. Speaker: Oscar Fariñas.
- First workshop on eye drops of human origin in Vienna. From 11-13/05/2022. Organized by the ISBT working party for cellular therapies in Vienna. Speaker: Rita Piteira.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Joint Action - Dissemination of project results. Closing of the joint action. 20-21/01/2022. Thessaloniki Greece. Organizing entity: Istituto Superiore Di Sanita. Speakers: Jaime Tabera, Rita Piteira. GAPP

GENERAL AND DIGESTIVE SURGERY



Group leader
Moral Duarte, Antonio (FGS)

Researchers
Bollo Rodriguez, Jesus Manuel (FGS)
Clos Enriquez, Montserrat (FGS)
Escobar Lezcano, Lilian Maria (FGS)
Fernandez Ananin, Sonia (FGS)
Garcia Romera, Angel (FGS)
Gonzalez Lopez, Jose Antonio (FGS)
Hernandez Casanovas, Maria Pilar (FGS)
Martin Arnau, Ana Belen (FGS)
Martinez Sanchez, Maria Del Carmen (FGS)
Medrano Caviedes, Rodrigo Gustavo (FGS)
Molina Santos, Victor (FGS)
Perez Garcia, Jose Ignacio (FGS)
Perez Romero, Noelia (FGS)
Rofin Serra, Silvia (FGS)
Sanchez Cabus, Santiago (FGS)
Sanchez Lopez, Anna (FGS)
Solans Solerdelcoll, Mireia (FGS)
Targarona Soler, Eduardo M. (FGS)

General Surgery Unit
Research group in the treatment of mesenchymal tumours, 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.

Hepatobiliopancreatic 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.

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: Sonia Fernández Ananín)

-OBESITY IN ELDERLY POPULATION (IP: Sonia Fernández Ananín)

-CONSEQUENCES OF SARCOPENIA AFTER BARIATRIC SURGERY (IP: Noelia Pérez)

-ANALYSIS OF CRUROPLASTY CLOSURE IN PARAESOPHAGEAL HERNIAS (IP: Sonia Fernández Ananín)

-LAPAROSCOPIC APPROACH TO GASTRIC NON-EPITELIAL TUMORS: DO SIZE AND LOCATION MATTER? (IP: Sonia Fernández Ananín)

-ANÁLISIS DEL PROCESO DIAGNÓSTICO Y DEL TRATAMIENTO DEL CÁNCER GÁSTRICO PRECOZ (IP: Noelia Pérez)

-IMPLEMENTACIÓN DE UNA APP PARA EL CONTROL DEL SÍNDROME DE RESECCIÓN ANTERIOR (IP: Carmen Martínez).

-CALIDAD DE VIDA Y ALTERACIONES FUNCIONALES EN EL CÁNCER DE RECTO (IP: Carmen Martínez).

-DIAGNÓSTICO Y TRATAMIENTO DE LA DISPLASIA ANAL EN EL PACIENTE INMUNODEPRIMIDO (IP: Pilar Hernández).

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 Physician at our Hospital.

Emergency surgical Treatment for aorta-enteric fistulae in collaboration with the Vascular Surgery Department.

Ambulatory treatment on non-complicated Diverticulitis.

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.
Possible role of genetic studies in diagnosis and follow-up.

Endocrinal and Cervical Surgery
Technical innovations in surgery.

Hepatobiliopancreatic 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
Programa de cirugía experimental y colaborar con un grupo de trabajo del IR.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS
Grupo de Investigación en endocrinología y diabetes - Institut de Recerca Hospital de la Santa Creu i Sant Pau - Universitat Autònoma de Barcelona (EDUAB - IRHSP). Eugenia Mato (CIBER Bioingenieria, Biomateriales y Nanomedicina).
Sarcoma Oncology Group
A Phase 3 prospective, randomized, multicenter, open-label, central assessor-blinded, parallel group, comparative study to determine the efficacy, safety and tolerability of aztreonam+avibactam (ATM+AVI)±metronidazole (MTZ) versus meropenem±colistin (MER±COL) for the treatment of serious infections due to Gram- negative bacteria, including metallo-ß-lactamase (MBL) – producing multidrug resistant pathogens, for which there are limited or no treatment options.

EXTERNAL COLLABORATIONS

General Surgery Unit
Collaboration with the TransAtlanticPacificRetropertoneal Sarcoma Working Group in sarcoma research.

Retroperitoneal Sarcoma Registry (RESAR): prospective collection of primary retroperitoneal sarcoma patient's data, radiological and patholegical material for the TransAtlantic Retroperitoneal Sarcoma Working Group.

The Natural History of Ganglioneuroma: A study by the Trans-Atlantic Australasian Retroperitoneal Sarcoma Working Group (TARPSWG) (TARPSWG-2003). Pendent de publicació

Anticipated organs resection and pathologic infiltration- RESAntiPath (TARPSWG–R2006)

Response Evaluatrion after neo-adjuvant chemotherapy for retroperitoneal sarcoma. (TARPSWG-R2007)

The natural history of primary, extra-visceral, perivascular epitheloid cel tumours (PEComa) of the Retroperitoneum: The combined experience of the Trans-Atlantic Australasian Retroperitoneal Sarcoma Working group (TARPSWG) (TARPSWG-2102)

The Evaluation and Outcome of Mesenteric and Intra-Abdominal Desmoids: A study by the Trans-Atlantic Australasian Retroperitoneal Sarcoma Working Group (TARPSWG-R2001)

Benchmarks in RPS Surgery – A study by TARPSWG (TARPSWG-R1906)

Evaluating a Surgical Complexity Score to predict complications Post-Resection of a Retroperitoneal Sarcoma: A study by the Trans-Atlantic Australasian RPS Working Group (TARPSWG-R1901)

Emergency and Critical Care Surgery Unit
NaROA STUDY: National, prospective, observational, multicentric registry for the analysis of indications and prognostic factors of morbidity and mortality in patients undergoing Open Abdomen procedures in the emergency setting by General Surgery and digestive system services. Joan J. Sancho / Amalia Pelegrina. Servicio de Cirugía General y Digestiva Hospital Universitario del Mar.

Randomized Clinical trial on the need for antibiotic treatment against low-risk catheter bacteremia caused by coagulase-negative staphylococcus. EudraCT:2017-003612-39. Oriol Gasch, Virgina Pomar, Hospital de Sabadell Parc Taulí, Hospital de la Santa Creu i Sant Pau.

Study of the effect of Bilateral Blockade of the Transverse Abdominal Muscle Plane (TAP) in the analgesic control of patients with acute pancreatitis (AP) with uncontrolled pain. Dr S.Gonzalez* Hospital Moises Broggi.

Secondary prevention and reduction of recidivism in polytraumatism, multicentre, parallel and randomized clinical trial. (Hospital Parc Taulí, Hospital de la Santa Creu i Sant Pau). Salvador Navarro Soto, Ariadna Cidoncha Secilla, Silvia Rofín Serra.

Randomized multicenter study on the management of pelvic fractures in multiple trauma patients with hemodynamic instability: angioembolization or preperitoneal packing (participation with 8 state hospitals).

ACTIVE GRANTS

- 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 €

GRANTS AWARDED

- Fernandez Ananin, Sonia. Impacte de la tècnica de tancament del hiat esofàgic a les hèrnies paraesofàgiques sobre la recidiva herniària. Estudi comparatiu entre sutura contínua barbada versus punts interromputs a X. SCC 2022. Societat Catalana de Cirurgia. Duration: 2023-2025. 6.000,00 €

DOCTORAL THESES DEFENDED

- Trujillo Reyes, Juan Carlos. Resultados de la timectomia màxima toracoscópica como primera línia de tratamiento en pacientes con diagnostico de miastènia gravis sin diagnostico de lesión tímica conocida. 20/04/2022. Universitat Autònoma de Barcelona. Supervisors: Illa Sendra, M. Isabel; Belda Sanchís, Josep. http://hdl.handle.net/10803/675462.

DOCTORAL THESES IN PROGRESS

- Martin Arnau, Ana Belen. Utilidad y ventajas de los catéteres centrales de inserción periférica respecto al catéter venoso central no tunelizado. 2019-2024. Universitat Autònoma de Barcelona. Supervisors: González López, José Antonio; Pomar Solchaga, Virginia; Moral Duarte, Antonio.
- Ballester Vázquez, Eulalia. Cambios en la funcionalidad gástrica en pacientes sometidos a gastrectomía vertical laparoscópica. ¿Influyen en la incidencia de reflujo gastroesofágico? Estudio Prospectivo Randomizado. 2022-2024. Universitat Autònoma de Barcelona. Supervisors: Balagué Ponz, Carme; Fernández Ananín, Sonia.
- Ferrari, Cecilia. Impacte pronòstic de las mutacions B-RAF, K-RAS i marges de resecció en les metàstasis hepàtiques d'origen colorectal. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Sánchez Cabús, Santiago; Targarona Soler, Eduardo.
- Gonzalo, Berta. Estudio prospectivo randomizado para el análisis de la influencia de la tubulización gástrica en la respuesta hormonal tras gastrectomía vertical laparoscoópica. Influencia de los resultados en la pérdida de peso. 2021-2024. Universitat Autònoma de Barcelona. Supervisors: Balagué Ponz, Carme; Fernández Ananín, Sonia.
- Lupu, Ion. Evaluación de la seguridad y satisfacción de la Colecistectomía Laparoscópica después del inicio de un programa de cirugía ambulatòria. 2021-2025. Universitat Autònoma de Barcelona. Supervisors: Sánchez Cabús, Santiago; Moral Duarte, Antonio.
- Martínez Sánchez, Carmen. Calidad de vida y alteracions funcionales tras el tratamiento multidisciplinar del cáncer de Recto. 2022-2025. Universitat Autònoma de Barcelona. Supervisor: Targarona Soler, Eduardo.
- Vitiello, Giulia. Oclusió d'intestí prim per adherències: factors pronòstics i tractament. 2021-2025. Universitat Autònoma de Barcelona. Supervisors: Sánchez Cabús, Santiago; Moral Duarte, Antonio.

SCIENTIFIC PRODUCTION

- Asla Q, Sarda H, Lerma E, Hanzu FA, Rodrigo MT, Urgell E, Perez JI, Webb SM, Aulinas A. 11-Deoxycorticosterone Producing Adrenal Hyperplasia as a Very Unusual Cause of Endocrine Hypertension: Case Report and Systematic Review of the Literature. *FRONTIERS IN ENDOCRINOLOGY*. 2022; 13:846865. DOI:10.3389/fendo.2022.846865. PMID:35432204. IF:6,055 (Q1/3D). Document type: Review.
- Bademci R, Talabi M, Salas P, Blanco MR, Riart GC, Bollo J, Raventos VA. Impact of biliary drainage prior to pancreatectomy. *ACTA CHIRURGICA BELGICA*. 2022; 122(6). DOI:10.1080/00015458.2021.1920659. PMID:33929304. IF:0,990 (Q4/10D). Document type: Article.
- Balagué C, Fernández-Ananín S, Targarona E. Capítulo 36: Patología del diafragma y hernias de hiato. In: Parrilla P, García-Granero E, Martín-Pérez E, Morales S, Navarro S, Targarona E (dirs.). Cirugía AEC: Manual de la Asociación Española de Cirujanos. Madrid: Editorial Medica Panamericana, 3ª edición marzo 2022. Páginas: 357-364. ISBN:9788491101048. Document type: Book chapter.
- Blanco G, Fondevila C, Sanjuanbenito A, Fabregat J, Secanella L, Rotellar F, Pardo F, Prieto M, Marín H, Sánchez S, Diez L, Alonso Ó, González C, Rodríguez JC, García G, Jaén I, Suárez MÁ, Becerra A, Rio PS-D, Pando E, López R, Muñoz E, Rodriguez M, Pereira F, Serrablo A, Turrión VS, Garrido MJ, Burdío F, Martín E, Estevan R, López D, Castell J, Salinas J, López JÁ, López S, Solar L, Pérez AJ, Martínez LA, Blas JL, Cornejo M, Gutierrez A, Pozo CD-D, Ochando F, Muñoz L, Rebollar J, Sánchez B, Jover JM, Gómez MÁ, Ramia JM, Rojas A. Pancreatic metastases from renal cell carcinoma. Postoperative outcome after surgical treatment in a Spanish multicenter study (PANMEKID). *EJSO*. 2022; 48(1). DOI:10.1016/j.ejso.2021.08.011. PMID:34417061. IF:4,037 (Q1/2D). Document type: Article.
- Bollo J, Fernández S, Targarona E. Randomized clinical trial. *CIRUGIA ESPANOLA*. 2022; 100(7). DOI:10.1016/j.ciresp.2021.11.009. PMID:35562081. IF:2,242 (Q3/6D). Document type: Editorial material.
- Bollo J, Fernández-Ananín S, Targarona EM. Capítulo 6: Ensayo Clínico Aleatorizado. In: Serra, X, Lopez Cano, M, Targarona, EM (eds.). Cómo y porqué investigar en cirugía: manual de la sección de formación de la Asociación Española de Cirujanos. Madrid: Ed. Imedia, 2022. Páginas 57-70. ISBN:978-84-09-45506-5. Document type: Book chapter.
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- Fernández-Ananín S, Balagué C, Targarona E. Capítulo 84: Cirugía del Bazo. In: Parrilla P, García-Granero E, Martín-Pérez E, Morales S, Navarro S, Targarona E (dirs.). Cirugía AEC: Manual de la Asociación Española de Cirujanos. Madrid: Editorial Medica Panamericana, 3ª edición marzo 2022. Páginas: 915-921. ISBN:9788491101048. Document type: Book chapter.
- Fernández-Ananín S, Balagué C. Tema 3: Tumores benignos del esófago. In: Diploma de Especialización en Bases de la Cirugía Esofágica de la AEC. Módulo 2. Patología Benigna del esófago. Madrid: Editorial Médica Panamericana, 2022. ISBN:9788491106432. Document type: Book chapter.
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- Targarona EM., Bollo J, Fernández-Ananín S. Capítulo 4: Qué significa la cirugía basada en la evidencia. In: Serra, X, Lopez Cano, M, Targarona, EM (eds.). Cómo y porqué investigar en cirugía: manual de la sección de formación de la Asociación Española de Cirujanos. Madrid: Ed. Imedia, 2022. Páginas 29-42. ISBN:978-84-09-45506-5. Document type: Book chapter.
- Vitiello G, Soto B, Martínez MC, Targarona E. Resection of the aortic bifurcation in the treatment of locally recurrent colorectal cancer. *CIRUGIA ESPANOLA*. 2022;100(3). DOI:10.1016/j.ciresp.2020.12.009; DOI(English Edition):10.1016/j.cireng.2022.02.006. PMID:33468362. IF:2,242 (Q3/6D). Document type: Letter.

SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- Prevention of incisional hernia. Online symposium. 02/02/2022.
- Wall day. Hospital de la Santa Creu i Sant Pau. Barcelona, 31/05/2022. Organiser: M Solans.
- XIV TRAINING COURSE IN BREAST PATHOLOGY.
- BASIC TRAINING COURSE IN BREAST PATHOLOGY FOR CGAD RESIDENT DOCTORS AND SURGICAL SPECIALISTS.
- SPANISH ASSOCIATION OF SURGEONS. BREAST PATHOLOGY SECTION.
- General and Digestive Surgery Service. SANTA CREU I SANT PAU HOSPITAL. Barcelona, 05-70/10/2022. Organization and management: Antonio Moral Duarte, José Ignacio Pérez García.
- Laparoscopic pancreatic surgery course. Sant Pau Hospital. Barcelona, 04/04/2022. Supervisor: Sánchez Cabús.
- 2nd Symposium on Neuroendocrine Tumors. Sant Pau Hospital. Barcelona, 15/06/2022. Co-organizer: Sánchez Cabús.
- HBP Surgery Course for 4th and 5th year residents. Sant Pau Hospital. Barcelona, 31/09/2022-03/10/2022. Course supervisor: Sánchez Cabús.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- I Hispanic-Portuguese meeting for updates on the treatment of sarcomes. Madrid, 16/09/2022. Speaker: José A González.
- AEC virtual classroom. Concepts, foundations and treatment of GISTs. On-line. Speaker: José A González.
- 29 locomotive apparatus tunmores course. Barcelona 27-28/04/2022. Speaker: Mireia Solans.
- Invited presentation: Pancreatic anastomosis: Blumgart vs pancreatogastric and others. Pre-congress course. 34th National Congress of Surgery. Madrid, 07/11/2022. National. Speaker: Santiago Sánchez Cabús
- Pancreas Surgery Videos. Sharing experiences in HBP Surgery and transplants. Madrid, 29/11/2022. Moderation: Santiago Sánchez Cabús
- REDO over the operated hiatus. Tips and results. 2nd International Symposium of the Mexican Association of Endoscopic Surgery." 22/01/2022. Speaker: Sonia Fernández Ananín.

NEPHROLOGY



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Ars Criach, Elisabet (Fund. Puigvert)
Canal Girol, Cristina (Fund. Puigvert)
Coll Piera, Elisabet (Fund. Puigvert)
Diaz Encarnacion,
Maria Montserrat (Fund. Puigvert)
Diaz Gomez, Joan Manel (Fund. Puigvert)
Fernandez De La Llama, Patricia (Fund. Puigvert)
Furlano , Monica Maria (Fund. Puigvert)
Gracia Garcia, Silvia (Fund. Puigvert)
Lloret Cora, Maria Jesus (Fund. Puigvert)
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Sanmiguel Amigo, Luz (Fund. Puigvert)
Silva Torres, Irene (Fund. Puigvert)
Viera Ramirez, Elizabeth Romelia (IR)

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 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 leaded by R Torra and the second one by E Ars. Both have leaded many research projects on these diseases, and have supervised several doctoral theses.
Dr R Torra new line of research consist on 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 ad developing a prediction tool for autosomal dominant Alport syndrome. Also, severely studies have been performed to test prediction tools for autosomal dominant polycystic kidney disease.
Dr E Ars has leaded 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.

Kidney Transplantation: leaded 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.

Study on the role of macrophage infiltration in a cadaveric donor kidney transplant led by Dra M Díaz. The involvement of the infiltration of monocytes in the kidney of a cadaver donor has been demonstrated in the fibrosis and worse evolution of these kidneys in the long term.

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.

Renal osteodystrophy: leaded 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 **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 IIB 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.
- To increase our participation in relevant private pharmaceutical clinical trials, especially early stage clinical trials.
- Improve the statistical support for our scientific production

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

- **Microbiology and Infectious Diseases** group for the study of microbiota in kidney transplant recipients
- **Oncohematological diseases**. Anew line of research on onco nephology has been started led by X Barros.
- **Cardiovascular diseases**: common protocols for cardiac and renal conditions
- **Inflammatory Diseases Group**: renal fibrosis.
- **Paediatrics Group**: nephrotic syndrome evolution, Ig A nephropathy and inherited kidney diseases.
- **Andrology Group:** infertility. Genetic studies.
- **Urology Group**: genetic predisposition to congenital urological malformations and transplant.
- **Women and Perinatal Health:** High risk pregnancies, prenatal diagnosis, preimplantation diagnosis. The group is part of RICORS "Primary care interventions to prevent maternal and child chronic diseases of perinatal ande developmental origin" (RICORS-SAMID) les by Dr E Llurba.
- **Multidisciplinary teams for inherited and rheumatoid kidney diseases**
- **Biobank platform**: translational research in all specific lines
- **Genetic diseases**: use of the sequencing platform and attendance to internal sessions

EXTERNAL COLLABORATIONS

Dra Roser Torra:

European Group EDTA- WGIKD

Dr. Albert Ong (Sheffield) and the entire European CysTic Project group. European Cohort of Autosomal Dominant Polycystic Kidney Disease

Dr. Franz Schaefer as coordinator of ERKnet, in which we participate in the development of clinical practice guidelines, webinars, results proposals, etc. As from 2021 we are an ERKnet member.

Neocyst group led by Charlote Gimpel. Participation in several meetings leading to the publication of clinical practice/ recommendations.

Collaboration in independent clinical studies: R Gansevort (Groningen), O Gross (Göttingen), R Muller (Cologne).

Dr. M Díaz:

Columbia University (Dr. Kharavi): Study of genetic variants in IgA nephropathy

Hospital Tenon, Paris (Pr Ronco) and Radboud University Medical Center (Dr J Wetzel): Study of genetic variants in membranous nephropathy and cortico-dependent nephrotic syndrome.

Dr. P. Fernandez-Llama: Dr. Joaquin Abian from the CSIC/UAB Proteomics Laboratory.

Dr. MJ Lloret: ERA CKD-MBD Working Group. Collaboration in studies and joint publications with Dr. Pieter Evenopoel (Leuven, Belgium), Dr. Pablo Ureña (Paris), Dr. Mario Cozzolino (Milan), Dr. Vincent Brandenburg (Cardionephrology Aachen, Germany). Collaboration with SEIOMM (Spanish Society for Bone Metabolism Research)

Dr. E Coll: Ricard Marcos (UAB Mutagenesis Group)

Dr. LI Guirado:

Grupo Español SEN, collaborator in several SEN and SENTRA projects.
Grupo GREAT Renal Transplantation, collaboration that has resulted in several collaborative projects and publications.
Hospital Necker Paris, collaborating in the study of artificial intelligence.

Dr. C Facundo:
working in collaboration with the group of Dr. Armando Torres.
collaborating with the SEN group in the evaluation of the serological response to the SARS-CoV 2 vaccination.
As a member of the Scientific Committee of the Living Donor Renal Transplant group (TRDV) of the National Transplantation Organization.

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 €
- Fernandez 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 €
- Fernandez 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)
- 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 nefropatias hereditarias autosómicas dominantes. PI18/00362. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2022. 99.220,00 €
- Torra Balcells, Roser. Red de Investigación Renal. RD16/0009/0019. Instituto de Salud Carlos III (ISCIII). Duration: 2017-2022. 121.379,50 €.
- 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

- 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. 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 €

DOCTORAL THESES DEFENDED

- Domingo Gallego, Andrea. GENOMIC STUDY OF EARLY-ONSET CHRONIC KIDNEY DISEASE. 04/03/2022. Universitat Autònoma de Barcelona. Supervisors: Ars Criach, Elisabet; Torra Balcells, Roser. http://hdl.handle.net/10803/674937.

DOCTORAL THESES IN PROGRESS

- Benito García, Silvia. Marcadores inflamatorios y fibróticos en las ANCA vasculitis con afectación renal. 2019-2024. Universitat Autònoma de Barcelona. Supervisors: Díaz Encarnación, Montserrat; Guillén, Elena.
- Córdoba Herrera, Christina. ¿Es la incompatibilidad en eplets de HLA un determinante en la exposición a tacrolimus?. 2020-2023. Universitat Autònoma de Barcelona. Supervisor: Guirado Perich, Lluis.
- De la Torre McKinney, Judith. Característiques clínico-analítiques associades a la prevalença de sarcopènia en els pacients amb insuficiència renal crònica en tractament substitutitu renal amb hemodiàlisi i validesa diagnòstica de l'ecografia del múscul recte femoral en la detecció de sarcopènia. 2022-2025. Universitat de Vic-Universidad Central de Cataluña. Supervisors: Díaz Gómez, Joan Manuel; Esteve Simó, Vicenç.
- Fayos de Arizon, Leonor. Uso de la inteligencia artificial para el diagnóstico de las enfermedades renales hereditarias. 2021-2024. Universitat Autònoma de Barcelona. Supervisors: Torra Balcells, Roser; Perera Lluna, Alexandre.
- Lloret Cora, María Jesús. Estudio de la resistencia ósea medida in vivo por microindentación por impacto en el primer año post-trasplante renal. 2020-2023. Universitat Autònoma de Barcelona. Supervisors: Guirado Perich, Lluis; Bover Sanjuan, Jordi.
- Naranjo, Javier. Modelos de predicción de ràpida progresión en la poliquistosis renal autosòmica dominante. 2020-2023. Universidad de Cádiz. Supervisors: Torra Balcells, Roser; Remón, Cesar.
- Pilco Teran, Melissa. Valoración de factores modificadores del fenotipo para la creación de herramientas de predicción individualizada en el Síndrome de Alport Autosómico Dominante. 2022-2024. Universitat Autònoma de Barcelona. Supervisors: Torra Balcells, Roser; Ars Criach, Elisabet.
- Ramos Galí, Alejandra. Evaluación de la variabilidad de la presión arterial posicional y temporal y su relación con el daño orgánico en ancianos hipertensos. 2020-2024. Universitat Autònoma de Barcelona. Supervisor: Fernández Llama, Patricia.
- Ruíz García, César Emilio. Bisphenol A y daño genómico en pacientes en hemodiálisis. 2017-2024. Universitat Autònoma de Barcelona. Supervisor: Coll Piera, Elisabet.
- Salas Gama, Karla. Adecuación del uso de diálisis peritoneal y análisis de las estrategias para la ayuda a la toma de decisiones dirigidas a la elección de la modalidad de diàlisis. 2018-2024. Universitat Autònoma de Barcelona. Supervisors: Díaz Gómez, Joan Manuel; Bolívar Ribas, Ignasi.
- Viera Ramírez, Elizabeth Romelia. El procesamiento del lenguaje natural como herramienta diagnóstica en la enfermmedades renales hereditarias. 2022-2025. Universitat Autònoma de Barcelona. Supervisor: Torra Balcells, Roser.

AWARDS

- Guirado Perich, Lluis. Discontinuación inmunoguiada de la profilaxis para la enfermedad del citomegalovirus en receptores de trasplante de riñón tratados con globulina anticimocita: Una prueba clínica aleatòria. Premio Iñigo Álvarez de Toledo en Investigación Clínica o Aplicada 2022. Madrid, 19th September.

- Lloret, MJ; Canal, C; Facundo, C; Serra, N; Fayos, L; Di Gregorio, S; Bardaji, B; Montolio, D; Guirado, LI; Bover, J. Efecto del tratamiento antiresortivo en la resistencia ósea medida in Vivo por microindentación por impacto en el posttrasplante renal. Award for the Best communication e-poster. Congreso Sociedad Española de Nefrología. Granada, 14th november

SCIENTIFIC PRODUCTION

- Aapkes SE, Bernts LHP, van den Berg AP, van den Berg M, Blokzijl H, Cantineau A, van M, de Haas RJ, Kappert P, Muller RU, Nevens F, Torra R, Visser A, Drenth JPH, Gansevoort RT. Protocol for a randomized controlled multicenter trial assessing the efficacy of leuprorelin for severe polycystic liver disease: the AGAINST-PLD study. *BMC GASTROENTEROLOGY*. 2022; 22(1):82. DOI:10.1186/s12876-022-02142-y. PMID:35216547. IF:2,847 (Q4/8D). Document type: Article.
- Ahmadian KM, Cabanas NS, Herrera CC, de Arizon LF, Mir MP, Perich LG, Molas CF. Assessment of Tacrolimus Neurotoxicity Measured by Retinal OCT. *TRANSPLANTATION PROCEEDINGS*. 2022; 54(1). DOI:10.1016/j.transproceed.2021.10.013. PMID:34911620. IF:1,014 (Q4/9D). Document type: Article.
- Arias M, Collado S, Coll E, Carreras J, Betancourt L, Romano B, Fernandez M, Duarte V, Garro J, Soler J, Gonzalez JC, Calabia J. Prevalence of Protein-Energy Wasting in Dialysis Patients Using a Practical Online Tool to Compare with Other Nutritional Scores: Results of the Nutrendial Study. *NUTRIENTS*. 2022; 14(16):3375. DOI:10.3390/nu14163375. PMID:36014879. IF:6,706 (Q1/2D). Document type: Article.
- Ars E, Bernis C, Fraga G, Furlano M, Martinez V, Martins J, Ortiz A, Perez MV, Rodriguez JC, Sans L, Torra R. Consensus document on autosomal dominant polycystic kindey disease from the Spanish Working Group on Inherited Kindey Diseases. Review 2020. *NEFROLOGIA*. 2022; 42(4). DOI:10.1016/j.nefro.2021.05.009. PMID:36404270. IF:3,084 (Q2/5D). Document type: Review.
- Ars E, Bernis C, Fraga G, Furlano M, Martínez V, Martins J, Ortiz A, Pérez MV, Rodríguez JC, Sans L, Torra R, en nombre S. Documento de consenso de poliquistosis renal autosómica dominante del grupo de trabajo de enfermedades hereditarias de la Sociedad Española de Nefrología. Revisión 2020. *NEFROLOGIA*. 2022. DOI:10.1016/j.nefroe.2022.11.011. IF:3,084 (Q2/5D). Document type: Article.
- Banas MC, Bohmig GA, Viklicky O, Rostaing LP, Jouve T, Guirado L, Facundo C, Bestard O, Grone HJ, Kobayashi K, Hanzal V, Putz FJ, Zecher D, Bergler T, Neumann S, Rothe V, Santamaria A, Schiffer E, Banas B. A Prospective Multicenter Trial to Evaluate Urinary Metabolomics for Non-invasive Detection of Renal Allograft Rejection (PARASOL): Study Protocol and Patient Recruitment. *FRONTIERS IN MEDICINE*. 2022; 8:780585. DOI:10.3389/fmed.2021.780585. PMID:35071266. IF:5,058 (Q2/4D). Document type: Article.
- Boenink R, Astley ME, Huijben JA, Stel VS, Kerschbaum J, Ots M, Asberg AA, Lopot F, Golan E, de la Nuez PC, Camblor MR, Trujillo S, San Millan JCR, Mingo PU, Diaz JM, Bouzas ME, Artamendi M, Madre MA, de Pablos CS, Roblero MFS, Zurriaga O, Stendahl ME, Bell S, Idrizi A, Ioannou K, Debska A, Galvao AA, De Meester JM, Resic H, Hommel K, Radunovic D, Palsson R, Lassalle M, Finne P, Bazaga MD, Gjorgjievski N, Seyahi N, Bonthuis M, Ortiz A, Jager KJ, Kramer A. The ERA Registry Annual Report 2019: summary and age comparisons. *CLINICAL KIDNEY JOURNAL*. 2022; 15(3). DOI:10.1093/ckj/sfab273. PMID:35211303. IF:5,860 (Q1/2D). Document type: Article.
- Bover J, Bosch R, Gorriz JL, Urena P, Ortiz A, daSilva I, Garcia RA, Hueso M, Trinidad P, Jara A, Furlano M, Gelpi R, Vila A, Restrepo CA, Sanchez M, Arana C, Goicoechea M, Coll V, Segura J, Gutierrez O, Kalantar K, Sanchez E, Ferreiros A, Garcia R. Kidneys also speak Spanish: Initiatives towards standardisation of our nephrology nomenclature. *NEFROLOGIA*. 2022; 42(3). DOI:10.1016/j.nefro.2021.04.011. PMID:36167667. IF:3,084 (Q2/5D). Document type: Editorial material.
- Bover J, Bosch R, Luis J, Ureña P, Ortiz A, daSilva I, García RA, Hueso M, Trinidad P, Jara A, Furlano M, Gelpi R, Vila A, Restrepo CA, Sánchez M, Arana C, Goicoechea M, Coll V, Segura J, Gutiérrez O, Kalantar K, Sánchez E, Ferreiro A, García R. Los riñones también hablan español: iniciativas hacia la estandarización de nuestra nomenclatura nefrológica. *NEFROLOGIA*. 2022; 42(3). DOI:10.1016/j.nefroe.2022.09.003. IF:3,084 (Q2/5D). Document type: Article.
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SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- "Acute Renal Failure Course". Puigvert Foundation. Barcelona, 25-27/04/2022. National. Course Supervisor: Joan Manuel Díaz.
- "23rd Conference on Nephrology and Primary Care". Puigvert Foundation. Barcelona, 08/05/2022. National. Course Co-Supervisor: Patricia Fernández-Llama.
- "Training in living donor kidney transplantation." Puigvert Foundation. Barcelona, 21-24/11/2022. National. Course Supervisor: Lluis Guirado.

- "Preceptorship on kidney transplantation". Puigvert Foundation. Barcelona, 30/11-02/12/2022. International. Course Supervisor: Lluis Guirado.
- "RenHerCat 2022 Conference". Catalan Nephrology Society. Barcelona, 29/09/2022. National. Coordinator: R. Torra.
- "XXXVIII Annual Meeting of the Catalan Society of Nephrology". Barcelona, 26-27/05/2022. National. Organizing committee vice president: E. Coll.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- Conference "Genetic analysis in glomerulopathies". III National Course on secondary glomerulonephritis. Virtual. 25-27/01/2022. National. Guest speaker: E. Ars.
- «Panel d›experts per la classificació de variants en los gens associats a Malalties Renals Hereditaries». VI Interhospital Conference on Genetics in Catalonia. Germans Trias i Pujol Hospital and Institute. Badalona, 07/11/2022. National. Guest speaker: E. Ars.
- "7th GlomCAT Meeting. 1st Virtual session – Fibrillary nephropathy". Catalan Nephrology Society. Virtual. 23/03/2022. Session coordinator National: M. Díaz
- "7th GlomCAT Meeting. 2nd Virtual Session – Update on IgA Nephropathy". Catalan Nephrology Society. Virtual. 23/03/2022. Session coordinator National: M. Díaz
- "Presentation of the Registry of renal malalts of Catalonia." Catalan Nephrology Society. Barcelona, 26/05/2022. National. Speaker: JM Díaz.
- Annual Meeting of the Catalan Society of Nephrology. Barcelona, 26-27/05/2022. Society vice president, Organizing committee member. President of the scientific committee. National: E. Coll.
- Conference: "Occult Kidney Disease". 34th Catalan Conference on Arterial Hypertension. 28th Meeting of the Catalan Society of Arterial Hypertension. Barcelona, 12-13/12/2022. National. Speaker: Particia Fernández-Llama.
- Conference: "Updates on high blood pressure and cardiovascular risk." Catalan Society of Nephrology. Recorded conference for the Society web and diffusion by e-mail to all members of the Society. November 2022. National. Speaker: Particia Fernández-Llama.
- Conference: Collagen IV diseases. III National Course on Secondary Glomerulonephritis. Virtual. 25-27/01/2022. National. Speaker: Roser Torra.
- Conference: CKD of Unknown Cause: Can it be a Genetic Condition? World Congress of Nephrology 2022. ISN International Society of Nephrology. Kuala Lumpur (Malaysia), 24-27/02/2022. International. Speaker: Roser Torra.
- Conference: "Uses of artificial intelligence and systems biology for the diagnosis and assessment of personal risk for hereditary renal malalties, focused on Alport syndrome." Day on the occasion of the World Day of Minority Malities in Catalonia. Barcelona, 29/02/2022. National. Speaker: Roser Torra.
- "XIII International Conference. Hypertension and Kidney. Madrid, 23-25/03/2022.
- Conference: "Clinical spectrum of type IV collagen alterations." 29th Scientific Meeting of the Nephropathology Club. 15th Meeting of the Glomerular Diseases Group of the S.E.N. (GLOSEN). Madrid, 1st- 02/04/2022. National. Speaker: Roser Torra.
- Conference: "Advances in the care of patients with kidney disease." IX International Conference of Graduates in Health Sciences. CTS 451 Research Group (Health Sciences). University of Almeria. Almeria, 29/01/2022. International. Speaker: Roser Torra.
- "Symposium 6 - ERA symposium plus ERA Registry". 54th Annual scientific meeting of the European society from pediatric nephrology. Ljubljana (Slovenia), 22-25/06/2022. International. Chair of the session: Roser Torra.
- Lecture "Highlights from a ASN 2021 and ERA 2022 meetings". 54th Annual scientific meeting of the European society from pediatric nephrology. Ljubljana (Slovenia), 22-25/06/2022. International. Lecturer: Roser Torra.
- Conference: "Alport syndrome". XXIV National Congress of Nephrology. Colombian association of nephrology and arterial hypertension. Cartagena (Colombia), 29-30/09/2022. National. Speaker: Roser Torra.
- Lecture: The neurologist in Fabry disease, multidisciplinary approach. Confirmed Fabry Diagnosis: What Do I Do Now? Therapeutic objectives and monitoring of treatment of patients with Fabry disease. Spanish Society of Neurology. Virtual. 05/11/2022. Lecturer: Roser Torra.
- Session titled "Extracellular Matrix Pathobiology in CKD and Alport Syndrome". American Society of Nephrology's Kidney Week Education Committee for the 2022 meeting. Orlando, 3-6/11/2022. International. Co-moderator: Roser Torra.
- Conference: "How frequent are genetic diseases as cause of CKD?" 17th Bantao Congress. Antalya (Turkey), 10-13/11/2022. International. Speaker: Roser Torra.
- Lecture "Artificial Intelligence in hereditary kidney diseases. What's new in Hereditary Kidney Diseases?" 52nd Congress of the Spanish Society of Nephrology, S.E.N. Granada, 12-14/11/2022. National. Lecturer: Roser Torra.
- "Industry Technical Forum: ALNYLAM. Gene Silencing, a new therapeutic approach in nephrology. 52nd Congress of the Spanish Society of Nephrology. Granada, 12-14/11/2022. National. Moderator: Roser Torra.
- Lecture: Alport syndrome. GLOMCON 2022. Virtual. 19/11/2022. International. Lecturer: Roser Torra.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- AIRG-E: webinars. Patients with inherited renal diseases. National. Speaker: Roser Torra.
- Alport Alliance. Virtual meeting: 2022 International workshop on Alport Syndrome. Vancouver/virtual. 07/09/2022. Patients with Alport disease. International. Speaker: Roser Torra.
- ALCER: "IX International Conference of Graduates in Health Sciences". "AI in hereditary kidney diseases." Virtual. 07/07/2022. Patients with inherited renal diseases. National. Speaker: Roser Torra.
- Puigvert and Bladder Exstrophy Association (ASEXVE): "ASEXVE 2022 Medical Meeting". Conference: "Nephrological complications in bladder exstrophy." Barcelona, 12/11/2022. Patients with bladder exstrophy and their families. National. Speaker: Roser Torra.

WOMEN AND PERINATAL HEALTH



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Molas Closas, Anna (UAB)

Internship students
Alvarez Mora, Maria Bruna (UAB)
Trosin , Elena (Inst. Guineueta)

DESCRIPTION

The Women and Perinatal Health Research Group is focused on the study of diseases derived from placental insufficiency, 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 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 programing in assisted reproduction treatments (ART).

Cardiovascular Health and ART outcomes
COVID-19 and gestation.
Innovative methods in delivery care.

SCIENTIFIC CHALLENGES

To study novel placental biomarkers in the diagnosis and prognosis of preeclàmpsia (PE) and intrauterine growth restriction (IUGR) in order to generate future hypothesis for target prevention and therapautic interventions in theses pathologies.

To determine the usefulness of novel placental biomarkers (sFlt-1/PlGF ratio) in the diagnosis and prognosis of preeclàmpsia (PE) in order to change policies and improve maternal and neonatal Health.

To study novel maternal cardiovascular risk biomarkers after placental insufficiency and to explore potential preventive strategies in order to identify mother at risk for cardiovascular disease later in life.

To develop biomarkers in fetal and neonatal life that help to predict postnatal neurological risk in congenital heart diseases.

To evaluate the impact of maternal exposure to traffic-related air pollution on fetal development in order to generate evidence

base to support regulation, implementation of finely-targeted interventions, and in time, the inclusion of this impact in the next iteration of the global burden of diseases (GBD) attributable to ambient air pollution.

To evaluate the impact of different interventions to improve cardiovascular health in an infertile population before in vitro fertilization (IVF), live birth rate, maternal and fetal cardiovascular programming and perinatal outcome.

To evaluate the impact of SARS-Cov-2 infection on maternal health, placental function, and pregnancy and neonatal outcomes.

To develop clinical research focused on improving obstetric care with the implementation of innovative solutions in the process of childbirth and the puerperium.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Active collaboration with the Gynaecology and Obstetrics Service: Dr. Obdulia Alejos, Laura Gomilla, Anna Olivella, Josep Estadella and Juan Parra.

Active collaboration with Puigvert Foundation: Carlos Dosouto, Susana Peon, M Jesús Saiz, Dr. Sofia Gaggiotti and Dr. Patricia Fernández-Llama.

Molecular Pathology of Gynecologic Cancer: Dr. Bárbara García-Valdecasas

Genome Instability and DNA Repair Syndromes: Dr. Jordi Surrallés

Gynaecologic and Peritoneal Oncology Group: Dr. Virtudes Céspedes, Rocio Luna and Ramón Rovira.

Anaesthesiology: Dr. M Victoria Moral and Astrid Batalla

General and Digestive Surgery: Dr. Antonio Moral

Endocrinology, Diabetes and Nutrition: Dr. Didac Mauricio and Dr. Rosa Corcoy

Paediatrics: Dr. Susana Boronat, Dr. M Gloria Fraga, Dr. Maria Josa Eritja, Dr. Esther López and Dr. Elisenda Moliner

Clinical Epidemiology and Healthcare Services: Dr. Xavier Bonfill

Metabolic Bases of Cardiovascular Risk: Dr. Francisco Blanco, Dr. Jordi Ordoñez, Dr. Josefina Mora and Dr. Álvaro García

Neuroradiology: Dr. Beatriz Gómez-Anson

EXTERNAL COLLABORATIONS

International collaborations.

NCT04754594. Study to Evaluate the Safety, Tolerability, and Immunogenicity of SARS CoV-2 RNA Vaccine Candidate (BNT162b2) Against COVID-19 in Healthy Pregnant Women 18 Years of Age and Older. Pfizer and BioNTech SE. Duration: 2021 – 2022. Collaborators: Elisa Llurba, Mónica Cruz-Lemini, Cristina Trilla and Olga Sánchez.

PREDIGES. PATIA EUROPE, S.L. Duration: 2020-2022. Collaborator: Carmen Medina and Cristina Trilla.

National Collaborations

Primary Care Interventions to Prevent Maternal and Child Chronic Diseases of Perinatal and Developmental Origin (RICORS-SAMID Network). RD21/0012. Objective: to provide a comprehensive and synergistic plan that encompasses hospitals and primary care, and is meant to improve women, maternal and infant health, while avoiding long-term consequences of perinatal and developmental complications. Collaborators: Elisa Llurba, Cristina Trilla, Carmen Garrido, Mónica Cruz-Lemini, Ana Polo, Zoraida García and Olga Sánchez.

AFIN Barcelona, Grupo de Investigación y Laboratorio de Prestación de Servicios Científico Técnicos y de Formación. Departament d'Antropologia Social i Cultural. Universitat Autònoma de Barcelona (UAB). PI: Dr. Diana Marre

Maternal and Child Health and Development Research Network (SAMID Network). RD16/0012. Objective: to study the diferent pathological processes, nutritional and environmental conditions of perinatal and postnatal period, by addressing the study of factors of prematurity, prevention and patient safety, environmental and pathogenetic factors, nutrition and child development as well as promoting research into new products and therapeutic procedures. It is also their aim to study the long-term consequences and its relationship with certain disorders of high prevalence in later stages of life, such as neuropsychiatric diseases, obesity and its complications. Collaborators: Elisa Llurba, Carla Domínguez, Mónica Cruz-Lemini, Ana Polo and Olga Sánchez.

Centro de Investigación Biomédica en Red en Enfermedades Raras (CIBERER). CB06/07/0027(U719). PI: Dr. Eduard Gratacós.

BCNatal – Centro de Medicina Maternofetal y Neonatal de Barcelona. Hospital Sant Joan de Déu – Hospital Clínic. PI: Dra. MD Gómez-Roig.

Barcelona Institute for Global Health (ISGlobal). Program "Air pollution and urban environament" (Dr. Payam Dadvant) and program "Childhood and environament" (Dr. J Sunyer).

Barcelona Insitute for Global Health (ISGlobal). Maternal, Child and Reproductive Health Iniciative. Campus Clínic.

"Registro epidemilógico de COVID19 gestantes" (COV20_00021). Fundación Investigación Biomédica Hospital Puerta de Hierro. PI: Óscar Martíntez. Start date: 30/04/2020. Collaborator: Carmen Medina.

"Indicadors genòmics per a la predicció de la recurrència i la metàstasi en càncer endometrial" (201911). PI: Dra. M Virtudes Céspedes; CoIP: Dra. M José Macías. Funding: La Marató de TV3. Duration: 01/01/2020 – 31/12/2022. Collaborator: Dra. Olga Sánchez.

"Cribado secuencial de preeclampsia mediante el uso de marcadores angiogénicos en el primer trimestre" (PI19/00692). PI: Dr. Daniel Oros López. Funding: Instituto de Salud Carlos III. Duration: 01/01/2020- 31/12/2022. Collaborator: Cristina Trilla.

"Traffic-related air pollution and birth weight: the roles of noise, placental function, green space, physical activity, and socioeconòmic status" (FRONTIER). PI: Dadvand Payam; Assistant Research Professor, Barcelona Insitute for Global Health (ISGlobal) (Former CREAL); CoIP: Jordi Sunyer, Barcelona Institute ofr Global Health (ISGlobal). Funding: The Health Effects Institute (HEI), 17-1 Assessing Adverse Health Effects of Exposure to Traffic-Related Air Pollution, Noise, and Their Interactions With Socio-Economic Status. Duration: 01/05/2018 – 31/10/2022. Collaborators: Elisa Llurba, Carmen Garrido, Carla Domínguez and Olga Sánchez.

"Pre-natal exposure to urban AIR pollution and pre- and post-Natal Brain development" (AIR-NB). PI: Jordi Sunyer, Barcelona Institute ofr Global Health (ISGlobal). Funding: European Research Council (ERC), Horizon 2020, ERC-2017-ADG. Duration: 01/01/2018 – 31/12/2022. Collaborators: Elisa Llurba, Carmen Garrido, Carla Domínguez and Olga Sánchez.

The Banc de Sang i Teixits (Blood and Tissue Bank) is a públic agency of the Catalan Department of Health whose mission is to guarantee the supply and porper use of human blood an tissue in Catalonia. Collaborator: Elisa Llurba.

"Effect of Probiotics on the Preterm Delivery Rate in Pregnant Women at High Risk for Preterm Birth (PROPEV Trial)"(NCT03689166). PI: Dr. Maria Goya. Duration: 01/01/2020 - 31/12/2022. Collaborator: Carmen Garrido

"Maternal and fetal genetic basis of placental function" (PI20/01116). PI: Dr. Mariona Bustamanet. Funding: Instituto de Salud Carlos III. Duration: 01/01/2021 - 31/12/2023. Collaborator: Carla Domínguez.

"Innovative nanotherapy for highly-metastatic peritoneal cancers: activating neuroreceptors to kill cancer stem cells" (PI20/00623). PI: Dr. Virtudes Céspedes. Funding: Instituto de Salud Carlos III. Duration: 01/01/2021- 31/12/2023. Collaborator: Olga Sánchez.

"Air pollution, gut microbiota and neurodevelopment in the first 24 months of life" (PI21/01278). PI: Dr. Mireia Gascón. Funding: Instituto de Salud Carlos III. Duration: 01/01/2022 - 31/12/2024. Collaborator: Carla Domínguez.

"Study: Randomized controlled trial for assessment of an intervention to optimize antenatal management of women admitted with preterm labor and intact membranes using amniocentesis-based predictive risk models" (OPTIM-PTL) (PI21/00792) PI: Dr. Montserrat Palacios. Funding: Instituto de Salud Carlos III. Duration: 01/01/2022 - 31/12/2024. Collaborator: Carmen Garrido

HCB/2020/0434 "COVID19: clinical presentation during pregnancy. A population-based study"; PI: Eduard Gratacós. Hospital Clínic de Barcelona. Collaborator: Mónica Cruz-Lemini.

219/C/2021 – Impact of COVID-19 on male reproductive health (Funció reproductiva masculina en pacients COVID-19). PI: Daniel Moreno. Fundació La Marató de TV3. Duration: 2022-2024. Funding: 399.821,25 euros. Collaborator: Ana Polo.

"PE37: Ensayo clínico aleatorizado multicéntrico de cribado con sFlt1/PlGF e inducción selectiva del parto para la prevención de preeclampsia a término" (PI22/00109). PI: Dr. Eduard Gratacós. Funding: Instituto de Salud Carlos III. Duration: 01/01/2023 - 31/12/2025. Collaborator: Carla Domínguez.

"Management of Fetal Growth Restriction at Term: Angiogenic Factors Versus Feto-placental Doppler (GRAFD)" (PI22/00051). PI: Dr. Manel Mendoza. Funding: Instituto de Salud Carlos III. Duration: 01/01/2023 - 31/12/2025. Collaborator: Cristina Trilla and Johana Ullmo.

Collaboration with the industry.

Cook
Roche Diagnostics SLU
Roche Farma, S.A
Ferring Pharmaceuticals
Alexion Pharma Spain SL
Merck S.L.U.
Ferring, S.A.U.
Sanofi-aventis, S.A.
Pfizer Inc. 235 East 42nd Street New York, The USA

ACTIVE GRANTS

- Cruz Lemini, Monica Cristina. Contractes Juan Rodés 2019. JR19/00047. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 180.000,00 €
- 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. Red de salud materno-infantil y del desarrollo. RD16/0022/0015. Instituto de Salud Carlos III (ISCIII). Duration: 2017-2022. 196.383,00 €
- 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 €
- Medina Mallen, Maria Del Carmen. Estratègies de formació per professionals vinculats amb l'atenció al part: noves perspectives. INDOVIG 2020 0002. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2021-2022. 7.750,00 €
- 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

- 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 pràctica social 2022. Fundació La Caixa. Duration: 2023-2025. 7.150,00 €

DOCTORAL THESES DEFENDED

- Español Lloret, María Pía. Estudio del valor pronóstico de los receptores catecolaminérgicos en cáncer de endometrio: contribución a la progresión tumoral. 25/11/2022. Universitat Autònoma de Barcelona. Supervisors: Llurba Olivé, Elisa; Porta Roda, Oriol; Céspedes Navarro, María Virtudes.
- Trilla Sola, Cristina. Biometría placentaria para precedir el riesgo de preeclampsia y alteraciones del crecimiento fetal. 04/11/2022. Universitat Autònoma de Barcelona. Supervisors: Llurba Olivé, Elisa; Parra Roca, Joan.

DOCTORAL THESES IN PROGRESS

- Bailón Queiruga, Marta. Comparación de la efectividad y seguridad de la inducción al parto con doble balón cervical y prostaglandinas. 2020-2024. Universitat Autònoma de Barcelona. Supervisors: Llurba Olivé, Elisa; Cruz Lemini, Monica Cristina; Medina Mallén, Maria Del Carmen.
- Campos Lichtsztejn, Mariana. Etnocentrismo y políticas reproductivas: Una aproximación a la atención al parto dentro del contexto de Barcelona. 2021-2025. Universitat Autònoma de Barcelona. Supervisor: Llurba Olivé, Elisa.
- Domínguez Gallardo, Carla. Evaluación de la función cardíaca fetal con el método ecográfico aCMQ-STRAIN: establecer curvas de normalidad y comparación con fetos con factores de riesgo de disfunción cardíaca. 2019-2023. Universitat Autònoma de Barcelona. Supervisor: Llurba Olivé, Elisa.

- Estadella Tarriel, Josep Ramon. Aplicació de noves tecnologies per la millora dels processos assistencials en l'atenció a la dona (femtech). 2022-2026. Universitat Autònoma de Barcelona. Supervisors: Llurba Olivé, Elisa; Gomis Pastor, Mar; Marre Cifola, Diana.
- Fernández Oliva, Antonio. Randomized open-label control trial to evaluate if the incorporation of sFlt1/PlGF ratio in the diagnosis and classification of PE improves maternal and perinatal outcomes in women with the suspicion of the disease (EuroPE Study). 2018-2023. Universitat Autònoma de Barcelona. Supervisor: Llurba Olivé, Elisa.
- Garrido Giménez, Carmen. Implicación de los factores angiogénicos en el riesgo cardiovascular de las mujeres con preeclampsia. 2016-2023. Universitat Autònoma de Barcelona. Supervisors: Llurba Olivé, Elisa; Carreras Moratonas, Maria Elena; Alijotas Reig, Jaume.
- Gracia Pérez-Bonfils, Anna. THE FIPS PROJECT: Estudio de correlación de los resultados perinatales con un score fisiopatológico vs el pH de calota fetal como gold estándar de manejo habitual. 2019-2023. Universitat Autònoma de Barcelona. Supervisor: Llurba Olivé, Elisa.
- Nan, Madalina Nicoleta. Uso de biomarcadores de disfunción cardíaca para el cribado, la detección precoz y la estratificación de riesgo de preeclampsia y enfermedad cardiovascular en gestantes. 2020-2024. Universitat Autònoma de Barcelona. Supervisor: Llurba Olivé, Elisa.
- Perelló Capó, Josep. ESTUDIO COLIBRI (Cooper and Levonorgestrel Intrauterine Device (IUD) Barcelona Research Iniciative): Estudio comparativo del patrón de sangrado menstrual entre las usuarias del Dispositivo Intrauterino (DIU) de 13,5mg de Levonorgestrel y del DIU de cobre. 2022-2026. Universitat Autònoma de Barcelona. Supervisor: Llurba Olivé, Elisa.
- Peró García, Marta. Matrix: estudio de las propiedades biológicas de una matriz dérmica humana para su aplicación en cirugías reconstructivas del suelo pélvico. 2019-2023. Universitat Autònoma de Barcelona. Supervisor: Porta Roda, Oriol.
- Rovira Negre, Ramon. Metodología y herramientas para el aprendizaje de las habilidades quirúrgicas asociadas a la cirugía mínimamente invasiva. 2019-2023. Universitat Autònoma de Barcelona. Supervisors: Llurba Olivé, Elisa; Cassadó Garriga, Jordi.
- Soler Moreno, Cristina. La invasión del espacio linfovascular, un factor pronóstico independiente en el càncer - de endometrio estadío inicial?. 2019-2023. Universitat Autònoma de Barcelona. Supervisors: Llurba Olivé, Elisa; Céspedes Navarro, María Virtudes; Porta Roda, Oriol.
- Ullmo Prion, Johana. Remodelado y disfunción cardiaca en pacientes con preeclamplsia regulado por el ambiente anti-angiogénico: estudio clínico y experimental. 2020-2024. Universitat Autònoma de Barcelona. Supervisors: Llurba Olivé, Elisa; Cruz Lemini, Monica Cristina.
- Vega Puyal, Laia. Impacto de las cardiopatías congénitas en el desarrollo neurológico del recién nacido. 2017-2023. Universitat Autònoma de Barcelona. Supervisors: Llurba Olivé, Elisa; Ruíz Campillo, Cèsar W.; Sánchez de Toledo, Joan.
- Zanini Mangialardi, Maria Julia. Activación del sistema inflamatorio periférico y su correlación con el ambiente angiogénico/antiangiogénico en la mujer gestante con bajo y alto riesgo de preeclampsia. Correlación entre en ambiente angiogénico y parámetros de disfunción cardíaca. 2019-2023. Universitat Autònoma de Barcelona. Supervisor: Llurba Olivé, Elisa.

AWARDS

- Elisa Llurba. Premi a l'excel·lència professional concedit pel Col·legi Metges de Barcelona (20/10/2022)

SCIENTIFIC PRODUCTION

- Allotey J, Whittle R, Snell K, Smuk M, Townsend R, von P, Heazell A, Magee L, Smith GCS, Sandall J, Thilaganathan B, Zamora J, Riley RD, Khalil A, Thangaratinam S, Llurba E, IPPIC N. External validation of prognostic models to predict stillbirth using International Prediction of Pregnancy Complications (IPPIC) Network database: individual participant data meta-analysis. *ULTRASOUND IN OBSTETRICS & GYNECOLOGY*. 2022; 59(2). DOI:10.1002/uog.23757. PMID:34405928. IF:8,678 (Q1/1D). Document type: Article.
- Aulinas A, Stantonyonge N, Garcia A, Adelantado JM, Medina C, Espinos JJ, Lopez E, Webb SM, Corcoy R. Hypopituitarism and pregnancy: clinical characteristics, management and pregnancy outcome. *PITUITARY*. 2022; 25(2). DOI:10.1007/s11102-021-01196-7. PMID:34846622. IF:3,599 (Q3/7D). Document type: Article.
- Cancelo MJ, Berral JEA, Caro MC, Criado MC, Gómez JD, Erce JAG, Díaz EG, Alba CJ, Olivé EL, Muñiz MM, Marcos SZ. Diagnóstico y tratamiento de la anemia por déficit de hierro en obstetricia y ginecología: resultados de una encuesta en España. *PROGRESOS DE OBSTETRICIA Y GINECOLOGIA*. 2022; 65(2). Document type: Article.
- Cruz M, Vazquez JC, Ullmo J, Llurba E. Low-molecular-weight heparin for prevention of preeclampsia and other placenta-mediated complications: a systematic review and meta-analysis. *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY*. 2022; 226(2). DOI:10.1016/j.ajog.2020.11.006. PMID:34301348. IF:10,693 (Q1/1D). Document type: Review.
- Dominguez C, Ginjaume N, Ullmo J, Trilla C, Medina MC, Vazquez A, Cruz M, Llurba E. Gestational age-adjusted reference ranges for fetal left ventricle longitudinal strain by automated cardiac motion quantification between 24-37 weeks' gestation. *FETAL DIAGNOSIS AND THERAPY*. 2022; 49(7-8). DOI:10.1159/000527120. PMID:36126644. IF:2,208 (Q4/8D). Document type: Article.
- Espanol P, Luna R, Soler C, Caruana P, Altes A, Rodriguez F, Porta O, Sanchez O, Llurba E, RAMON N, Cespedes MV. Neural plasticity of the uterus: New targets for endometrial cancer?. *WOMENS HEALTH*. 2022; 18:17455057221095537. DOI:10.1177/17455057221095537. PMID:35465787. Document type: Review.
- Llurba E. Les recerques que hem fet. *LA REVISTA-CORAVANT & AACIC* (nº 27) 2022. Documenty type: Article
- Medina C, Ramos de Luís A, Bailón M, Pérez-Guervos R, Cruz-Lemini M, Garrido C, Llurba E. La inducció domiciliària del part amb doble baló: una alternativa segura que millora la satisfacció de la dona. *ANNALS DE MEDICINA*. 2022. Document type: Article.
- Morales D, Ventura M, Altamirano J, Abraldes JG, Cruz M, Thursz MR, Atkinson SR, Sarin SK, Kim W, Chavez R, Higuera MF, Singal AK, Shah VH, Kamath PS, Duarte A, Charles EA, Vargas V, Jager M, Rautou PE, Rincon D, Zamarripa F, Restrepo JC, Torre A, Lucey MR, Arab JP, Mathurin P, Louvet A, García G, González JA, Verna EC, Brown RS, Argemi J, Fernández C, Clemente A, Alvarado E, Forrest E, Allison M, Bataller R. The MELD Score Is Superior to the Maddrey Discriminant Function Score to Predict Short-Term Mortality in Alcohol-Associated Hepatitis: A Global Study. *AMERICAN JOURNAL OF GASTROENTEROLOGY*. 2022; 117(2). DOI:10.14309/ajg.0000000000001596. PMID:34962498. IF:12,045 (Q1/1D). Document type: Article.

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- Pascal R, Crovetto F, Casas I, Youssef L, Trilla C, Larroya M, Cahuana A, Boada D, Foraster M, Llurba E, Sunyer J, Crispi F, Gratacos E, Gomez MD. Impact of the COVID-19 Pandemic on Maternal Well-Being during Pregnancy. *JOURNAL OF CLINICAL MEDICINE*. 2022; 11(8):2212. DOI:10.3390/jcm11082212. PMID:35456306. IF:4,964 (Q2/4D). Document type: Article.
- Pero M, Castells C, Alserawan L, Casani L, Juan JO, Jorba I, Pérez ML, Moga E, Otero J, López P, Badimon L, Vilarrodona A, Porta O. Comparison of a human acellular dermal matrix and a polypropylene mesh for pelvic floor reconstruction: a randomized trial study in a rabbit model. *SCIENTIFIC REPORTS*. 2022; 12(1):20698. DOI:10.1038/s41598-022-22190-4. PMID:36450745. IF:4,996 (Q2/3D). Document type: Article.
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- Trilla C, Mora J, Crovetto F, Crispi F, Gratacos E, Llurba E. First-Trimester SARS-CoV-2 Infection: Clinical Presentation, Inflammatory Markers, and Obstetric Outcomes. *FETAL DIAGNOSIS AND THERAPY*. 2022; 49(3). DOI:10.1159/000523974. PMID:35263747. IF:2,208 (Q4/8D). Document type: Article.
- Trilla C, Mora J, Ginjaume N, Nan MN, Alejos O, Dominguez C, Vega C, Godinez Y, Cruz M, Parra J, Llurba E. Reduction in Preterm Preeclampsia after Contingent First-Trimester Screening and Aspirin Prophylaxis in a Routine Care Setting. *DIAGNOSTICS*. 2022; 12(8):1814. DOI:10.3390/diagnostics12081814. PMID:36010165. IF:3,992 (Q2/4D). Document type: Article.
- Vargas M, Yanez F, Elias A, Bernabeu A, Goya M, Xie ZX, Farras A, Sanchez O, Soler Z, Blasquez C, Valle L, Olivella A, Munoz B, Brik M, Carreras E, Manichanh C. Cervical pessary and cerclage placement for preterm birth prevention and cervicovaginal microbiome changes. *ACTA OBSTETRICIA ET GYNECOLOGICA SCANDINAVICA*. 2022; 101(12). DOI:10.1111/aogs.14460. PMID:36168933. IF:4,544 (Q1/2D). Document type: Article.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- "Health with a gender perspective". General Session 21/22 Hospital de la Santa Creu i Sant Pau. 21/04/2022. Presentation by: Elisa Llurba.
- "Essential Meetings: Adding value to clinical practice in obstetrics". AQUAS (Health Quality and Assessment Agency of Catalonia). 17/05/2022. Webinar Presentation: Elisa Llurba. https://www.youtube.com/watch?v=59aZZVFN6Dg.
- Elisa Llurba. "The place of aspirin in Gynecology". 2022 International Aspirin Foundation Scientific Conference. 29/09/2022. https://www.aspirin-foundation.com/conferences/2022-scientific-conference/
- Round table 1: Research in Health, a model for the future.https://diarisanitat.cat/recerca-en-salut/2023/03/09/vuit-mirades-a-la-recerca-en-salut-a-catalunya/. Invited speaker: Elisa Llurba.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

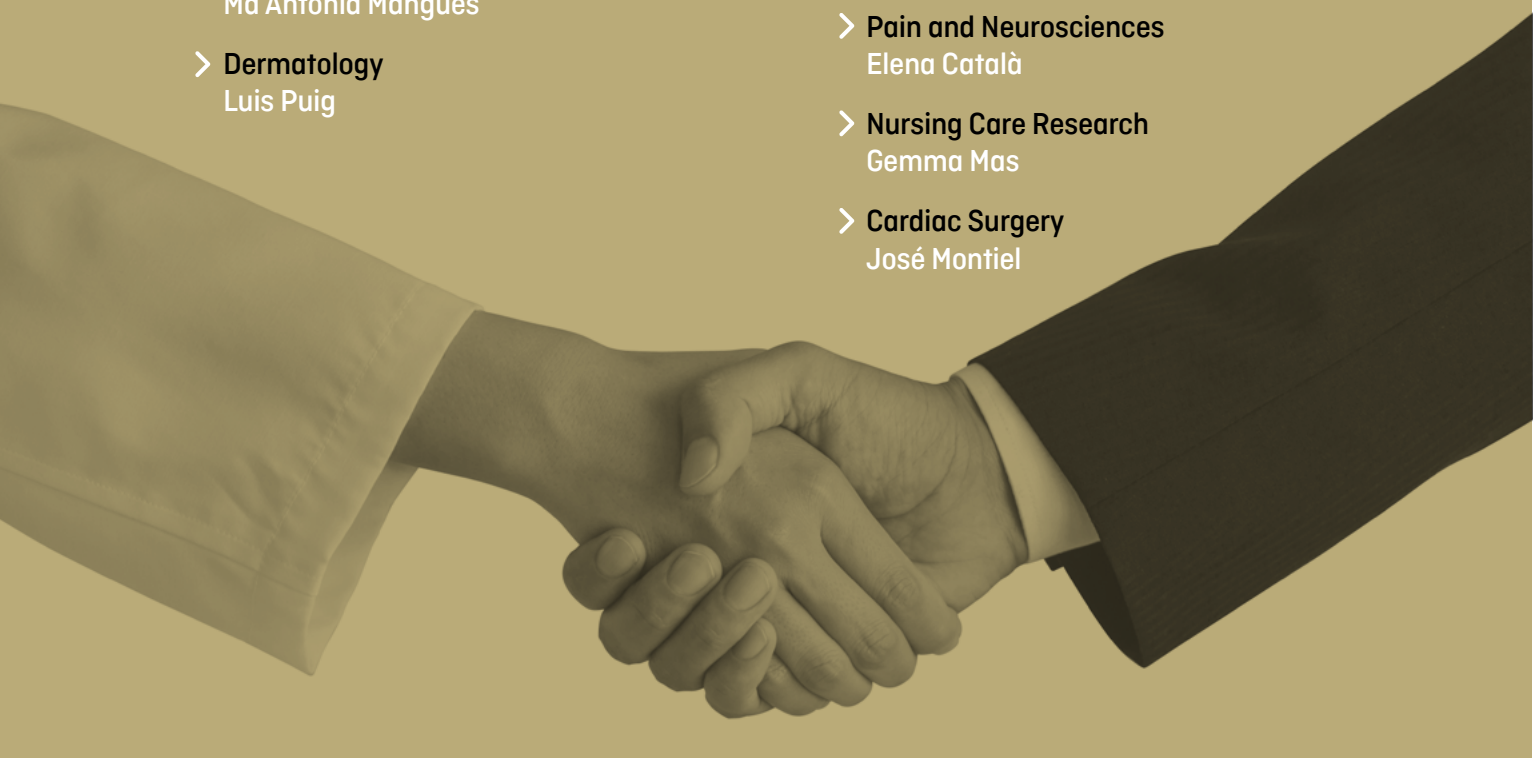
- "None of the studies on the side effects of the vaccine took into account issues related to menstruation." 01/17/2022. Interview Everything moves (TV3). https://www.ccma.cat/tv3/alacarta/tot-es-mou/elisa-llurba-ginecologa-cap-dels-estudis-sobre-els-efectes-secundaris-de-la-vacuna-va-tenir-en-compte-temes-relacionats-amb-la-menstruacio/video/6139286/. Speaker. Elisa Llurba.

- New protocol in Sant Pau that makes it possible to opt for a vaginal birth after two previous caesareans, a feasible option in 70% of cases, always with a prior study. 14/03/2022
- https://www.youtube.com/watch?v=NI6PwTvSbCI) (11/03/2022.
- https://twitter.com/HospitalSantPau/status/1503311933159710724?ref_src=twsrc%5Etfw Speaker. Elisa Llurba.
- "Entre dones". Recinte modernista Sant Pau. 20-21/05/2022. Organizer. https://www.youtube.com/watch?v=uu4YlMAOvwc. Speaker. Elisa Llurba.
- •"Obstetric and reproductive violence: the visible exponent of gender violence". Conference on gender perspective in health. Modernist site Sant Pau. 20/05/2022.
- http://www.santpau.cat/ca/web/public/entredones/jornades-cientifiques/programa?p_p_id=56_INSTANCE_7jDJEvWZ1H34&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1. Speaker. Elisa Llurba.
- "New family models" Jornada Entre Dones. Modernist site Sant Pau. 21/05/2022.
- https://www.santpau.cat/web/public/entredones/jornada-entredones/col-loquis/-/asset_publisher/WAB5LMI4d5aQ/content/coloqui-2022-10h-sala-francesc-cambo?redirect=%2Fweb%2Fpublic%2Fentredones%2Fjornada-entredones%2Fcol-loquis%3Fp_p_lifecycle%3D0%26p_p_id%3D101%26p_p_col_count%3D2%26p_p_col_id%3Dcolumn-2%26p_p_col_pos%3D1&inheritRedirect=true. Speaker: Ana Polo.
- "COVID and women". Jornada Entre Dones. Modernist site Sant Pau. 21/05/2022. Speaker.
- http://www.santpau.cat/web/public/entredones/jornada-entredones/col-loquis/-/asset_publisher/WAB5LMI4d5aQ/content/coloqui-2022-12-45h-sales-3-i-4?redirect=%2Fweb%2Fpublic%2Fentredones%2Fjornada-entredones%2Fcol-loquis%3Fp_p_lifecycle%3D0%26p_p_id%3D101%26p_p_col_count%3D2%26p_p_col_id%3Dcolumn-2%26p_p_col_pos%3D1&inheritRedirect=true. Speaker: Cristina Trilla.
- "Obstetric violence". Jornada Entre Dones. Modernist site Sant Pau. 21/05/2022.
- http://www.santpau.cat/web/public/entredones/jornada-entredones/col-loquis/-/asset_publisher/WAB5LMI4d5aQ/content/coloqui-2022-12-30h-francesc-cambo?redirect=%2Fweb%2Fpublic%2Fentredones%2Fjornada-entredones%2Fcol-loquis%3Fp_p_lifecycle%3D0%26p_p_id%3D101%26p_p_col_count%3D2%26p_p_col_id%3Dcolumn-2%26p_p_col_pos%3D1&inheritRedirect=true. Speaker: Elisa Llurba.
- "Menopause and chronic diseases: what role does nutrition and physical exercise play in their prevention?" 08/07/2022. Speaker: Elisa Llurba. https://be-dona.com/articulos/categoria/salud-de-la-mujer/entrevista-a-la-dra-elisa-llurba-Supervisora-de-bedona-ginecologa-y-obstetra-especialista-en-medicina-funcional/.
- •"Research in Perinatal and Women's Medicine". Open day Mercè 30th anniversary Research Institute of Sant Pau. 24/09/2022. Workshop by: Elisa Llurba, Zoraida Garía, Olga Sánchez.

05.1.6

ASSOCIATED GROUPS

- Emerging Processes in Prevalent Diseases
  Mireia Puig Campmany
- Radiophysics and Radioprotection
  Pablo Carrasco de Fez
- Pediatrics
  Susana Boronat – until October 2022 /
  Elisenda Moliner – from October 2022
- Ophthalmology
  José Antonio Buil – until March 2022 /
  Zoraida Del Campo – from March 2022
- Nuclear Medicine
  Ignasi Carrió
- Intensive Medicine
  Jordi Mancebo – until August 2022
  Indalecio Morán – former group leader
  from August 2022
- Pharmacy
  Ma Antònia Mangues
- Dermatology
  Luis Puig
- Anaesthesiology
  Pilar Paniagua
- Plastic Surgery
  J. Jaume Masià
- Palliative Care
  Antonio Pascual
- Andrology
  Eduard Ruiz
- Urology
  Juan Palou
- Reproductive Health
  Joaquim Calaf
- Radiation Oncology
  Gemma Sancho
- Locomotor System Research
  Xavier Crusí
- Pain and Neurosciences
  Elena Català
- Nursing Care Research
  Gemma Mas
- Cardiac Surgery
  José Montiel



EMERGING PROCESSES IN PREVALENT DISEASES



Group leader
Puig Campmany, Mireia (FGS)

Researchers
Agra Montava, Ivan (FGS)
Alquezar Arbe, Aitor (FGS)
Alvarez Albarran, Maria Teresa (FGS)
Arenos Sambro, Roser (FGS)
Barcons Pujol, Miquel (FGS)
Blazquez Andion, Marta (FGS)
Borrego Yanes, Isel (FGS)
Caballero Flores, Francisco (FGS)
Jodar Manzanera, Victoria (FGS)
Jordan Lucas, Sara (FGS)
Lazzari , Roberto (FGS)
Lozano Polo, Laura (FGS)
Mateo Roca, Miriam (FGS)
Mauri Plana, Albert (FGS)
Moline Pareja, Antoni (FGS)
Montiel Dacosta, Josep Antoni (FGS)
Perez Baena, Sergio (FGS)
Perez Mendez, Maria Carmenza (FGS)
Piera Salmeron, Aina (FGS)
Ris Romeu, Josep (FGS)
Rizzi , Miguel Alberto (FGS)
Rossi , Amelia (FGS)
Santalo Bel, Miguel (FGS)
Seres Roig, Montserrat (FGS)
Torres Tornos, Andreu (FGS)
Trejo Gutierrez, Olga Maria (FGS)
Villate Robles, Luisa Fernanda (FGS)

Research technicians
Soriano Gamero, Miriam (IR)

DESCRIPTION

Our objective is to study and analyze the processes frequently observed in emergency departments, in order to transfer the results to clinical practice and offer better care to patients.
Also to study new organizational formulas to improve efficiency and quality of the processes.

MAIN LINES OF RESEARCH

Clinical Organization and Management (Mireia Puig, Josep Ris, Miriam Mateo)

Patient safety and emergency service quality. (Maite Álvarez)

Teaching (Josep Anton Montiel, J. Leopoldo Higa)
• Echography (R Lazzari)

Organ Donation and Coordination (Francisco Caballero)

Processes

Frailty and elderly (Marta Blázquez)
Infection (Albert Mauri, Maire Álvarez)

• Travel disease (Eva Gil)
• Sexually transmitted diseases (Montse Seres)
• Sepsis (Anotni Moliné, Sergio Pérez-Baena)

Respiratory System Disorders and Acute Respiratory Failure (Antoni Moliné)

Thromboembolic disease (Laura Lozano)

Cardiovascular System (Miquel Santaló)

• Acute coronary syndrome (Roberto Lazzari)
• Ultrasensitive markers in acute coronary syndrome (Aitor Alquézar)
• Cardiovascular Risk (Paola Ponte)

Cardiac failure (Miguel Rizzi, Sergio Herrera, Aitor Alquézar)

Neurologic diseases

Arrhythmias (Olga Trejo, Héctor Hernández)

Diabetes care (Iván Agra)

Toxicology (J. Leopoldo Higa, Héctor Hernández)

Psychiatry (Paola Ponte, Marta Castellà)

SCIENTIFIC CHALLENGES

Emergency and Urgent Care Management, new organizational models
Aging population, frailty and emergency care
Heart failure, new therapeutic scenarios, prevention and home-care
Infection, diagnosis and control
Urgent processes from a gender perspective
Urgent processes with age perspective

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Pharmacy: Medication Code project, development and obtaining of European funds during 2022.
Cardiology, Heart Failure: TIQUE project that obtained European funds in 2020 (Horizon 2020), in development
Neurology, Cerebral Vascular Diseases Unit: HOPE project, AES 2022 funds, under development
Cardiology Department, Arithmia: Q-T Long project, AES 2021 funds, under development
Epidolomogy: HIP attack-2, under developement

EXTERNAL COLLABORATIONS

Estudio EAHFE (Emergency Acute Hearth Failure España) (desde 2010 hasta la actualidad). Desde el año 2011, actualmente sigue activo. Se trata de una cohorte prospectiva que recluta pacientes con insuficiencia cardíaca aguda en los servicios de urgencias de España y del que se derivan múltiples puplicaciones (ver actividad curricular). He colaborado en el registro EAHFE-3 en el año 2011, EAHFE-4 en el año 2013, EAHFE-5 en el año 2015 y EAHFE-6 en el año 2017,EAHFE-8 EN 2022. Todos aprobados por el CEIC de nuestro hospital. Es un estudio multicéntrico a nivel nacional y soyinvestigador principal en el hospital de la Santa Creu i Sant Pau. Esta cohorte es unos de los proyectos del grupo de trabajo ICA-SEMES. Este estudio ha recibido financiación pública competitiva a través de ayudas del Instituto de Salud Carlos III con fondos del Ministerio de Sanidad y FEDER (PI15/01019, PI18/00393), La Marató de TV3 (2015/2510) y la Generalitat de Cataluña para grupos de investigación consolidados (GRC 2009/1385, 2014/0313, 2017/1424).

Red SIESTA

(Spanish Investigators in Emergency Situations Team). Desde Abril 2020. Se trata de una red de investigación promovida desde SEMES y formada por urgenciologos nacionales con el objetivo de realizar estudios sobre patología relevante desde la perspectiva de los Servicios de Urgencias. El primer proyecto abordado fue el estudio de la COVID-19 y genero 28 publicaciones en revistas biomédicas indexadas. El segundo proyecto está en curso, se centra en el estudio de los pacientes ≥65 años (EDEN: Elderlyin Need Emergency Department) está en curso. En el momento actual ha generado alrededor de 20 manuscritos (4 ya están aceptados en revistas biomédicas, el resto están en proceso editorial).

DOCTORAL THESES IN PROGRESS

- Blázquez Andión, Marta. Mejora del proceso "Atención Urgente al Paciente Anciano" en un Servicio de Urgencias Hospitalario: cambio de paradigma e impacto en los resultados. 2020-2024. Universitat Autònoma de Barcelona. Supervisors: Puig Capmany, Mireia; Montiel Dacosta, Josep Antoni; Casademont Pou, Jordi.
- Castellà Rovira, Marta. Anàlisi de la responsabilitat professional mèdica de l'atenció mèdica urgent de Catalunya entre els anys 2000 i 2019. 2022-2024. Universitat Autònoma de Barcelona. Supervisors: Puig Capmany, Mireia; Martín Fumadó, Carles; Arimany, Josep; Bulbena Vilarrasa, Antoni.
- Gil Olivas, Eva. Estudio sobre la incidencia de malaria y los factores de riesgo asociados a cambios socioeconómicos en una zona meso-endémica de malaria en Angola, Cubal, 2014-2016. 2018-2024. Universitat Autònoma de Barcelona. Supervisors: Molina Romero, Israel; Falco Ferrer, Vicenç.
- López Vinardell, Laia. Avaluació de l'impacte clínic i econòmic de la implantació d'un programa de prevenció secundària de problemes de salut relacionats amb ls medicaments integrat com a pràctica clínica habitual dins del programa d'atenció farmacèutica del servei d'urgències. 2022-2024. Universitat Autònoma de Barcelona. Supervisors: Juanes Borrego, Ana; Ruiz Ramos, Jesús; Puig Capmany, Mireia; Casademont Pou, Jordi.
- Marín de la Bárcena Grau, Concepción. Problemas de salud relacionados con los medicamentos que causan consulta a urgencias desde la perspectiva de género. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Juanes Borrego, Ana; Puig Capmany, Mireia; Antonijoan Arbos, Rosa; Pontes, Caridad.
- Romero Carrete, Carlos Jose. Impacto sobre el pronóstico de las descompensaciones tras el debut de la insuficiencia cardíaca aguda: una aproximación desde la cohorte NOVICA. 2023-2026. Universitat Autònoma de Barcelona. Supervisors: Alquézar Arbé, Aitor; Miró Andreu, Òscar; Arzamendi Aizpurua, Dabit.

AWARDS

- Servei d'Urgències de l'HSCSP. Finalistas (2ª de 5 finalistas) como Mejor Servicio de Urgencias en atención al paciente. Premios Best in Class 2022. Sin repercusión econòmica.

SCIENTIFIC PRODUCTION

- Afonso FJ, Comas M, Blázquez M, Castells X, Cirera I, García D, Gómez JM, Pujadas T, Ichart X, Puig M, Rizzi MA, Sinfreu A, Tejero I, Vena AB, Villanueva H, Renom A. Factores asociados con mortalidad a corto plazo en personas que viven en residencias atendidas en servicios de urgencias: resultados del estudio multicéntrico Caregency. *EMERGENCIAS*. 2022; 34(6). PMID:36625693. IF:5,345 (Q1/2D). Document type: Article.
- Agra I, Mateo M, López M. Alcoholic ketoacidosis as a cause of metabolic acidosis. *MEDICINA CLINICA*. 2022; 158(8). DOI:10.1016/j.medcli.2021.06.020. PMID:34465450. IF:3,200 (Q2/5D). Document type: Letter.
- Alquézar A, Miró Ò, Castillo JGD, Jiménez S, Llorens P, Martín A, Martín FJ, García EJ, Piñera P, Jacob J, Porrino JMM, Jiménez B, Río RD, García CP, Aznar JVB, Ponce MC, Fernández ED, Tost J, Mojarro EM, García AH, Quirós AM, Noceda J, Cano MJC, Almela AFDS, Bayarri MJF, Tejera MG, Rodriguez AD, Burillo G. Incidence, Clinical Characteristics, Risk Factors and Outcomes of Acute Coronary Syndrome in Patients With COVID-19: Results of the UMC-19-S10(10). *JOURNAL OF EMERGENCY MEDICINE*. 2022; 62(4). DOI:10.1016/j.jemermed.2021.10.046. PMID:35065863. IF:1,473 (Q4/8D). Document type: Article.
- Benito M, Lopez P, Rodriguez S, Gil V, Llorens P, Yufera A, Jacob J, Traveria L, Strebel I, Lucas FJ, Tost J, Lopez A, Rodriguez B, Fuentes M, Sanchez S, Herrera S, Aguirre A, Alonso MI, Pavon J, Lopez ML, Espinosa B, Mueller C, Burillo G, Miro O, ICA GRP. Ambient temperature and atmospheric pressure at discharge as precipitating factors in immediate adverse events in patients treated for decompensated heart failure. *INTERNAL*

AND EMERGENCY MEDICINE. 2022; 17(7). DOI:10.1007/s11739-022-03078-7. PMID:36050571. IF:5,472 (Q2/3D). Document type: Article.

- Campmany MP, Montiel JA, Higa JL, Romeu JR. Medical education, specialty training, and emergency medicine: when the whole is more than the sum of its parts. *EMERGENCIAS*. 2022; 34(4). PMID:35833772. IF:5,345 (Q1/2D). Document type: Editorial material.
- Cardozo AR, Comas LS, Roig MS, Alquézar A. Impacto de la COVID-19 en el diagnóstico tardío de VIH: a propósito de un caso. *REVISTA ESPANOLA DE QUIMIOTERAPIA*. 2022; 35(6). DOI:10.37201/req/143.2021. PMID:36106694. IF:2,515 (Q3/8D). Document type: Letter.
- Del Castillo JG, Jacob J, García EJ, Salmerón PP, Alquézar A, Llorens P, Jiménez S, Espinosa FBQ, Aguiló S, Gil A, Alonso CF, Burillo G, Fernández BE, Méndez CS, Vela MI, Motto EQ, Cho J-UH, Llopis F, Marrón R, Martín SG, Aguilera CL, González XA, Rizzi MA, Llauger L, Olagüenaga AM, Vaswani A, Esquivel PP, Nicolás JAS, Fernández EC, Escolano ER, García AC, Salgado FF, Miró Ò. Sociodemografía, comorbilidad y situación funcional basal de los pacientes mayores atendidos en urgencias durante la pandemia de COVID y su relación con la mortalidad: análisis a partir de la cohorte EDEN-Covid. *EMERGENCIAS*. 2022; 34(6) PMID:36625692. IF:5,345 (Q1/2D). Document type: Article.
- Díaz RR, Tey GMG, López OÁ, Martín FJ, Sanz IH, Arlegui EA, De Egino IGR, Arozena RP, Gorrotxategi NS, Telletxea XE, Nieva LM, Anza DV, Erviti MA, Bustos CN, Barroso IMM, Alba MCM, Hostalet FO, Bautista JG, Espejo MAS, Julián A, Rojas RN, Rojas IN, Forero WEL, Maganto ES, Berlanga RC, Martín PB, García EJ, Del Castillo JG, Jerez P, Suarez M, Ramos C, et al. [Guardiola-Tey JM, Higa JL, Blazquez-Andion M, Mateo-Roca M, Herrera S]. Utilidad del modelo 5MPB-Toledo para predecir bacteriemia en el paciente anciano. *INFECTIO*. 2022; 26(2). DOI:10.22354/in.v26i2.1011. Document type: Article.
- Díez MPL, Llorens P, Martín FJ, Gil V, Jacob J, Herrero P, Llauger L, Tost J, Aguirre A, Garrido JM, Vega JA, Fuentes M, Alonso MI, Grima MLL, Piñera P, Romero R, Lucas FJ, Andueza JA, Povar J, Richard F, Sánchez C, Miró Ò, Gil C, Alonso H, Pérez E, García GL, Cadenas MS, Escoda R, Aguiló S, Millán J, Pavón J, González NC, Noval A, Rodríguez RC, Reyes JAV, López ML, et al. [Alquézar-Arbé A, Rizzi MA, Herrera S]. Observación en urgencias previa a la hospitalización en pacientes con insuficiencia cardiaca aguda: Impacto sobre el pronóstico a corto plazo. *EMERGENCIAS*. 2022; 34(5). PMID:36217929. IF:5,345 (Q1/2D). Document type: Article.
- Espinosa B, Llorens P, Gil V, Rossello X, Jacob J, Herrero P, Martín FJ, Alquézar A, Masip J, Miró Ò, en representacion I. Prognosis of acute heart failure based on clinical data of congestion. *REVISTA CLINICA ESPANOLA*. 2022; 222(6). DOI:10.1016/j.rce.2021.07.003. PMID:34756646. IF:3,064 (Q2/5D). Document type: Article.
- Garcia A, Sans J, Ferrero A, Alquezar A, Sionis A, Ordonez J. Risk Assessment after ST-Segment Elevation Myocardial Infarction: Can Biomarkers Improve the Performance of Clinical Variables?. *JOURNAL OF CLINICAL MEDICINE*. 2022; 11(5):1266. DOI:10.3390/jcm11051266. PMID:35268358. IF:4,964 (Q2/4D). Document type: Article.
- Gil A, Verdu JM, Gil V, Alquezar A, Llaugers L, Herrero P, Jacob J, Abellana R, Munoz MA, Lopez MP, Ivars N, Espinosa B, Rodriguezl B, Fuentes M, Tost J, Lopez ML, Romero R, Muler C, Peacock W, Llorens P, Miro O, ICA GRP. Evaluation of the HEFESTOS scale to predict outcomes in emergency department acute heart failure patients. *INTERNAL AND EMERGENCY MEDICINE*. 2022; 17(7). DOI:10.1007/s11739-022-03068-9. PMID:36031673. IF:5,472 (Q2/3D). Document type: Article.
- Gonzalez RG, Jacob J, Miro O, Llorens P, Jimenez S, del Castillo JG, Burillo G, Martin A, Martin FJ, Lamberechts JG, Alquezar A, Higa L, Martin SG, Carbajosa V, Chaib FB, Salido M, Gonzalez MJM, Lopez RC, Martinez FG, Monzo JP, Herrera DMV, Valdes A, Motto EQ, Amez JMF, Pinera P. Incidence, Clinical Characteristics, Risk Factors, and Outcomes of Upper Gastrointestinal Bleeding in Patients With COVID-19 Results of the UMC-19-S-12. *JOURNAL OF CLINICAL GASTROENTEROLOGY*. 2022; 56(1). DOI:10.1097/MCG.0000000000001465. PMID:33252555. IF:3,174 (Q4/8D). Document type: Article.
- Jacob J, Albert A, Del JG, Llorens P, Jimenez S, Burillo G, Martin A, Martin FJ, Garcia EJ, Pinera P, Alquezar A, Ferre C, Juan MA, Serrano L, Noceda J, Salido M, Fortuny MJ, Gonzalez M, Ferreras JM, Diaz E, Quero E, Peiro A, Martin E, Llopis F, Huerta A, Pedraza J, Melendez N, Brazo JV, Cano MJ, Miro O. SAFETY AND REVISIT RELATED TO DISCHARGE THE SIXTY-ONE SPANISH EMERGENCY DEPARTMENT MEDICAL CENTERS WITHOUT HOSPITALIZATION IN PATIENTS WITH COVID-19 PNEUMONIA. A PROSPECTIVE COHORT STUDY UMC-PNEUMONIA COVID-19. *REVISTA DE INVESTIGACION CLINICA-CLINICAL AND TRANSLATIONAL INVESTIGATION*. 2022; 74(3). DOI:10.24875/RIC.22000021. PMID:35240755. IF:2,667 (Q3/6D). Document type: Article.
- Jacob J. Gené E, Escalada X, Villamor A, Hernández R, Miró et al. Quality of interpersonal relations among emergency medical staff in Catalonia and differences in hospital and prehospital settings: a survey study. *EMERGENCIAS*. 2022; 34(5). PMID:36217936. IF:5,345 (Q1/2D). Document type: Letter.
- Jimenez S, Miro O, Alquezar A, Pinera P, Jacob J, Llorenss P, Garcia EJ, Martin FJ, Del Castillo JG, Burillo G, Red S. Quality of hospital emergency department care for patients with COVID-19 during the first wave in 2020: the CALUR-COVID-19 study. *EMERGENCIAS*. 2022; 34(5). PMID:36217932. IF:5,345 (Q1/2D). Document type: Article.
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- Ruiz J, López L, Juanes A, Riera A, Puig M, Mangues MA. Risk factors for emergency department revisit in elderly patients with gastrointestinal bleeding secondary to anticoagulant therapy. *EUROPEAN JOURNAL OF HOSPITAL PHARMACY*. 2022; 29(5). DOI:10.1136/ejhpharm-2020-002426. IF:2,537 (Q3/8D). Document type: Article.
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SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- XXVIIè Congrès Nacional d'Urgències i Emergències (SocMUE, 2022). Sitges, 31/03-01/04/2022. Organizing Committee: Mireia Puig.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- 20th Puigcerdà Medical Profession Summer Conference 2022. COMB. Puigcerdà, 15/07/2022. National. Speaker and moderation of the round table: Challenges of healthcare organizations: generate enthusiasm to obtain commitment: Mireia Puig.
- "Entre Dones". First participatory day on women's health at the Hospital de Sant Pau. HSCSP. Barcelona, 20-21/05/2022. National. Speaker and moderation of the round table: covid and woman: Mireia Puig.
- Coordination of major emergencies. Public Security Institute of Catalonia (ISPC). Parets del Vallès, 22 /11/2022. National. Speaker: Hospital intervention in major emergencies: Mireia Puig.
- XXXII National Congress of SEMES. SEEDS Vigo, 8-10/06/2022. National. Speaker and moderation of the round table: "#Actualize ETV: Subestudios del registro Espheria y mejores artículos en ETV publicados el pasado año": Laura Lozano Polo.
- "ENFATIZA. Practical solutions on the management of FANV and ACODs in emergency services". Bristol Myers Squibb Laboratory - Pfizer. Barcelona, 29/09/2022. Participation in the session "Anticoagulation in the emergency services of Catalonia". National. Speaker and moderator: Laura Lozano Polo.
- "The safe use of medicines through different perspectives". ACSP (Catalan Patient Safety Association). Official Nursing College of Barcelona. Barcelona, 02/02/2022. National. Speaker with presentation: Prescription errors in Emergency: Maite Alvarez. Session

RADIOPHYSICS AND RADIOPROTECTION



Group leader
Carrasco De Fez, Pablo (FGS)

Researchers
Anson Marcos, Cristina (FGS)
Barcelo Pages, Marta (FGS)
Gallego Franco, Pedro (FGS)
Garcia Apellaniz, Nagore (FGS)
Jornet Sala, Nuria (FGS)
Perez-Alija Fernandez, Jaime (FGS)
Ruiz Martinez, Agustin (FGS)
Tejedor Aguilar, Natalia (FGS)

Research technicians
Pallerol Pinzano, Rosa Maria (FGS)

DESCRIPTION

The Radiation Physics and Radiation Protection research group carries out applied research on three fields of application of ionizing 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 transmission EPID-based in vivo dosimetry. At present time we have an agreement with Sun Nuclear Co. to clinically implement and suggest improvements on the the SunCHECK® quality assurance platform in radiotherapy, which includes treatment unit quality assurance and patient-related quality assurance, including PerFraction® software, used for in vivo dosimetry with the electronic portal device of linear accelerators. Line conducted by Núria Jornet and Cristina Ansón.

Artificial Intelligence applied to radiotherapy DVH prediction and to radiotherapy treatment plan optimization. Line conducted by Pedro Gallego and Jaime Pérez-Alija.

Standarization in Nuclear Medicine. Line conducted by Agustí Ruiz and Marta Barceló.

Calibration of detectors and development of measurement procedures for screening of individuals affected by nuclear accidents. Line conducted by Agustí Ruiz and Marta Barceló.

Determination of Diagnostic Reference Levels (DRL) by means of a radiation dose management solution. Line conducted by Marta Barceló and Agustí Ruiz.

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 optimize treatment plans.

To standardize quantitatively image acquisition in PET and SPECT imaging.

To calibrate gamma cameras, iodine uptake detectors and radiation monitors to be able to identify persons that should require3 specialized assistance after a nuclear accident.

To determine DRLs for different equipment at HSCSP and compare them against national and international values.

EXTERNAL COLLABORATIONS

- Proyecto MEYER "Protocolo Nacional para la evaluación del I-131 en situaciones de emergencia". Objectius: Desarrollo de un protocolo general de calibración de los equipos de medida de radiactividad para la medida de I-131 en tiroides en situaciones de emergencia radiológica. Contrato de prestación de Servicio de la Fundació Institut de Recerca de L'hospital de la Santa Creu i Sant Pau a TECNATOM, S.A . Durada: 3 de gener de 2023 a 1 de juny de 2024. Entitat finançadora: Consejo de Seguridad Nuclear. Entitats participants: CIEMAT, TECNATOM, S.A., Universidad del País Vasco, Hospital Universitari i Politècnic La Fe, Universitat de Balears, Universitat de València, Hospital de la Sant Creu i Sant Pau. Participació: Agustín Ruiz, Marta Barceló, Pablo Carrasco.

- Conveni Servei RFRP (HSCSP) i empresa Sun Nuclear (EEUU). Centre de referència de la plataforma de gestió de qualitat SunCheck. Objectius: Implementar plataforma SunCHECK™, sistema integrat i automàtic per a la gestió de qualitat en el procés de Radioteràpia (inclou màquines i pacients). Durada: 3 anys (01/07/2019-01/07/2022). Entitat finançadora: Sun Nuclear (EEUU). Entitats participants: Sun Nuclear i servei RFRP (HSCSP). Participació: Montserrat Ribas, Nuria Jornet (Director projecte), adjunts i residents del servei RFRP.
- International study of patient doses and tissue reactions from fluoroscopy guided interventional procedures. Objectius: Improve the information about the frequency of occurrence of tissue reactions in patients from different type of FGI procedures (cardiac, neuro, and body) performed in different parts of the world. Study the relationship between the tissue reactions and the radiation exposure metrics, procedure factors and patient related factors. Use the results of the study to update trigger level values for patient follow up for skin reactions. Update recommendations for improving radiation protection of patients. Provide feedback for the needed development of the IAEA reporting and learning system SAFRAD. Entitat Finançadora: IAEA. Durada fase 1: 1 any. Participació: Marta Barceló.

El Servei col·labora regularment amb els següents grups departaments:

- Departament de Biologia Animal, Biologia Vegetal i Ecologia, UAB. Grup d'estudis citogenètics i moleculars dels efectes de les radiacions ionitzants i del càncer. Objectiu: Avaluar els efectes sobre el genoma humà de les radiacions ionitzants. Analitzar les alteracions genètiques de leucèmies i tumors sòlids. Avaluar la susceptibilitat genètica a leucèmies infantils amb col·laboració d'hospitals de l'Estat.
- Institut de Tècniques Energètiques de Catalunya (INTE), UPC. Projectes de recerca en els que es col·labora són: nivells de dosi en radiologia intervencionista i dosi ocupacional al personal en aquests procediments.
- Servei de Promoció de la Seguretat dels Pacients. Departament de Salut. Generalitat de Catalunya. Grup de treball de prevenció de radiacions ionitzants innecessàries en edat pediàtrica. Objectiu: Elaborar guies i indicacions per la realització de proves complementàries (radiologia convencional, TC i radiologia intervencionista) d'utilització més freqüent en pacients pediàtrics, basant-se en l'evidència científica i el consens entre professionals de tots els àmbits implicats: radiòlegs, pediatres i radiofísics hospitalaris.
- Plataforma nacional de I+D en Protección Radiológica (PEPRI). Objectiu principal: promoure les activitats de I+D+i orientades a la protecció davant les radiacions ionitzants, així com el coneixement i minimització dels seus efectes.

ACTIVE GRANTS

- Constant improvement in quality and safety of radiology, radiotherapy and nuclear medicine through clinical audit (QUADRANT). N°ENER/D3/2019-231-2. Competitiu. European Commission. Núria Jornet (com working package co-lead WP4 and WP5).
- 'EU-REST' (European Union Radiation, Education, Staffing & Training). HADEA/2022/OP/0003. Competitiu. 1 September 2022 and will last until 31 August 2024. European Commission. Núria Jornet (com contributor del WP1 i WP3)
- Núria Farre Bernando. Cancer Multi-Omics Avatars for integrated precision medicine. EraPerMed Farre. EU Joint Actions. Unio Europea (GenCat Funding-acciones complementarias). 21/10/2022. 1/1/2023 fins 31/12/2025. 198.202 euros. Núria Jornet com investigadora.

DOCTORAL THESES IN PROGRESS

- Latorre Mussoll, Artur. Transit-Guided Radiation Therapy (TGRT): A novel patient monitoring approach. 2018-2024. Universitat Politècnica de Catalunya. Supervisors: Jornet Sala, Núria; Sempau Roma, Josep.
- Rojas Cordero, Jady vivien. Impacto Clínico de las sesiones de peer review dentro el proceso de control de calidad en Oncología Radioterapica. 2022-2026. Universitat Autònoma de Barcelona. Supervisors: Jornet Sala, Núria; Sancho Pardo, Gemma; Nomdedeu Guinot, Josep.

SCIENTIFIC PRODUCTION

- Carrasco de Fez P, Jornet, N. (2022). IMRT/VMAT-SABR. In: Troost, E.G.C. (eds) Image-Guided High-Precision Radiotherapy. Cham: Springer, 2022. DOI:10.1007/978-3-031-08601-4_5. Print ISBN:978-3-031-08600-7. Online ISBN:978-3-031-08601-4. Document type: Book chapter.
- Garibaldi C, Essers M, Heijmen B, Bertholet J, Koutsouveli E, Schwarz M, Bert C, Bodale M, Casares O, Gerskevitch E, Koniarova I, Korreman S, Lisbona A, Medina AL, Maas A, Moeckli R, Moore M, Petrovic B, Piotrowski T, Poli E, Prezado Y, Reynaert N, Redalen KR, Markidou ES, Verellen D, Jornet N, Clark CH. The 3(rd) ESTRO-EFOMP core curriculum for medical physics experts in radiotherapy. *RADIOTHERAPY AND ONCOLOGY.* 2022; 170. DOI:10.1016/j.radonc.2022.02.012. PMID:35189156. IF:6,901 (Q1/2D). Document type: Article.
- Jornet N (contributor). COMPREHENSIVE AUDITS OF RADIOTHERAPY PRACTICES: A TOOL FOR QUALITY IMPROVEMENT QUALITY ASSURANCE TEAM FOR RADIATION ONCOLOGY (QUATRO) Second Edition 2022. Austria: IAEA, 2022. STI/PUB/1990. Document type: Book.
- Kaplan LP, Placidi L, Back A, Canters R, Hussein M, Vaniqui A, Fusella M, Piotrowski T, Hernandez V, Jornet N, Hansen CR, Widesott L. Plan quality assessment in clinical practice: Results of the 2020 ESTRO survey on plan complexity and robustness. *RADIOTHERAPY AND ONCOLOGY.* 2022; 173. DOI:10.1016/j.radonc.2022.06.005. PMID:35714808. IF:6,901 (Q1/2D). Document type: Article.
- Latorre A, Delgado P, Gisbert ML, Sala NJ, Sempau J. Transit-guided radiation therapy: proof of concept of an on-line technique for correcting position errors using transit portal images. *PHYSICS IN MEDICINE AND BIOLOGY.* 2022; 67(15):155022. DOI:10.1088/1361-6560/ac7d32. PMID:35767982. IF:4,174 (Q2/4D). Document type: Article.
- Lopez JS, Pujol M, Puig P, Ribas M, Carrasco P, Armengol G, Barquinero JF. Establishment and validation of surface model for biodosimetry based on gamma-H2AX foci detection. *INTERNATIONAL JOURNAL OF RADIATION BIOLOGY*. 2022; 98(1). DOI:10.1080/09553002.2022.1998706. PMID:34705602. IF:3,352 (Q1/1D). Document type: Article.

SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- Meeting of users and reference centers. SunCheck. Barcelona, 27-28/10/2022. International. Scientific and organizing committee: Núria Jornet, Cristina Ansón, Pedro Gallego.
- ESTRO2022. Copenhagen (Denmark), 6-10/05/2022. International. Member of the scientific committee: Núria Jornet.

- 2022 ESTRO Physics Workshop. Lisbon (Portugal), 7-8/10/2022. International. Topic leader on Optimisation of kV imaging in IGRT. Speaker: Núria Jornet.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- Workshop 3: Research. Collaborations, projects and scientific works in Medical Physics. Biennial meeting SEFM 2022. Bilbao, 10/11/2022. National. Invited conference. Speakers: Facundo Ballester Pallarés, Núria Jornet i Sala, Pablo Carrasco de Fez.
- Research Committee: Scientific Commission of the SEFM. Biennial meeting SEFM 2022. Bilbao, 10/11/2022. National. Invited conference. Speaker: Pablo Carrasco de Fez.
- Research Committee: Debate. Biennial meeting SEFM 2022. Bilbao, 10/11/2022. National. Invited conference. Speakers: Pablo Carrasco de Fez, Facundo Ballester Pallarés.
- Leadership in the changing world of RO. Series of AIFM (Italian Association of Medical Physics) webinars. 15/09/2022. Online. Speaker: Núria Jornet.
- OMICS and AI in Head and Neck Cancer: AI in Planning approaches. Modern Radiation Oncology: multidisciplinarity in the era of OMICS and AI guided oncology 32° RESIDENTIAL COURSE. Gemelli Hospital. Roma (Italy), 17-19/10/2022. Speaker: Núria Jornet.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Awareness day on cancer treatment with radiotherapy. Radiotherapy Oncology and Radiophysics and Radioprotection Services. Assembly Hall of the Hospital de la Santa Creu i Sant Pau. 11/07/2022. Aimed at patients undergoing radiotherapy treatment and the general public.

PAEDIATRICS



Group leader
Moliner Calderon,
Elisenda (FGS) / Boronat Guerrero,
Susana (FGS) until October 2022.

Researchers
Aledo Serrano, Angel (IR)
Armendariz Lacasa, Laura (FGS)
Badell Serra, Isabel (FGS)
Balcells Moline, Maria Reyes (FGS)
Barcelo Carceller, Irene (FGS)
Bianchi , Federicha (FGS)
Boronat Guerrero, Susana (FGS)
Brio Sanagustin, Sonia (FGS)
Carreras Gonzalez, Gemma (FGS)
Castillo Gomez, Fatima (FGS)
Coca Fernandez, Elisabet (FGS)
Esmel Vilomara, Roger (FGS)
Fraga Rodriguez, Gloria M. (FGS)
Garcia Del Cerro, Gemma (FGS)
Gil-Nagel Rein, Antonio (IR)
Gonzalez Rioja, Xoan (FGS)
Josa Eritja, Maria (FGS)
Salazar Quiroz, Juan (FGS)
Tirado Capistros, Mireia (FGS)
Torrent Español, Montserrat (FGS)
Turon Viñas, Eulalia (FGS)
Turon Viñas, Marc (FGS)
Valle T-Figueras, Jose 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

Paediatric Bone marrow transplantation. Centro de referencia del Sistema Nacional de Salud (CSUR). Ivan Torrija.

Hereditary erythropathology. Centro de referencia del Sistema Nacional de Salud (CSUR). Montserrat Torrent.
Fanconi anaemia and other hereditary anemies. Montserrat Torrent.
Sarcomas. Centro de referencia del Sistema Nacional de Salud (CSUR). Montserrat Torrent.

Neonatal Infectious Diseases. Elisenda Moliner.

Neonatal Resuscitation and hypoxic ischemic encephalopathy. María Garcia Borau and Elisenda Moliner.

Sonography in critical neonatal care. Juan José Salazar and Judit Becerra.

Neonatal Pharmacology. Edurne Fernàndez de Gamara. MJ García borau.

Hereditary renal diseases: Hiperoxaluria primaria, Glomerulopatía C3, Síndrome de Alport. Gloria Fraga.

Reference center for the treatment of bladder exstrophy in the neonatal age (CSUR F. Puigvert-H. Sant Pau). Anna Bujons and Elisenda Moliner.

SCIENTIFIC CHALLENGES

Paediatric haematopoietic progenitor cell transplantation from alternative donors.

Paediatric haematopoietic progenitor cell transplantationin congenital immunodeficiencies.

Paediatric 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.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

In collaboration with the HSP Unit of Sarcomas and Musculoskeletal Tumors (CSUR Sarcomas). Dr. Gracia / Dr. Lopez Pousa: CI: Montserrat Torrent.

In collaboration with the HSP Unit of Perinatal Medicin. Dr. Elisa Llurba.

EXTERNAL COLLABORATIONS

- Fundació Hospital Universitari Vall d'Hebron-Institut de Recerca (VHIR) Barcelona. Bilateral cooperation between Pediatric Nephrology at H Sant Pau and H Vall d'Hebron, focused on highly complex drug trials, care of patients eligible for renal treatment replacement (dialysis and transplantation), and academic activity and continuing education, in a differentiated way from the regular care scheme.
- Spanish Research Group on Bronchopulmonary Dysplasia (GEIDIS). Spanish Society of Neonatology and Spanish Society of Pediatric Pneumology.
- State Registry of Congenital Infection by Cytomegalovirus (REDIC).
- pTBred (Spanish Pediatric Tuberculosis Study Network) is a network of clinicians and researchers in the field of childhood tuberculosis. This network was born in 2013 thanks to the coordinated effort of the Tuberculosis Working Group of the Spanish Society of Pediatric Infectious Diseases (SEIP), the Tuberculosis Working Group of the Spanish Society of Pediatric Pneumology (SENP) and the European network ptbnet (Pediatric Tuberculosis Network Trialsgroup).
- RICORS (Primary care, promotion of maternal, child and women's health for the prevention of chronic diseases) Objectives: to study primary, secondary and tertiary prevention interventions to prevent maternal and child chronic diseases of perinatal and developmental origin.
- Responsible for the Hospital de la Santa Creu i Sant Pau for the RETI-SEHOP (National Registry of childhood tumors). Society President: Montserrat Torrent.

ACTIVE GRANTS

- Garcia Del Cerro, Gemma. Efectividad de una plataforma web interactiva para mejorar la adherencia al tratamiento en niños y adolescentes con asma difícil de controlar. LVX-ASRHMA-2019. Fundación Lovexair.
- Armendáriz Lacasa, Laura. Oscillometry as tool for the early detection of asthma in patients with allergic rhinitis. IIPSP. 2021
- Carreras Gonzalez, Gemma. Epidemiological study of type 1 diabetes in Spain: Study SED1. SED-INS-2017-01. Project ODDS. Sociedad Española de Diabetes.

GRANTS AWARDED

- 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.
- Moliner Calderon, Elisenda. Targeted Oxygenation in the Respiratory care of Premature Infants at Delivery: Effects on Outcome (TORPIDO 30/60). ACTRN12618000879268. The University of Sidney.
- Esmel Vilomara, Roger. Miocardi atordit neurogènic en el pacient pediàtric neurocrític. IIBSP-MAN-2022-147 .

DOCTORAL THESES IN PROGRESS

- Armendáriz Lacasa, Laura. Caracterización de las poblaciones de Eosinófilos en pacientes con asma eosinofílica; evaluación de expresión de los marcadores de activación mediante citometria de flujo. 2021-2024. Universitat Autònoma de Barcelona. Supervisors: Brió Sanagustín, Sònia; Medina, Eder Mateus; Plaza Moral, Vicente; Badell Serra, Isabell.
- Esmel Vilomara, Roger. Miocarditis en població pediàtrica, peculiaritats diagnòstiques factors pronòstics. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Gran Ipiña, Ferran; Rosés Noguer, Ferran; Melendo Pérez, Susana.
- Roriz, Kátia Regina Pena Schesquini. Estudio analítico retrospectivo de la evolución en los últimos 10 años de los pacientes pediátricos con enfermedad celíaca en un hospital terciario. Código del protocolo: IIBSP-CEL-2019-32. 2022-2025. Universitat Autònoma de Barcelona. Supervisor: Fraga Rodríguez, Gloria.

AWARDS

- Salazar Quiroz, Juan. The best word publiation during the year 2021. Societat Catalana de Pediatria. June 2022. Lleida.
- Valle T-Figueras, Jose Maria; Tirado Capistros, Mireia; Garcia Del Cerro, Gemma; Brio Sanagustin, Sonia. Premi a la Millor comunicació breu. Evolution of acute bronchiolitis during the SARS-CoV2 pandemic. 26th Annual Meeting of the Catalan Society of Pediatrics. June 2022. Lleida.
- Brio Sanagustin, Sonia. Premi a la millor presentatio de malalties infeccioses. Multisystemic inflammatory syndrome associated with sars-cov-2 infection in the pediatric population (MIS-C) in Catalonia: clinical and epidemiological characteristics. 26th Annual Meeting of the Catalan Society of Pediatrics. June 2022. Lleida.
- Brio Sanagustin, Sonia. Second best communication. Pulmonary ultrasound score and respiratory evolution in critically ill children: a prospective multicenter Lus PICO study. 36th National Congress of the Spanish Society of Pediatric Intensive Care held in Seville from June 12 to 15, 2022.

SCIENTIFIC PRODUCTION

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- Author chapter 48: Gema Garcia del Cerro "Bronchiolitis Obliterans" from the Treatise on Pediatric Pneumology SENP-SEPAR. Presented in Jerez de la Frontera on May/22. Document type: Book chapter.
- Author of the chapter Becerra Hervás Judit, Rodriguez Martinez Manuel, Girona Alarcon Monica. in Pediatric Critical Care. Pediatric airway management. Elsevier 2022. Document type: Book chapter.
- Author of the chapter Fraga Rodríguez GM, Huertes Díaz B. "Protocols of the Spanish Association of Pediatrics": Basic evaluation of renal function in pediatrics. Basic evaluation of renal function in Pediatrics. Pediatric ter diagnosis protocol. 2022; 1:25-41. Document type: Book chapter.
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SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- VI Catalan Day of Updates on Pediatric Infectious Diseases: Reptes and controvèrsies in current infectious diseases. Terrassa, 14/10/2022. Meeting Supervisors. José María Valle T-Figueras, Laura Minguell, Neus Rius, Borja Guarch.
- Pediatric and neonatal CPR course taught at Hospital de la Santa Creu i Sant Pau. May-October 2022. Supervisor: Sonia Brió.
- Neonatal Advanced Ressucitation course (SEneo) Hospital de la Santa Creu i Sant Pau. May-November 2022. Supervisor: Elisenda Moliner.
- Updates in Pediatric Pneumology and Allergology. Hospital de la Santa Creu i Sant Pau. 04/03/2022. Supervisor: Gemma García del Cerro.
- I Conference on Neonatology for Primary Care. Hospital de la Santa Creu i Sant Pau. 29/09/2022. Accredited by the Catalan Council for Continuing Education in the Health Professions with 0.7 credits. Supervisor: Elisenda Moliner.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- I Conference on Neonatology for Primary Care. Hospital de la Santa Creu i Sant Pau. 29/09/2022. National. Speaker on Nutrition and Growth of premature infants at hospital discharge: J. Salazar Quiroz.
- Abscessification of a cephalohematoma as a cause of persistent fever in a newborn. The 9th Congress of the European Academy of Paediatric Societies. Barcelona, 7-11/10/2022. International. Speaker: J. Salazar Quiroz.
- Midgut volvulus and possible association with NPHS 1 mutation: case report. The 9th Congress of the European Academy of Paediatric Societies. Barcelona, 7-11/10/2022. International. Speaker: J. Salazar Quiroz.
- ENCEPHALITIS IN CHILDREN IN A TERTIARY SPANISH HOSPITAL. ETIOLOGY, CLINICAL PRESENTATION AND NEUROLOGICAL OUTCOMES. Speakers: Bruna Suriñach-Ayats, José María Valle-T-Figueras, Eulàlia Turón Viñas, Adriana Devolder-Nicolau, Elisabet Coca-Fernandez, Sònia Brió Sanagustín, Susana Boronat-Guerrero.
- Fetal cardiac arrhythmias: from prenatal evaluation and treatment to postnatal long-term follow-up. 55th Meeting of the Association for European Pediatric and Congenital Cardiology. Geneva, 26/05/2022. Oral communication, first author.
- Arterial tortuosity syndrome: phenotypic features and cardiovascular manifestations in 4 new patients identified. 14th Congress of the Spanish Society of Pediatric Cardiology and Congenital Cardiopathies (SECPCC). Las Palmas de Gran Canaria, 11/11/2022. Oral communication, first author.
- Acute kidney injury in allogenic hematopoietic stem cell transplantation in the PICU. Scientific Session at the 9th Congress of the European Academy of Paediatric Societies (EAPS 2022). Barcelona (Spain), 7-11/10/2022. Speakers: S. Brio -Sanagustin, G.M. Fraga Rodríguez, E. Coca-Fernández, M. Rodríguez-Martínez, F. Castillo-Gómez, R.A. Burgeño-Rico, L. García-Marzo, E. Turon-Viñas, A. Devolder-Nicolau, S. Boronat-Guerrero.
- Midgut volvulus and possible association with *NPHS1* mutation: case report. Presentation at the 9th Congress of the European Academy of Paediatric Societies (EAPS 2022). Barcelona (Spain), 7-11/10/2022. Speakes: Juan J. Salazar Quiroz, Elisenda Moliner Calderon, Gloria Mª Fraga-Rodríguez, María José García Borau, Berta Martínez Estradé, S. Boronat-Guerrero.
- Encephalitis in children in a tertiary Spanish hospital. Etiology, clinical presentation and neurological outcomes. 9th Congress of the European Academy of Paediatric Societies (EAPS 2022). Barcelona (Spain), 7-11/10/2023. Speakers: Bruna Surinach Ayats, José María Valle-T-Figueras, Eulàlia Turon-Viñas, Adriana Devolder-Nicolau, Elisabet Coca-Fernandez, Sonia Brio-Sanagustin, S. Boronat-Guerrero.
- Intermittent claudication in an adolescent: suspected antiphospholipid syndrome. An open case for differential diagnosis. 9th Congress of the European Academy of Paediatric Societies (EAPS 2022). Barcelona (Spain), 7-11/10/2023. Speakers: Júlia Serralabós-Ferré, Gemma Garcia del Cerro, José María Valle-T-Figueras, Marta Espinet-Pedrol, Jose Maria Romero, Robert Weaver, Steve Bramon, Noelia Vilalta Seto, S. Boronat-Guerrero.
- Status epilepticus in COVID. 9th Congress of the European Academy of Paediatric Societies (EAPS 2022). Barcelona (Spain), 7-11/10/2023. Speakers: Elisabet Coca-Fernandez, Eulàlia Turon-Viñas, Sonia Brio-Sanagustin, Rodrigo Antonio Burgueño-Rico, Manuel Rodriguez-Martinez, Emma Carbonell-Estarellas, Marta Espinet-Pedrol, Lucy Dougherty-De Miguel, José María Valle-T-Figueras, S. Boronat-Guerrero.
- "Enterovirus Infection associated neurologic disease in a pediatric population in Spain: Correlation between clinical characteristics and genotyping". 9th Congress of the European Academy of Paediatric Societies (EAPS 2022). Barcelona (Spain), 7-11/10/2022. Oral communication by: E. Carbonell, E. Turón, E. Moliner, F. Castillo, L. Armendáriz, A. Turón, M. Del Cuerpo, N. Rabella, S. Boronat.
- "Enterovirus Infection associated neurologic disease in a tertiary hospital in Spain: Clinical characteristics, risk factors and outcomes". 9th Congress of the European Academy of Paediatric Societies (EAPS 2022). Barcelona (Spain), 7-11/10/2022. Oral communication by: E. Turón, F. Castillo, E. Moliner, E. Carbonell, A. Turón, L. Armendáriz, N. Rabella, M. Del Cuerpo, S. Boronat.
- Air Team SEM: Our Experience. 9th Congress of the European Academy of Paediatric Societies (EAPS 2022). Barcelona (Spain), 7-11/10/2022. Speakers: M. Rodríguez Martínez, S. Brio Sanagustín, F. Castillo Gómez, E. Coca Fernández, E Turón Viñas, JJ. Salazar Quiroz, R. Burgueño Rico, S. Boronat.
- Typical hemolytic uraemic syndrome with atypical presentation, regarding a case. XXVI Meeting of the Spanish Society of Pediatric Emergencies. 16-18/06/2022. Speakers: J. Thio Casals, J. Serralabós Ferré, JM. Valle-T-Figueras, G. Fraga Rodríguez, M. Torrent Spanish, R. Balcells Moliné.
- Venous sinus thrombosis in the nephrotic patient and when to be alarmed by a headache. 36th National Congress of the Spanish Society of Pediatric Intensive Care. 12-15/06/2022. Speakers: Adriana Devolder Nicolau, Emma Martinez Ferrer, Emma Carbonell Estarellas, Laura Roig Soria, Jose Maria Valle T-Figueras, Gloria Fraga Rodriguez, Sonia Brio Sanagustin, Elisabet Coca Fernandez.
- Point of Care: Coagulation at the bedside. 36th National Congress of the Spanish Society of Pediatric Intensive Care. Sevilla, 12-15/06/2022. Speakers: M. Rodríguez Martínez, S. Brio Sanagustín, E. Coca Fernández, R. Burgueño Rico, E. Carbonell Estarellas, A. Devolder Nicolau, L. Roig Soria, B. Soler Febrer.
- VI Catalan Conference on Pediatric Infectious Diseases Actualization Reptes and controvèrsies in current infectious diseases. Catalan Society of Pediatric Infectious Diseases. October 2022. Speaker: Gemma García del Cerro.
- Patrons Spirometry per a primary. "Curs d'Updating in Pediatrics Territorial Management Barcelona City 2022". Presentation by: Gemma García del Cerro.

OPHTHALMOLOGY



Group leader
Del Campo Carrasco, Zoraida (FGS) /
Buil Calvo, José Antonio (FGS)
until March 2022.

Researchers
Castillo Campillo, Lorena (FGS)
Castro Seco, Roberto (FGS)
Crespi Vilimelis, Jaume (FGS)
Delgado Weingartshofer, Ruben (FGS)
Diaz Cascajosa, Jesus (FGS)
Gil Arnal, Julian Miguel Angel (FGS)
Gomez Gutierrez, Cecilia (FGS)
Liscombe Sepulveda, John Paul (FGS)
Luna Marine, Maria Sabina (FGS)
Piquer Perez, Maria Pilar (FGS)
Rosello Silvestre, Noemi (FGS)
Tellez Vazquez, Jesus Maria (FGS)
Vela Segarra, Jose Ignacio (FGS)

Research technicians
Garcia Pares, Eva (FGS)
Gomez Prieto, Maria Jose (FGS)
Oliva Sierra, Ruth (FGS)
Salvador Miras, Ignacio (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

- Carreras X, Diaz J, Morales M, Catala J. Bilateral retinal detachment in Hallermann-Streiff syndrome: Case report. *JOURNAL FRANCAIS D OPHTALMOLOGIE*. 2022; 45(3). DOI:10.1016/j.jfo.2021.07.014. PMID:34969549. IF:1,194 (Q4/10D). Document type: Letter.
- Vela JI, Bulnes V, Torrell N, Giro M, Perich S. Bilateral Marginal Corneal Infiltrates: A Novel Ocular Manifestation of DRESS Syndrome. *OCULAR IMMUNOLOGY AND INFLAMMATION*. 2022; 30(1). DOI:10.1080/09273948.2020.1797111. PMID:32816571. IF:3,728 (Q2/4D). Document type: Article.
- Alias SB, Carrasco ZD, Salvador I, Marine SL, Prieto MJG, Martin FL, Casanovas AS. Exploring Vision-Related Quality of Life: A Qualitative Study Comparing Patients' Experience of Cataract Surgery with a Standard Monofocal IOL and an Enhanced Monofocal IOL. *CLINICAL OPHTHALMOLOGY*. 2022; 16. DOI:10.2147/OPTH.S358386. PMID:35656389. Document type: Article.
- Alias L, de Heredia ML, Luna S, Cliville N, Gonzalez L, Gallano P, de Juan J, Pujol A, Diez S, Boronat S, Orus C, Lasa A, Venegas MD. Case report: De novo pathogenic variant in WFS1 causes Wolfram-like syndrome debuting with congenital bilateral deafness. *FRONTIERS IN GENETICS*. 2022; 13:1024742. DOI:10.3389/fgene.2022.998898. PMID:36330437. IF:4,772 (Q1/3D). Document type: Article.
- Gil MA, Varón C, Cardona G, Buil JA. Far and Near Contrast Sensitivity and Quality of Vision with Six Presbyopia Correcting Intraocular Lenses. *JOURNAL OF CLINICAL MEDICINE*. 2022; 11(14):4150. DOI:10.3390/jcm11144150. PMID:35887913. IF:4,964 (Q2/4D). Document type: Article.

NUCLEAR MEDICINE



Group leader
Carrio Gasset, Ignasi (UAB)

Researchers
Abouzian Senhaji, Safae (FGS)
Camacho Marti, M. Del Valle (FGS)
Duch Renom, Joan (FGS)
Fernandez Leon, Alejandro (FGS)
Flotats Giralt, Albert (FGS)
Stefaneli Mormandi, Patricia (FGS)
Torres Quintana, Maria Paula (FGS)
Valverde Jorge, Rafael (FGS)
Velasco Nuño, Monica (FGS)

DESCRIPTION

Current research includes, molecular imaging using radiolabeled tracers; targeted therapies using radioligands; applications of A.I. in image reading and integrating imaging parameters with other clinical or biologic information; PET/CT imaging of tumor models; novel PET derived imaging parameters; novel clinical applications of PET/CT in diagnosis, staging, prognostication and therapy control in cancer; PET/CT imaging of amyloid and tau in Alzheimer's disease; brain imaging od receptors in neurodegenerative disorders; molecular imaging in cardiovascular diseases.

MAIN LINES OF RESEARCH

Molecular imaging in cancer, Albert Flotats

Brain imaging in neurodegenerative disorders: Valle Camacho

A.I. in image reading: Ignasi Carrió

SCIENTIFIC CHALLENGES

New technologies in diagnosis and therapy

Molecular imaging of disease

Integration of A.I. tools in research and the clinic

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Close collaboration with Oncology, Neurology and Cardiology groups

EXTERNAL COLLABORATIONS

Within the ERASMUS + , funded project for Radioligand Therapies in Europe:

KATHOLIEKE UNIVERSITEIT LEUVEN
EBERHARD KARLS UNIVERSITAET TUEBINGEN
ISTITUTO SCIENTIFICO ROMAGNOLO PERLO STUDIO E LA CURA DEI TUMORI SRL
STICHTING EAU FOUNDATION FOR UROLOGICAL RESEARCH
Fondazione Policlinico Universitario Agostino Gemelli IRCCS
CENTRE DE LUTTE CONTRE LE CANCER LEON BERARD
SEMMELWEIS EGYETEM, Hungary
UNIVERSITAET DUISBURG-ESSEN

Within the HOLY 2020 program, funded project for A.I. in imaging of Lymphoma:

Medical University of Vienna, Department of Biomedical Imaging and Image-Guided Therapy

Inserm / U1023 In Vivo Molecular Imaging lab

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. PI19/01512. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 232.320,00 €
- Carrio Gasset, Ignasi. Improved treatment stratification for Hodgkin lymphoma patients through the use of deep learning, molecular imaging and relevant clinical data. AC19/00141. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2022. 99.999,24 €
- Carrio Gasset, Ignasi. Erasmus+ cooperation for multidisciplinary training in radioligand therapies for healthcare professionals. Erasmus+. Unión Europea. Duration: 2022-2024. 36.170,00 €

DOCTORAL THESES IN PROGRESS

- López Mora, Diego. Digital PET. 2020-2024. Universitat Autònoma de Barcelona. Supervisor: Camacho Marti, M. Del Valle; Fernández Leon, Alejandro.

SCIENTIFIC PRODUCTION

- Abouzian S, Camacho V, Sabate A, Stefaneli P, Sizova M, Gich I, Lopez D, Duch J, Fernandez A, Estorch M, Carrio I, Flotats A. Audiovisual intervention alleviates anxiety of patients during PET/CT imaging. *NUKLEARMEDIZIN-NUCLEAR MEDICINE*. 2022; 61(04). DOI:10.1055/a-1759-4062. PMID:35931063. IF:2,221 (Q3/8D). Document type: Article.
- Arbizu J, Perez JG, Hilario A, Grande AG, Rubi S, Camacho V. Update on the diagnosis of encephalitis. *REVISTA ESPANOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR*. 2022; 41(4). DOI:10.1016/j.

remnie.2022.05.003. PMID:35701317. IF:1,247 (Q4/10D). Document type: Article.

- Camps P, McCabe J, Marti J, Giannotti N, Fernandez A, McNulty JP, Baron JC, Barry M, Coutts SB, Cronin S, Delgado R, Dolan E, Foley S, Guasch M, Guisado D, Harbison JA, Horgan G, Kavanagh EC, Marnane M, Martinez A, McDonnell C, Sharma VK, Williams D, Connell MO, Murphy S, Prats L, Kelly PJ. Association of Plaque Inflammation With Stroke Recurrence in Patients With Unproven Benefit From Carotid Revascularization. *NEUROLOGY*. 2022; 99(2). DOI:10.1212/WNL.0000000000200525. PMID:35418461. IF:11,800 (Q1/1D). Document type: Article.
- Casasayas M, Garcia J, Gomez B, Medina V, Fernandez A, Quer M, Leon X. Low skeletal muscle mass assessed directly from the 3rd cervical vertebra can predict pharyngocutaneous fistula risk after total laryngectomy in the male population. *EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY*. 2022; 279(2). DOI:10.1007/s00405-021-07127-3. PMID:34665301. IF:3,236 (Q2/3D). Document type: Article.
- Etminani K, Soliman A, Davidsson A, Chang JR, Martinez B, Byttner S, Camacho V, Bauckneht M, Stegeran R, Ressner M, Agudelo M, Chincarini A, Brendel M, Rominger A, Bruffaerts R, Vandenberghe R, Kramberger MG, Trost M, Nicastro N, Frisoni GB, Lemstra AW, van BNM, Pilotto A, Padovani A, Morbelli S, Aarsland D, Nobili F, Garibotto V, Ochoa M. A 3D deep learning model to predict the diagnosis of dementia with Lewy bodies, Alzheimer's disease, and mild cognitive impairment using brain 18F-FDG PET. *EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING*. 2022; 49(2). DOI:10.1007/s00259-021-05483-0. PMID:34328531. IF:10,057 (Q1/1D). Document type: Article.
- Gomez A, Camacho V. Early phase amyloid PET or "two birds with one Stone ". *REVISTA ESPANOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR*. 2022; 41(4). DOI:10.1016/j.remn.2022.06.001. PMID:35760462. IF:1,247 (Q4/10D). Document type: Editorial material.
- Heeman F, Moscoso A, Camacho V, van M, Grothe MJ, Lin L, Mainta I, Ribaldi F, Devous MD, SR, Pontecorvo MJ, Frisoni GB, Garibotto V, Schöll M. Relationship between [18F]flortaucipir PET visual patterns and neurodegeneration. *ALZHEIMERS & DEMENTIA*. 2022; 18:e067143. DOI:10.1002/alz.067143. IF:16,655 (Q1/1D). Document type: Note.
- López DA, Carrió I, Flotats A. Digital PET vs Analog PET: Clinical Implications?. *SEMINARS IN NUCLEAR MEDICINE*. 2022; 52(3). DOI:10.1053/j.semnuclmed.2021.10.004. PMID:34836617. IF:4,802 (Q2/3D). Document type: Review.
- Moscoso A, Heeman F, Camacho V, van M, Grothe MJ, Lin L, Mainta I, Ribaldi F, Devous MD, SR, Pontecorvo MJ, Frisoni GB, Garibotto V, Schöll M. Prevalence and longitudinal clinical outcomes of negative, moderate, and advanced 18F-flortaucipir PET visual patterns in aging and Alzheimer's disease. *ALZHEIMERS & DEMENTIA*. 2022; 18:e068009. DOI:10.1002/alz.068009. IF:16,655 (Q1/1D). Document type: Note.
- Ona G, Sampedro F, Romero S, Valle M, Camacho V, Migliorelli C, Mananas MA, Antonijoan RM, Puntes M, Coimbra J, Ballester MR, Garrido M, Riba J. The Kappa Opioid Receptor and the Sleep of Reason: Cortico-Subcortical Imbalance Following Salvinorin-A. *INTERNATIONAL JOURNAL OF NEUROPSYCHOPHARMACOLOGY*. 2022; 25(1)DOI:10.1093/ijnp/pyab063. PMID:34537829. IF:5,678 (Q1/2D). Document type: Article.
- Puig N, Camps P, Camacho M, Aguilera A, Jimenez F, Fernandez A, Marin R, Marti J, Sanchez JL, Jimenez E, Benitez S. Plasma sICAM-1 as a Biomarker of Carotid Plaque Inflammation in Patients with a Recent Ischemic Stroke. *TRANSLATIONAL STROKE RESEARCH*. 2022; 13(5). DOI:10.1007/s12975-022-01002-x. PMID:35237947. IF:6,800 (Q1/2D). Document type: Article.
- Sizova M, Camacho V, Sampedro F, Sabate A, Abouzian S, Stefaneli P, Duch J, Fernandez A, Lopez DA, Estorch M, Carrio I, Flotats A. Brain metabolic changes in patients with disseminated malignant melanoma under immunotherapy. *MELANOMA RESEARCH*. 2022; 32(5). DOI:10.1097/CMR.0000000000000835. PMID:35703175. IF:3,199 (Q2/5D). Document type: Article.
- Soliman A, Chang JR, Etminani K, Byttner S, Davidsson A, Martinez B, Camacho V, Bauckneht M, Stegeran R, Ressner M, Agudelo M, Chincarini A, Brendel M, Rominger A, Bruffaerts R, Vandenberghe R, Kramberger MG, Trost M, Nicastro N, Frisoni GB, Lemstra AW, van BNM, Pilotto A, Padovani A, Morbelli S, Aarsland D, Nobili F, Garibotto V, Ochoa M, Alzheimer's Dis Neuroimaging I. Adopting transfer learning for neuroimaging: a comparative analysis with a custom 3D convolution neural network model. *BMC MEDICAL INFORMATICS AND DECISION MAKING*. 2022; 22(SUPPL 6):318. DOI:10.1186/s12911-022-02054-7. PMID:36476613. IF:3,298 (Q3/6D). Document type: Article.
- Tian M, Civelek AC, Carrio I, Watanabe Y, Kang KW, Murakami K, Garibotto V, Prior JO, Barthel H, Zhou R, Hou HF, Dou XF, Jin CT, Zuo CT, Zhang H, Mol Imaging TA. International consensus on the use of tau PET imaging agent F-18-flortaucipir in Alzheimer's disease. *EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING*. 2022; 49(3). DOI:10.1007/s00259-021-05673-w. PMID:34978595. IF:10,057 (Q1/1D). Document type: Article.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- Current status and future trends in Cardiovascular Molecular Imaging. World Congress of Nuclear Medicine and Molecular Imaging. Kyoto, 09/09/2022. International. Invited Plenary Lecturer: Ignasi Carrió.
- PROSTATE CANCER ordinary session of the Catalan Society of Urology. Online. Image technique PET-PSMA. 03/03/2022. Invited speaker: Albert Flotats.
- Challenge the Expert 1 - Oncology & Theranostics Committee: Expert vs Team Barcelona: Prostate Imaging. EANM Congress. Barcelona. 16/10/2022. Speaker: Albert Flotats.

INTENSIVE MEDICINE



Group leader
Moran Chorro, Indalecio (FGS),
acting group leader / Mancebo Cortés, Jordi (FGS) until August 2022

Researchers
Baldira Martinez De Irujo, Jaume (FGS)
Betbese Roig, Antoni J. (FGS)
Cordon Abalde, Alejandra (FGS)
Correa Garcia, Indira (FGS)
Diaz Tormo, Carmen (FGS)
Gomila Sintes, Carme (FGS)
Goyeneche Cepeda, Juan Miguel (FGS)
Izura Gomez, Marta (FGS)
Mancebo Cortes, Jordi (FGS)
Morales Quinteros, Luis Fernando (FGS)
Nievas , Maria Veronica (FGS)
Ovejero Gordillo, Miguel Alfredo (FGS)
Rodriguez Farre, Nuria (FGS)
Santos Rodriguez, Jose Alberto (FGS)
Suarez Montero, Juan Carlos (FGS)
Torrens Sonet, Maria (FGS)
Vera Artazcoz, Paula (FGS)
Zapata Fenor, Luis (FGS)

Research technicians
Serrano Garcia, 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 bellow; 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 (DR. INDALECIO MORÁN)

Non-invasive ventilation.

New ventilation modes: proportional-assist ventilation and NAVA.

Prone decubitus in acute respiratory dysfunction syndrome (ARDS).

Artificial ventilation withdrawal.

Expert ventilation systems.

Sleep and artificial ventilation.

Early and active mobilization of the critical patient.

Extracorporeal CO2 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 (Dr. Antoni 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 LINEES IN CRITICALL CARE TOPICS

Neurocritical patient (Dr. Indalecio Morán)
Severe infectious pathology. Sepsis and septic shock (Dra. Paula Vera)
Drug interactions in critically ill patients and clinical toxicology (Dr. Indalecio Morán)
Nursing research lines: humanization in critical care and discharge process of the critically ill (Sra. Almudena Mateos)
Hemodynamic control, heart failure markers and dynamic echocardiography (Dr. Lluís Zapata)
Study and test the new renal biomarkers of acute renal failure (Dr. Antoni Betbesé)

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. Finding a new biomarker of acute renal failure that could improve the management of patients with this syndrome during or upon hospital admission.

Clarify unresolved issues in the management of patients who require renal replacement techniques.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Neurologia
Neurocirugía

EXTERNAL COLLABORATIONS

SIRAKI (Sepsis Induced Related to Acute Kidney Injury) Group (Dr. Antoni Betbesé)

ACTIVE GRANTS

- Suarez Montero, Juan Carlos. Reversibilidad precoz de la disfunción diastólica como marcador pronóstico en el shock séptico (REPRISS). SOCMIC 2018. Fundació Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears. Duration: 2018-2024. 1.500,00 €

DOCTORAL THESES DEFENDED

- Santos Rodríguez, José Alberto. Análisis de factores predictores de mortalidad en la separación progresiva de la ventilación mecánica estudio de cohortes. 20/05/2022. Universitat Autònoma de Barcelona. Supervisors: Mancebo Cortés, Jordi; Benito Vales, Salvador. http://hdl.handle.net/10803/675624.

DOCTORAL THESES IN PROGRESS

- Gras Martín, Laura. Clinical impact of pharmacokinetic monitoring of antibiotics in critically ill patientsl. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Ruiz Ramos, Jesús; Vera Artázcoz, Paula; Casademont Pou, Jordi.
- Mateos Davila, Almudena. Validation of a new protocol for the use of regional anticoagulation with Baxter citrate in continuous extracorporeal clearance techniques (TCDE) applied to critically ill patients. Quasi-experimental study. IIBSP-CIT-2019-34. 2020-2023. Universitat de Barcelona. Supervisors: Betbesé Roig, Antoni Jordi; Guix Comellas, Eva.

AWARDS

- Jordi Mancebo. Honorary Membership Award otorgado por la ESICM (European Society Intensive Care Medicine), LIVES 40 Congress, Madrid 12 mayo 2022.
- Jordi Mancebo. Honorary Member of the Semicyuc, LVII National Congress of the Semicyuc. Sevilla, June 14, 2022.
- Jordi Mancebo. Member of the Master in Ventilation of the Mechanical Ventilation Society (SMV). Barcelona, June 2022.
- Jordi Mancebo. Honorary Member of the Catalan Society of Intensive and Critical Medicine, 42nd Congress of the Society, Sabadell October 18, 2022.

SCIENTIFIC PRODUCTION

- Amado L, Rodríguez R, Bellani G, Pham T, Fan E, Madotto F, Laffey JG, Pesenti A, Brochard L, Esteban A, Gattinoni L, van F, Ranieri M, Rubenfeld G, Taylor B, Slutsky AS, Rios F, Van F, Sottiaux T, Lora FS, Azevedo LC, Bugedo G, Gonzalez M, Silesky J, Cerny V, Jibaja M, Wrigge H, Matamis D, Ranero JL, Amin P, Hashemian SM, Clarkson K, Kurahashi K, Villagomez A, et al. [Mancebo J]. Mechanical ventilation in patients with cardiogenic pulmonary edema: a sub-analysis of the LUNG SAFE study. *JOURNAL OF INTENSIVE CARE*. 2022; 10(1):55. DOI:10.1186/s40560-022-00648-x. IF:7,520 (Q1/3D). Document type: Article.
- Baldirà J, Morán I, Marruecos L. *Banisteriopsis caapi/Psychotria viridis*. Ayahuasca. In: Toxic Plants. Reports, studies and research 2022. Ministry of Health. Publications Center, 2022; 49-52. https://cpage.mpr.gob.es NIPO en linea: 133-22-020-8. Document type: Book chapter.
- Baldirà J, Morán I, Marruecos L. *Coriaria myrtifolia*. Roldón. In: Toxic Plants. Reports, studies and research 2022. Ministry of Health. Publications Center, 2022; 85-87. https://cpage.mpr.gob.es. NIPO en linea: 133-22-020-8. Document type: Book chapter.
- Baldirà J, Morán I, Marruecos L. *HYDRANGEA MACROPHYLLA*. Hortensia. In: Toxic Plants. Reports, studies and research 2022. Ministry of Health. Publications Center, 2022; 124-126. https://cpage.mpr.gob.es NIPO en linea: 133-22-020-8. Document type: Book chapter.
- Baldirà J, Morán I, Marruecos L. *Narcissus spp.* Narciso. I: Toxic Plants. Reports, studies and research 2022. Ministry of Health. Publications Center, 2022; 172-174. https://cpage.mpr.gob.es. NIPO en linea: 133-22-020-8. Document type: Book chapter.
- Baldirà J, Morán I, Marruecos L. *Oenanthe crocata*. Nabo del diablo. In: Toxic Plants. Reports, studies and research 2022. Ministry of Health. Publications Center, 2022; 184-187. https://cpage.mpr.gob.es. NIPO en linea: 133-22-020-8. Document type: Book chapter.
- Baldirà J, Morán I, Marruecos L. *Senecio jacobea*. Hierba de Santiago. In: Toxic Plants. Reports, studies and research 2022. Ministry of Health. Publications Center, 2022; 222-224. https://cpage.mpr.gob.es. NIPO en linea: 133-22-020-8. Document type: Book chapter.

- Belvís R, Morollón N, Cortés E, Morán I. Tabún, sarín, somán, VX y novichoks: agentes neurotóxicos organofosforados con finalidad bélica o criminal. *KRANION*. 2022; 17(2). DOI:10.24875/KRANION.M22000030. Document type: Review.
- Brault C, Mancebo J, Montero JCS, Bentall T, Burns K, Piraino T, Lellouche F, Bouchard PA, Charbonney E, Carteaux G, Maraffi T, Beduneau G, Mercat A, Skrobik Y, Zuo F, Lafreniere M, Thorpe K, Brochard L, Bosma KJ. The PROMIZING trial enrollment algorithm for early identification of patients ready for unassisted breathing. *CRITICAL CARE*. 2022; 26(1):188. DOI:10.1186/s13054-022-04063-4. PMID:35739553. IF:19,334 (Q1/2D). Document type: Article.
- Co-author of the Book: Algorithms of nutritional intervention in the critically ill Publishing House: Health and Editions, S.L. Edition: Second. ISBN: 978-84-18351-74-7 Publication date: 01/06/2022. List of authors in alphabetical order, page 6 (Paula Vera). Book pages: 1-94. Document type: Book.
- Chastre J, François B, Bourgeois M, Komnos A, Ferrer R, Rahav G, De Schryver N, Lepape A, Koksal I, Luyt C-E, Sánchez M, Torres A, Eggimann P, Koulenti D, Holland TL, Ali O, Shoemaker K, Ren P, Sauser J, Ruzin A, Tabor DE, Akhgar A, Wu Y, Jiang Y, DiGiandomenico A, Colbert S, Vandamme D, Coenjaerts F, Malhotra S, Timbermont L, Oliver A, Barraud O, et al. [Vera P]. Safety, efficacy, and pharmacokinetics of gremubamab (MEDI3902), an anti-Pseudomonas aeruginosa bispecific human monoclonal antibody, in P. aeruginosa-colonised, mechanically ventilated intensive care unit patients: a randomised controlled trial. *CRITICAL CARE*. 2022; 26(1):355. DOI:10.1186/s13054-022-04204-9. PMID:36380312. IF:19,334 (Q1/2D). Document type: Article.
- Frutos F, Peñuelas O, Muriel A, Mancebo J, García A, de Pablo R, Valledor M, Ferrer M, León M, Quiroga JM, Temprano S, Vallverdú I, Fernández R, Gordo F, Anzueto A, Esteban A. Mechanical ventilation in Spain, 1998-2016: changes in the disconnection of mechanical ventilation. *MEDICINA INTENSIVA*. 2022; 46(7). DOI:10.1016/j.medin.2021.04.005. PMID:34092422. IF:2,799 (Q3/7D). Document type: Article.
- Gomila Sintes C, Bernal S, Rojas E, Flores Orella MN, Leoz P, Betbesé Roig AJ. Favism in the elderly. *ARCHIVES OF CLINICAL AND MEDICAL CASE REPORTS*. 2022;6(4):582-585. DOI: 10.26502/acmcr.96550521. Document type: Article.
- Lopez JC, Grau T, Trujillano J, Garcia C, Mor E, Bordeje ML, Portugal E, Lorencio C, Vera P, Macaya L, Martinez JF, Mateu L, Gero M, Gastaldo R, Vila B, Flordelis JL, Montejo JC, Servia L, ENPIC GRP. The Effect of Enteral Immunonutrition in the Intensive Care Unit: Does It Impact on Outcomes?. *NUTRIENTS*. 2022; 14(9):1904. DOI:10.3390/nu14091904. PMID:35565870. IF:6,706 (Q1/2D). Document type: Article.
- Maddali MV, Churpek M, Rezoagli E, Zhuo H, Zhao W, He J, Delucchi KL, Wickersham N, McNeil JB, Jauregui A, Ke S, Vessel K, Gomez A, Hendrickson CM, Kangelaris KN, Sarma A, Leligdowicz A, Liu KD, Matthay MA, Ware LB, Laffey JG, Bellani G, Calfee CS, Sinha P, Rios F, Van F, Sottiaux T, Lora FS, Azevedo LC, Fan E, Bugedo G, Qiu H, Gonzalez M, Silesky J, Cerny V, et al. [Mancebo J]. Validation and utility of ARDS subphenotypes identified by machine-learning models using clinical data: an observational, multicohort, retrospective analysis. *LANCET RESPIRATORY MEDICINE*. 2022; 10(4). DOI:10.1016/S2213-2600(21)00461-6. PMID:35026177. IF:102,642 (Q1/1D). Document type: Article.
- Maggiore SM, Jaber S, Grieco DL, Mancebo J, Zakynthinos S, Demoule A, Ricard J-D, Navalesi P, Vaschetto R, Hraiech S, Klouche K, Frat J-P, Lemiale V, Fanelli V, Chanques G, Natalini D, Ischaki E, Reuter D, Morán I, Combe BL, Longhini F, De Gaetano A, Ranieri VM, Brochard LJ, Antonelli M, RINO Trial Study G. High-Flow Versus VenturiMask Oxygen Therapy to Prevent Reintubation in Hypoxemic Patients after Extubation: A Multicenter Randomized Clinical Trial. *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE*. 2022; 206(12). DOI:10.1164/rccm.202201-00650C. PMID:35849787. IF:30,528 (Q1/1D). Document type: Article.
- Mateos A, Betbesé AJ, Guix EM. Fundamental concepts for the management of continuous replacement therapies. *ENFERMERIA INTENSIVA*. 2022; 33. DOI:10.1016/j.enfi.2021.06.003. Document type: Review.
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- Vidal P, Díaz E, Aguilar E, Amezaga R, Ballesteros MÁ, Bodí MA, Bordejé ML, Garnacho J, García M, López M, Martín I, Ochagavía A, Ramírez P, Alcántara S, Andaluz D, Badallo O, Barrasa H, Borges M, Castellanos Á, Estella Á, Ferrer R, Fraile V, Fuset M, Giménez C, González C, Hernández A, Igeño JC, Iglesias D, Jiménez JJ, Llanos C, Llompart JA, López V, et al. [Zapata L]. Recommendations for the management of critically ill patients with COVID-19 in Intensive Care Units. *MEDICINA INTENSIVA*. 2022; 46(2). DOI:10.1016/j.medine.2021.11.019. PMID:34903475. Document type: Article/Practice guideline.
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SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- CONTINUOUS RENAL SUBSTITUTION TECHNICAL SPECIALIZATION COURSE CALL FOR 2022. TEACHERS and ORGANIZERS: Antoni Betbesé. SMI Hospital de la Santa Creu i Sant Pau. Yolanda Peña. UCIP Hospital Vall d'Hebron. Jose L. Perez. SMI Bellvitge University Hospital. John Shoemaker SMI Bellvitge University Hospital. Andres Pérez Muñoz. Baxter Therapy Specialist. bellvitge Barcelona 31/03/2022, 28/03/2022, 02/06/2022, 24/11/2022,
- Conferences: "How to improve the diagnosis of Shua in the ICU". "How to improve the diagnosis of Shua in the ICU". Barcelona, 19/05/2022. National. Member of the Supervising Board of the Catalan Society of Intensive and Critical Medicine, and organizer: Paula Vera.
- Scientific day: "Post-pandemic psychological self-care by nursing". Barcelona, 26/04/2022. National.
- Organization of congresses: "42nd Annual Congress of the Catalan Society of Intensive and Critical Medicine". Sabadell fair 18/10/2022. National. Organizer as member of the Board of Supervisors.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- Acute renal dysfunction. Continuous Purative Treatment Course in the critical patient. Hospital de la Santa Creu i Sant Pau. Barcelona, 21, 22, 23 and 24/03/2022. Management Foundation of the Hospital de la Santa Creu i Sant Pau de Barcelona. Activity accredited by the Catalan Council for Continuing Education of the Health Professions - Continuing Training Commission of the National Health System. 09/031435-IN - 3.7 credits. National scope. Paper by AJ Betbesé.
- Anticoagulation of the circuit. Continuous Purative Treatment Course in the critical patient. Hospital de la Santa Creu i Sant Pau. Barcelona, 21, 22, 23 and 24/03/2022. Management Foundation of the Hospital de la Santa Creu i Sant Pau de Barcelona. Activity accredited by the Catalan Council for Continuing Education of the Health Professions - Comisión de Formación Continuada del Sistema Nacional de Salud. 09/031435-IN - 3.7 credits. National scope. Paper by AJ Betbesé.
- Clinical case of aHUS. SOCMIC WEBINAR: How to improve the diagnosis of HUS in the ICU. 25/01/2022. PLACE: Virtual, through SOCMIC (ACMCB). COORDINATORS: Joan Sabater, Intensive Medicine Service of the Hospital de Bellvitge, Hospitalet de Llobregat and Teresa Tomasa, Intensive Medicine Service at Germans Trias i Pujol Hospital, AJ Betbesé Hospital de la Santa Creu i Sant Pau.
- VIII Edition FRA. 25-27/04/2022. Puigvert Foundation. Barcelona Biomarkers in FRA. Presentation Organization: Service of Nephrology. Puigvert Foundation Supervisor of the Service: Ll. turned Department of Nephrology Service. Puigvert Foundation Head of Dialysis Unit: J. M. Diaz, AJ Betbesé Hospital de la Santa Creu i Sant Pau.
- VIII FRA Edition. 25-27/04/2022. Puigvert Foundation. Barcelona. Anticoagulation in the RRT. Presentation. Organisation: Nephrology Department. Puigvert Foundation. Service Supervisor: Ll. turned. Address Nephrology Service. Puigvert Foundation. Head of Dialysis Unit: J.M. Diaz, AJ Betbesé Hospital de la Santa Creu i Sant Pau.
- VIII FRA Edition. 25-27/04/2022. Puigvert Foundation. Barcelona. Moderation of Controversies in Renal Replacement Treatment of Acute Renal Failure. Organisation: Nephrology Department. Puigvert Foundation. Service Supervisor: Ll. turned. Address Nephrology Service. Puigvert Foundation. Head of Dialysis Unit: J.M. Diaz, AJ Betbesé Hospital de la Santa Creu i Sant Pau.
- "Body-packer": nonsense of a case. Session of the Clinical Toxicology Working Group of the Catalan Society of Intensive Medicine (GITAB) Barcelona; 07/09/2022. Moderator: Indalecio Morán.

PHARMACY



Group leader
Mangues Bafalluy, Maria Antonia (FGS)

Researchers
Berga Garrote, Nuria (IR)
Cardenete Ornaque, Juana (FGS)
De Dios Lopez, Anna (FGS)
De Pourcq , Jan Thomas (FGS)
Edo Peñarrocha, Josep (FGS)
Feliu Ribera, Anna (FGS)
Fernandez De Gamarra Martinez, Edurne (FGS)
Gamez Lechuga, Maria (FGS)
Garin Escriva, Noe (FGS)
Garrido Alejos, Gemma (FGS)
Gaso Gago, Ingrid (FGS)
Gomis Pastor, Mar (FGS)
Jorba Cortada, Celia (IR)
Juanes Borrego, Ana Maria (FGS)
Juanes Borrego, Maria Elena (IR)
Marcos Fendian, Angel (FGS)
Masip Torne, Montserrat (FGS)
Medina Catalan, David (FGS)
Moreno Martinez, M. Estela (FGS)
Pages Puigdemont, Neus (FGS)
Pelegrin Cruz, Rebeca (FGS)
Riba Sole, Mireia (FGS)
Rodriguez Murphy, Esther (FGS)
Ruiz Ramos, Jesus (FGS)
Vallez Valero, Lucia (FGS)
Villamarin Vallejo, Laura (FGS)
Zarate Tamames, Borja (FGS)

Research technicians
Barredo Hernandez, Anna (IR)
Crusat Abello, Xenia (IR)
Fuset Gonzalez, Marina (IR)
Gras Martin, Laura (FGS)
Lopez Vinardell, Laia (IR)
Rodriguez-Arias Pal, Ainhoa (IR)
Santos Puig, Marc (IR)
Zafri Kasas, Nabila (IR)

DESCRIPTION

The aim of 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.
Oncohaematology.
Independent clinical trials.
Innovation, artificial intelligence & big data.

SCIENTIFIC CHALLENGES

Evaluate the impact of different pharmaceutical care programmes 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, adherence to medication, 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.

Determine the stability and the PK-PD of protein nanoparticles with antimetastatic activity.

Actively cooperate in independent clinical trials performed in Sant Pau.

mHealth, eHealth, artificial intelligence, big data, innovative procedures, etc.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Oncogenesis and Antitumour Drugs (GOA) - CIBER-BBN
Clinical Haematology.
Medical Oncology
Chronic Respiratory Diseases
Emergency

Cardiology
Infectious diseases (HIV)
Reumathology
Genetics
Pediatrics
Biochemistry

EXTERNAL COLLABORATIONS

Centro de Investigación Biomédica en Red de Bioingenieria, Biomateriales y Nanomedicina (CIBER-BBN). Instituto de Salud Carlos III.

Centro de Investigación en Salud Mental (CIBERSAM). Instituto de Salud Carlos III.

Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER). Instituto de Salud Carlos III.

Department of Pharmacology, Toxicology and Therapeutic Chemistry, Faculty of Pharmacy, University of Barcelona.

Faculty of Health Science Blanquerna – Universitat Ramon Llull

European Association of Hospital Pharmacists

Spanish Society of Hospital Pharmacy.

Catalan Society of Clinical Pharmacy

Col·legi Oficial de Farmacèutics de Barcelona

ACTIVE GRANTS

- Mangues 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 €
- Mangues Bafalluy, Maria Antonia. Coordinadora. Acuerdo de Cooperación en el Programa de Becas de Investigación Científica de Janssen-Cilag 2022. Lopez Vinardell, Laia. Aplicación del proyecto Código Medicamento a la práctica clínica assistencial. IIBSP-COD-2022-40.
- Mangues Bafalluy, Maria Antonia. Coordinadora. Acuerdo de Cooperación en el Programa de Becas de Investigación Científica de Janssen-Cilag 2022.Gras Martin, Laura. Impacto clínico de la monitorización farmacocinética de antibióticos en paciente crítico. IIBSP-TDM-2023-28.

DOCTORAL THESES IN PROGRESS

- Cossio, Yolima. Aporte de los sistemas de información en la modernización de los cuadros de mando para la gestión. 2019-2024. Universitat de Barcelona. Supervisors: Garin Escrivá, Noé; Velasco Muñoz, César; Trilla García, Antoni.
- De Dios López, Anna. Estrategia eMIG: impacto asistencial de un programa de salud digital en el manejo integral del paciente con migraña. 2021-2024. Universitat Autònoma de Barcelona. Supervisors: Gomis Pastor, Mar; Masip Torné, Montse; Belvís Nieto, Robert; Pagonabarraga Mora, Javier.
- De Pourcq, Jan Thomas. Evidencia sobre la compatibilidad en la administración concomitante de fármacos por vía parenteral con la nutrición parenteral. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Cardona Pera, Daniel; Riera Armengol, Pau; Mauricio Puente, Dídac.
- Gras Martín, Laura. Impacto clínico de la monitorización farmacocinética de antibióticos en paciente critico. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Ruiz Ramos, Jesús; Vera Artázcoz, Paula.
- López Vinardell, Laia. Abordaje integral de los problemas de salud relacionados con los medicamentos: Código Medicamento. 2021-2024. Universitat Autònoma de Barcelona. Supervisors: Juanes Borrego, Ana; Ruiz Ramos, Jesús.
- Moreno Martínez, Mª Estela. Evaluación del impacto de la actividad delfarmacéutico clínico integrado en equipo de trasplante de progenitores hematopoyéticos. 2021-2026. Blanquerna-Universidad Ramón Llull. Supervisors: Martino Bofarull, Rodrigo; Feliu Ribera, Anna.
- Zarate Tamames, Borja. Papel y oportunidades de la farmacia clínica desde el entorno hospitalario en la mejora del manejo farmacoterapéutico del paciente con patología respiratoria. 2022-2024. Universitat Autònoma de Barcelona. Supervisors: Garin Escrivá, Noé; Crespo Lessmann, Astrid; Plaza Moral, Vicente.

AWARDS

- Laura Gras Martín. Pharmachallenge, 15/12/22. Bayer. 6.500,00 €
- Jesús Ruiz Ramos, Ana Juanes Borrego. Premio a la mejor comunicación científica. 26/11/2022. Sociedad Española Farmacia Hospitalaria (SEFH). 1.500,00 €
- Jesús Ruiz Ramos, Ana Juanes Borrego. VI premios SEFH/ROVI al desarrollo en farmàcia hospitalaria 2022. Proyecto Código Medicamento. 26/11/2022. Sociedad Española Farmacia Hospitalaria (SEFH). 5.000,00 €

SCIENTIFIC PRODUCTION

- Chazan G, Jupp J, Bauters T, Duncan N, Weddle KJ, Nomura H, O'Connor S, Chan A, Alkhudair N, Alsamrani M, Buie LW, Chambers P, Chieh TW, DeRemer DL, Duvivier F, Katabalo D, McFarlane T, Mckavanagh D, Mensah K, Martinez EM, Rowan G, Sae M, Tadesse TA, Weru I, Alexander M. Impact of coronavirus of 2019 on the delivery of pharmacy services to patients with cancer: An international survey of oncology pharmacy practitioners. *JOURNAL OF ONCOLOGY PHARMACY PRACTICE*. 2022; 28(8):10781552211048892. DOI:10.1177/10781552211048892. PMID:34693814. IF:1,416 (Q4/10D). Document type: Article.
- Conejo I, Mas N, Riera P, Cardenete J, Puig R, Blanco MR, De Pourcq JT. Hernia enlargement and pancreatitis in a patient with short bowel syndrome treated with teduglutide. *NUTRICION HOSPITALARIA*. 2022; 39(1):03879. DOI:10.20960/nh.03879. PMID:34903028. IF:1,169 (Q4/9D). Document type: Article.
- Crespo A, Curto E, Garin N, Piera A, Plaza V, Sanchez S. Criterios de derivación del paciente asmático adulto entre neumología, atención primaria y urgencias. Ed: Hospital de la Santa Creu i Sant Pau. 2022. Document type: Practice guideline.
- Crespo A, Curto E, Garin N, Piera A, Plaza V, Sanchez S. Guía Rápida para el Manejo del asma. Ed: Hospital de la Santa Creu i Sant Pau. 2022. Document type: Practice guideline.
- De Dios A, Masip M, Pagès N, Riera P, Mateo MG, Del Mar M, Mangues MA, Gomis M. Desarrollo de una intervención mHealth para rediseñar la ruta asistencial de las personas que viven con VIH: Estudio cualitativo. *FARMACIA HOSPITALARIA*. 2022; 46. DOI:10.7399/fh.13249. PMID:36520560. Document type: Article.
- Galassi M, Moreno-Martínez ME. Chapter 41 Role of Pharmacists. The EBMT/EHA CAR-T Cell Handbook. Ed Nicolaus Kröger, John Gribben, ChristianChabannon, IbrahimYakoub-Agha, Hermann Einsele. ISBN 978-3-030-94352-3 ISBN 978-3-030-94353-0 (eBook) https://doi.org/10.1007/978-3-030-94353-0. Document type: Book chapter.

- Garin N (Comité Ejecutivo). Guía Española para el Manejo del Asma (GEMA 5.2). Editorial luzan5. Madrid 2022. ISBN: 978-84-19069-13-9. Document type: Practice guideline.
- Garin N (Coordinator, co-author). Boletín Grupo NEUMO: Actualización en patología respiratòria. Vol 2. n1, Vol 2. n2, Vol 2. n3, Vol 2. N4. 2022. ISSN: 2792-8365.
- Gutierrez JM, Arenere M, Fernandez E, Fernandez A, Gonzalez S, Nicolas J, Rodriguez ME, Sanchez E. PAUSATE Study: Prevalence and appropriateness of the use of antimicrobials in Spanish hospitals. *FARMACIA HOSPITALARIA*. 2022; 46(5). DOI:10.7399/fh.13152. PMID:36183227. Document type: Article.
- Mangues MA. La Metamorfosis de la Farmàcia de Sant Pau (1950-2022). Capítol del llibre " Hospital de Sant Pau: Història i Vivències 1965-2009". Associació Amics i Alumnes Hospital de Sant Pau. P. 323-335. 2022. ISBN: 977-84-09-41086-6. Document type: Book chapter.
- Mas N, Ruiz J, Juanes AM, Agra I, Vega L, López L, Puig M, Mangues MA. Risk factors associated with emergency service re-visits in frailty diabetic patients who consult for hypoglycaemia. *MEDICINA DE FAMILIA-SEMERGEN*. 2022; 48(3). DOI:10.1016/j.semerg.2021.09.011. PMID:34848135. Document type: Article.
- Medina D, Riera P, Pages N, Masip M, Lopez A, Vilarrasa E, Puig L. A cohort study of guselkumab in the treatment of psoriasis refractory to previous biologic therapies: effectiveness, safety and adherence. *INTERNATIONAL JOURNAL OF CLINICAL PHARMACY*. 2022; 44(3). DOI:10.1007/s11096-022-01400-z. PMID:35380392. IF:2,305 (Q4/8D). Document type: Article.
- Moreno E, de la Serna J, Escudero V, Hernandez JA, Sanchez M, Sanchez R. Cost-utility analysis of venetoclax in combination with obinutuzumab as first-line treatment of chronic lymphocytic leukaemia in Spain. *FARMACIA HOSPITALARIA*. 2022; 46(3). DOI:10.7399/fh.11829. PMID:36183205. Document type: Article.
- Moreno Martínez ME, Rodríguez-Lescure A, Felip Font E, Delgado Sánchez O (Coordinators). 10 desafíos comunes para farmacia hospitalaria y oncología. Coordinadores: Libro. ISBN: 978-84-09-38417-4. Depósito legal: M-6987-2022. Document type: Book chapter.
- Morillo R, Collado R, Arrondo A, Domínguez M, Fernández A, González E, Gutiérrez E, Linares A, de los Ángeles Parro M, Rodríguez MÁ, Gomis M. Guía de implementación de la atención farmacéutica mediante Telefarmacia para profesionales y pacientes. *FARMACIA HOSPITALARIA*. 2022; 46. DOI:10.7399/fh.13260. PMID:36520566. Document type: Article.
- Riera P, Sole N, Suarez JC, Lopez PA, Fonts N, Rodriguez N, de Gamarra EF, Moran I. Drug-drug interactions in an intensive care unit and comparison of updates in two databases. *FARMACIA HOSPITALARIA*. 2022; 46(5). DOI:10.7399/fh.13180. PMID:36183229. Document type: Article.
- Rodríguez F, Caruana P, De la Fuente N, Español P, Gámez M, Balart J, Llurba E, RAMON N, Ruiz R, Martín C, Corchero JL, Céspedes MV. Nano-Based Approved Pharmaceuticals for Cancer Treatment: Present and Future Challenges. *BIOMOLECULES*. 2022; 12(6):784. DOI:10.3390/biom12060784. PMID:35740909. IF:6,064 (Q2/3D). Document type: Review.
- Rodriguez L, Rodriguez A, Mejias M, Beobide I, Juanes AM, Saavedra V, Carrion IM. Validation protocol of the LESS-CHRON deprescription tool in multimorbidity patients. LESS-CHRON-VALIDATION Project. *FARMACIA HOSPITALARIA*. 2022; 46(5). DOI:10.7399/fh.13268. PMID:36183233. Document type: Article.
- Ruiz J, Herrera S, Lopez L, Juanes A, Puig M, Mangues MA. Cefepime Dosing Requirements in Elderly Patients Attended in the Emergency Rooms. *DOSE-RESPONSE*. 2022; 20(1):15593258221078393. DOI:10.1177/15593258221078393. PMID:35237115. IF:2,623 (Q3/7D). Document type: Article.
- Ruiz J, Juanes A, Puig M, Blazquez M, Lopez L, Gilabert A, Guiu JM, Mangues MA. Cost-effectiveness analysis of implementing a secondary prevention programme in those patients who visited an emergency department for drug-related problems. *INTERNATIONAL JOURNAL OF PHARMACY PRACTICE*. 2022; 30(5). DOI:10.1093/ijpp/riac061. PMID:35849346. Document type: Article.
- Ruiz J, López L, Juanes A, Riera A, Puig M, Mangues MA. Risk factors for emergency department revisit in elderly patients with gastrointestinal bleeding secondary to anticoagulant therapy. *EUROPEAN JOURNAL OF HOSPITAL PHARMACY*. 2022; 29(5). DOI:10.1136/ejhpharm-2020-002426. IF:2,537 (Q3/8D). Document type: Article.
- Serda PC, Teres R, Sebio A, Bague S, Orellana R, Moreno ME, Riba M, Lopez A. Single-Center Experience with Trabectedin for the Treatment of Non-L-sarcomas. *ADVANCES IN THERAPY*. 2022; 39(4). DOI:10.1007/s12325-022-02051-2. PMID:35129790. IF:4,070 (Q2/4D). Document type: Article.
- Serra S, López L, Sisinni L, Serna JV, Martínez L, Fernández de Gamarra E, de la Calle O, Badell I. Chronic hypogammaglobulinemia after allogeneic stem cell transplantation and their treatment with subcutanaeos inmunoglobulin in pediatric patients. *ANALES DE PEDIATRIA*. 2022; 97(2). DOI:10.1016/j.anpedi.2021.08.011. PMID:35869014. IF:2,377 (Q3/6D). Document type: Article.
- Trigueros JA, Garin N, Baloira A, Aceituno S, Calvo A, Prades M, Touron C, Martinez A, Torres C. Cost-Effectiveness Analysis of Triple Therapy with Budesonide/ Glycopyrronium/ Formoterol Fumarate versus Dual Therapy in Patients with Chronic Obstructive Pulmonary Disease in Spain. *INTERNATIONAL JOURNAL OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE*. 2022; 17. DOI:10.2147/COPD.S384591. PMID:36411773. IF:2,893 (Q4/8D). Document type: Article.

SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- 67th National Congress of the Spanish Society of Hospital Pharmacy. Barcelona, 24-26/11/2022. National. Committee Chair: Edurne Fernandez de Gamarra Martínez.
- 7th Annual Meeting of the GEDEFO Working Group: Pharmaceutical Care for Oncohematological Patients. Madrid, 18-19/05/2022. National. Scientific coordinator: M Estela Moreno Martínez.
- 7th Pharmacist Day in the 48th Annual EBMT Meeting. Virtual. 19-23/03/2022. International. Pharmacist Committee chair EMBT: Mª Estela Moreno Martínez.
- Pharmacy-Oncology Webtalks. SEOM and SEFH. Virtual. 2022. National. Scientific coordinator: M Estela Moreno Martínez.
- Webinar - Part 2 breakfasts with experts. SEFH-GEDEFO. Virtual. 2022. National. Coordinator: M Estela Moreno Martínez.
- Webinar - 10 common challenges for Hospital Pharmacy and oncology. SEFH SEOM. Virtual. 08/03/2022. National. Coordinator: M Estela Moreno Martínez.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- Reality and Challenges in Access to Medicines Conference. Catalan Society of Clinical Pharmacy. Barcelona, 18/05/2022. National. Participation: chair: M. Antònia Mangues Bafalluy.

- Pharmacy as a transversal axis of Hospital Services. 1st International Congress of Hospital Pharmacy. Ecuador Chapter. 10th South American Congress of Hospital Pharmacy. Quito (Ecuador), 28/10/2022. International. Speaker: M. Antònia Mangues Bafalluy.
- Gender perspective in health: why do ulls work? "Between Gifts" Day. Sant Pau Hospital. Barcelona, 20/05/2022. National. Chair and speaker: M. Antònia Mangues Bafalluy.
- Round Table. Gender Perspective in Health. 67th National Congress of the Spanish Society of Hospital Pharmacy. Barcelona, 24-26/11/2022. National. Chair: M. Antònia Mangues Bafalluy.
- Webinar The health intervention evaluation model. in Spain and in Europe. V Meeting of experts in Health Management and Health Economics. UPF. Barcelona School of Management. Barcelona, 15/11/2022. National. Speaker: M. Antònia Mangues Bafalluy.
- Challenges of antimicrobial therapy in the emergency room. 67th National Congress of the Spanish Society of Hospital Pharmacy. 26/11/2022. National. Moderator: Jesús Ruiz Ramos.
- Adequacy of pharmacotherapy in the complex fragile patient. Deprescribing in people living with HIV. 67th National Congress of the Spanish Society of Hospital Pharmacy. 26/10/2022. National. Speaker: Ana Juanes Borrego.
- Pharmaceutical Care Process regarding a clinical case. Presentation. I International Congress of Hospital Pharmacy Ecuador chapter I X South American Congress of Hospital Pharmacy. Quito, 28/10/2022. International. Speaker: Ana Juanes Borrego.
- Addressing health problems related to medications. I International Congress of Hospital Pharmacy Ecuador chapter i X South American Congress of Hospital Pharmacy. Quito, 28/10/2022. International. Speaker: Ana Juanes Borrego.
- New pharmaceutical care scenarios. Medication Code. 67th National Congress of the Spanish Society of Hospital Pharmacy. 26/11/2022. National. Moderator: Ana Juanes Borrego.
- Health with a gender perspective. Debate: gender perspective in the health sector. Consorci Sanitari i Social de Catalunya. Barcelona, 10/11/2022. National. Speaker/debate: Ana Juanes Borrego.
- The health problems of medications and the burden that patients face and our health system. Royal Academy of Pharmacy of Catalonia. Barcelona, 01/06/2022. National. Speaker/debate: Ana Juanes Borrego.
- Evidence and impact: where are we now and where next for data and intelligence for advancing pharmacy worldwide? The International Pharmaceutical Federation (FIP). 24/05/2022. International. Speaker: Noé Garin Escrivá.
- Adherence in asthma, an efficient option. 67 National Congress of the Spanish Society of Hospital Pharmacy, Barcelona 24-26/11/2022. National. Speaker: Noé Garin Escrivá.
- New horizons in the treatment of eosinophilic diseases. 67th National Congress of the Spanish Society of Hospital Pharmacy. Barcelona, 24-26/11/2022. National. Moderator: Noé Garin Escrivá.
- The challenge of diffuse interstitial lung disease: beyond idiopathic pulmonary fibrosis. 67th National Congress of the Spanish Society of Hospital Pharmacy. Barcelona, 24-26/11/2022. National. Speaker: Noé Garin Escrivá.
- Multidisciplinary approach to T2 inflammation: key role of il4-il13 in respiratory pathologies. SCFC. Barcelona, 06/04/2022. National. Speaker: Noé Garin Escrivá.
- Involvement of the FH in the care of patients with severe asthma: Perspective from a FH service in Catalonia. IV Meeting "Inspiring" in Asma. ASMADRID. Madrid – hybrid. 26/10/2022. National. Speaker: Noé Garin Escrivá.
- Better together! - Hospital pharmacists go collaborative. 26th Annual Congress of the European Association of Hospital Pharmacists. Vienna (Austria), 23-25/03/2022. International. Speaker: Edurne Fernandez de Gamarra Martínez.
- Pharmacokinetic monitoring in critically ill patients. I national congress of hospital pharmacy Ecuador chapter. X South American Congress of Hospital Pharmacy. Quito (Ecuador), 28-30/10/2022. International. Speaker: Edurne Fernandez de Gamarra Martínez.
- Strengthening Programs to Optimize the use of Antimicrobials. I national congress of hospital pharmacy Ecuador chapter. X South American Congress of Hospital Pharmacy. Quito (Ecuador), 28-30/10/2022. International. Speaker: Edurne Fernandez de Gamarra Martínez.
- The SEFH towards 2030. 67th National Congress of the Spanish Society of Hospital Pharmacy. 25/11/2022. National. Speaker: Edurne Fernández de Gamarra Martínez.
- Green I want you green. 67th National Congress of the Spanish Society of Hospital Pharmacy. 24/11/2022. National. Moderator: Edurne Fernández de Gamarra Martínez.
- Post Midyear Conference 2021. S.E.F.H. Exhibition of the "Innovation and Technology" block. Virtual. 16-17/02/2022. National. Speaker: Edurne Fernández de Gamarra Martínez.
- Workshop 2 Reborn: Take care of the pharmacy technician. Towards a safe and efficient work environment. 67th National Congress of the Spanish Society of Hospital Pharmacy. Barcelona 24-26/11/2022. National. Speaker: Rebeca Pelegrín Cruz.
- Workshop 13. GT GEDEFO- Clinical Trials. 67th National Congress of the Spanish Society of Hospital Pharmacy. Barcelona 24-26/11/2022. National. Speaker: Mª Estela Moreno Martínez.
- Pre-Congress Course. GT GEDEFO + GENESIS. 67th National Congress of the Spanish Society of Hospital Pharmacy. Barcelona 24-26/11/2022. National. Speaker: Mª Estela Moreno Martínez.
- Innovation and access to medicines. A great shared challenge. SEFH. Innovation in access: practical cases in onco-hematology. Virtual. 31/05/2022. National. Speaker: Mª Estela Moreno Martínez.
- Spring School, 2022. SEFH. Virtual. 07-08/06/2022. National. Speaker: Mª Estela Moreno Martínez.
- 7th Annual Meeting of the GEDEFO Working Group: Pharmaceutical Care for Oncohematological Patients. Madrid, 18-19/05/2022. National. Speaker, welcome, introduction and presentation of the meeting: Mª Estela Moreno Martínez.
- 7th Annual Meeting of the GEDEFO Working Group: Pharmaceutical Care for Oncohematological Patients. What can we learn from other societies? Madrid, 18-19/05/2022. National. Speaker: Mª Estela Moreno Martínez.
- Pharmacy-Oncology Webtalks from the SEFH and SEOM, Virtual. National. Speaker: Mª Estela Moreno Martínez.
- 13/12/2022. Webtalk XVII: J Adams. Moderator.
- 29/11/2022. Webtalk XVI: William Norris. Moderator.
- 06/09/2022. Webtalk XII: R Weinberg. Moderator.
- 07/06/2022. Webtalk X: Lawrence A. Trissel. Moderator.
- 26/04/2022. Webtalk VII: Joaquim. Moderator.
- 01/03/2022. Webtalk IV: Paracelsus. Moderator.
- 01/02/2022. Webtalk II: Theodor Boveri. Moderator.
- Webinar - 10 common challenges for Hospital Pharmacy and oncology. SEFH SEOM. Virtual. 08/03/2022. National. Moderator: Mª Estela Moreno Martínez

- 23/05/2022. Updating knowledge- urothelial. Role of immunotherapy. Moderator: Mª Estela Moreno Martínez
- 07/02/2022. Updating knowledge - Prostate M0 What's new? Moderator: Mª Estela Moreno Martínez
- 21/02/2022. Updating knowledge-diffuse large B cell lymphoma R/R: new treatment options. Moderator: Mª Estela Moreno Martínez
- Management Table Access to innovation: equity. IV National Symposium on Precision Oncology. Organization: SOG Foundation. Vigo, 24-25/02/2022. National. Speaker: Mª Estela Moreno Martínez
- 7th Pharmacist Day. 48th Annual Meeting EBMT. 19/03/2022. International. Speaker: Mª Estela Moreno Martínez. Virtual
- Pharm1-02 Role of the Pharmacist with CAR T Cells. Speaker: Mª Estela Moreno Martínez. Virtual
- PPharm2 Panel discussion: Antiinfective prophylaxisharm. Moderator: Mª Estela Moreno Martínez. Virtual
- Table 2 - Scientific Societies, the contribution of each harmonic. 10th Congress of Medical Oncology, Hematology and Oncohematological Pharmacy. Toledo, 26-29/10/2022. National. Moderator: Mª Estela Moreno Martínez. Virtual
- Pharmacy-Oncology Webtalks from the SEFH and SEOM, Virtual. 29/11/2022. Webtalk XVI: William Norris. National. Moderator: Laura Villamarin.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Curso de Farmacia Clínica Joaquin Bonal. 7-11, 14-18/03/2022, Barcelona; Accredited by: Sociedad Española de Farmacia Hospitalaria i Sant Pau Docent. Scope: hospital pharmacists. Supervisor: Mª Antònia Mangues; Speakers: Pharmacy Research Group. 49th
- AulaCoach 3ª edición. Programa de Coaching para Directivos en el ámbito sanitario. Madrid, December 2021-Abril 2022. Scope: Healthcare managers. Co-Chair: M. Antonia Mangues (co-chair).
- Atención farmacéutica y farmacia clínica II (6 credits). Pharmacy Degree. Faculty of Health Science Blanquerna-URL. 2022. Scope: undergraduate students. Associate professors: Anna Feliu Ribera, Edurne Fernández de Gamarra Martínez, Noé Garin Escrivà, M. Estela Moreno Martínez.
- Clinical Pharmacy Department. Pharmacy Degree. 2022. Scope: undergraduate students. Associate professors: Ana Juanes Borrego, Jan Thomas De Pourcq.
- Mentoring of students. Pharmacy Degree. Universidad de Barcelona. 2022. Scope: undergraduate students. Associate Professor: Montserrat Masip Torné.
- Diploma Universitario de Experto en Tratamiento Biológico del Asma. 3ª Edición. CEU Universidad San Pablo. 2022. Scope: graduate students, Health professionals. Speaker: Noé Garin Escrivá.
- Título de Experto en Farmacoterapia Respiratoria - 2ª Edición. Universidad de Alcalá. 2022. Scope: graduate students, Health professionals.
- Manejo farmacoterapéutico del asma: elementos clave y novedades de la guía GEMA (Plataforma DPC). Sociedad Española de Farmacia Hospitalaria. 29/03/2022. Scope: hospital pharmacists.
- Información sobre inhaladores presurizados con propelentes hidrofluorocarbonados (HFC) y cómo reducir su huella de carbono. Agencia Española del Medicamento y Productos Sanitarios. Scope: Health professionals, general population. Work group member: Noé Garin Escrivá
- farmacéutica al paciente externo con medicación hospitalaria de dispensación ambulatoria: patologies respiratòries. 11/11/2022. Scope: hospital pharmacists. Speakers: Noé Garin Escrivá, Borja Zarate Tamames. Atención
- Teràpia inhalada i nebulitzada. PENELOPE. Hospital de la Santa Creu i Sant Pau. Barcelona, 03/11/2022. Scope: nurses. Speaker: Noé Garin Escrivá.
- II Curso on-line Formación Básica en Farmacia Oncológica para Farmacéuticos Residentes. Sociedad Española de Farmacia Hospitalaria. Virtual, September 2022- December 2022. SESIÓN 14: "Trasplantes: tipos de trasplante, terapia de soporte en pacientes trasplantados, manejo de complicaciones" dentro del módulo iii: tumores hematológicos. Scope: hospital pharmacists. Speaker: Riba M.
- Innovación en cáncer infrecuente. Ciclo formativo Getthi-Gedefo: Desarrollo y acceso a fármacos en cáncer infrecuente, agnóstico y cáncer de origen desconocido. Virtual. 30/03/2022, 27/04/2022, 25/05/2022. Scope: hospital pharmacists. Scientific coordinator and moderator: M Estela Moreno Martínez.
- Seminar: "Administración Inhalatoria e Intratecal de antibióticos". Módulo Infecciones. Asignatura Intervenciones Farmacéuticas en Terapia Intensiva de la carrera de especialización en Farmacia Hospitalaria. Posgrado de la Facultad de Farmacia y Bioquímica de la Universidad de Buenos Aires. Buenos Aires, April 2022. Scope: graduate students. Speaker: Edurne Fernández de Gamarra Martínez.
- Disponibilidad de los antídotos en Europa. VI Jornada de Antídotos. Organizada por la Societat Catalana de Farmàcia Clínica. Barcelona, 16/12/2022. Activitat acreditada pel Consell Català de Formació Continuada de les Professions Sanitàries - Comisión de Formación Continuada del Sistema Nacional de Salud. Créditos: 0.5. Scope: hospital pharmacists. Speaker: Edurne Fernández de Gamarra Martínez.

DERMATOLOGY



Group leader
Puig Sanz, Luis (FGS)

Researchers
Altemir Vidal, Arcadi (FGS)
Cubiró Raventos, Xavier (FGS)
Garces Gatnau, Joan Ramon (FGS)
Garcia Muret, M. Pilar (FGS)
Iznardo Ruiz, Helena (FGS)
Lopez Sanchez, Cristina (FGS)
Lopez, Ferrer, Anna (FGS)
Morales Munera, Caridad Elena (FGS)
Roe Crespo , Esther (FGS)
Ruiz Salas, Veronica (FGS)
Serra Baldrich, Esther (FGS)
Spertino , Jorge Luis (FGS)
Vilarrasa Rull, Eva (FGS)
Yelamos Pena, Oriol (FGS)

Research technicians
Bittencourt Moraes, Flavia (IR)
Bravo Gonzalez, Marina (IR)
Diaz-Salazar Monreal, Maria (IR)
Flores Climente, Victor Adrian (IR)
Fuentes Garcia, 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 supurativa, 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 Mª Pilar García Muret.

SCIENTIFIC CHALLENGES
Translation of scientific results into clinical practice.
External validation of AI studies.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS
Multiple lines of collaboration with the Inflammatory Diseases / Translational Medicine Group – Leader: Dr Silvia Vidal.

Oncology Research Group - Leader Dr Margarita Majem: study PH-L19IL2TNF-01 (An Open-Label, Randomized, Controlled Multi-Center Study of The Efficacy of Daromun (L19IL2 + L19TNF) Neoadjuvant Intratumoral Treatment Followed by Surgery and Adjuvant Therapy Versus Surgery and Adjuvant Therapy in Clinical Stage IIIB/C Melanoma Patients)

EXTERNAL COLLABORATIONS
"Xarxa de Centres de Melanoma de Catalunya", leader Dr Susana Puig (Hospital Clínic): multicenter (Catalonia) research group focusing mainly in melanoma epidemiological studies.

Centro Nacional de Investigaciones Oncológicas (CNIO), Dexeus University Hospital, Hospital Clínic de Barcelona, Hospital Germans Trias i Pujol, Institut Català d'Oncologia - Leader Hector Peinado: multicenter research project studying circulating melanoma ctDNA (liquid biopsy) to provide theragnostic data.

Hospital de Barbastro, Leader Dr Tamara Gracia Cazaña: multicenter (Spain) research project studying the influence of the exposome on different types of skin cancers.

Hospital Universitario Miguel Servet, Leader Yolanda Gilaberte Calzada: multicenter (Spain) research project studying the efectivity and safety of daylight photodynamic therapy using the app SmartPDT

Hospital Germans Trias i Pujol, Leader Nina Richarz: preoperative delineation of surgical margins of high-risk basal cell carcinomas using handheld reflectance confocal microscopy.

Health Promotion in Rural Areas Research Group, Gerència Territorial de la Catalunya Central, Institut Català de la Salut, Sant Fruitós de Bages, Spain, Leader Dr Josep Vidal-Alaball: multicenter (Catalonia) prospective study to assess the impact of artificial intelligence in clinical practice to improve dermatology referrals.

CBCpsico is a prospective, multicentric study which aims to evaluate the psycological profile of patients diagnosed with basal cell carcinoma. The main objective was to assess whether a certain psychological profile is related to a delayed diagnosis in patients with bcc.

Real-world experience with vismodegib on advanced and multiple BCCs: data from the RELIVIS study. It is a retrospective, multicentric, cohort study that included patients from fifteen reference centres in Spain. We aimed to analyse the real-life management of patients who had previously undergone a vismodegib regime The study has recently been accepted for publication by the Dermatology journal and passed on to their Production Editing Department.

XURCB (Xarxa Urticaria Catalano-Balear) research group focusing mainly in urticaria studies

UCARE and ADCARE, European research GAALEN studies in urticaria and atopic dermatitis

DOCTORAL THESES IN PROGRESS

- Iznardo Ruiz, Helena. Valor de las lesiones escleróticas óseas como nuevo criterio diagnóstico menor en la reclasificación clínica de los pacientes con posible complejo esclerosis tuberosa y en la reclasificación genética de variantes. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Puig Sanz, Luis; Boronat Guerrero, Susana.
- Vilarrasa Rull, Eva. Eficàcia, eficiència, seguretat i supervivència dels tractaments sistèmics en la psoriasis. 2014-2023. Universitat Autònoma de Barcelona. Supervisor: Puig Sanz, Luis.

AWARDS

- Caridad Morales, Oriol Yélamos. Mejor perla terapéutica de la 33 Reunión del Grupo Español de Dermatología Estética y Terapéutica (Cádiz, 10-12 Nov 2022) por: "Liquen Escleroso Tratado Con Terapia Fotodinámica Vehiculizado Con Láser de Co2 ablativo fraccionado: una buena alternativa en casos refractarios"
- Guillermo J Sánchez Rodríguez, Luis Puig, et al. TERCER PREMI A LA MILLOR COMUNICACIÓ a la XVII JORNADA de DERMATOLOGIA CATALANA per: Abscesos asépticos y úlceras de evolucióntórpida. 16/12/2022. 200,00 €

SCIENTIFIC PRODUCTION

- Amat V, Lopez C, Tubau C, Puig L, Serra E. Vulvar allergic contact dermatitis caused by Magnolia officinalis bark extract. *CONTACT DERMATITIS*. 2022; 87(1). DOI:10.1111/cod.14101. PMID:35277988. IF:6,419 (Q1/1D). Document Type: Editorial material.
- Armstrong AW, Soliman AM, Betts KA, Wang Y, Gao YW, Stakias V, Puig L. A Response to: Letter to the Editor Regarding Long-Term Benefit-Risk Profiles of Treatments for Moderate-to-Severe Plaque Psoriasis: A Network Meta-analysis. *DERMATOLOGY AND THERAPY*. 2022; 12(12). DOI:10.1007/s13555-022-00812-z. PMID:36271222. IF:3,661 (Q2/3D). Document Type: Letter.
- Armstrong AW, Soliman AM, Betts KA, Wang Y, Gao YW, Stakias V, Puig L. Long-Term Benefit-Risk Profiles of Treatments for Moderate-to-Severe Plaque Psoriasis: A Network Meta-Analysis. *DERMATOLOGY AND THERAPY*. 2022; 12(1). DOI:10.1007/s13555-021-00647-0. PMID:34862951. IF:3,661 (Q2/3D). Document Type: Article.
- Bechman K, Cook ES, Dand N, Yiu ZZN, Tsakok T, Meynell F, Coker B, Vincent A, Bachelez H, Barbosa I, Brown MA, Capon F, Contreras CR, De La Cruz C, Meglio PD, Gisondi P, Jullien D, Kelly J, Lambert J, Lancelot C, Langan SM, Mason KJ, McAteer H, Moorhead L, Naldi L, Norton S, Puig L, Spuls PI, Torres T, Urmston D, Vesty A, Warren RB, Waweru H, Weinman J, Griffiths CEM, Barker JN, Smith CH, Galloway JB, Mahil SK, PsoProtect G. Vaccine hesitancy and access to psoriasis care during the COVID-19 pandemic: findings from a global patient-reported cross-sectional survey. *BRITISH JOURNAL OF DERMATOLOGY*. 2022; 187(2). DOI:10.1111/bjd.21042. PMID:35104366. IF:11,113 (Q1/1D). Document Type: Letter.
- Bes M, Costafreda MI, Riveiro M, Piron M, Rico A, Quer J, Puig L, Sauleda S. Effect of Hepatitis E Virus RNA Universal Blood Donor Screening, Catalonia, Spain, 2017-2020. *EMERGING INFECTIOUS DISEASES*. 2022; 28(1). DOI:10.3201/eid2801.211466. PMID:34932460. IF:16,126 (Q1/1D). Document Type: Article.
- Blauvelt A, Tsai TF, Langley RG, Miller M, Shen YK, You Y, Yang YW, Papp KA, Puig L. Consistent safety profile with up to 5 years of continuous treatment with guselkumab: Pooled analyses from the phase 3 VOYAGE 1 and VOYAGE 2 trials of patients with moderate-to-severe psoriasis. *JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY*. 2022; 86(4). DOI:10.1016/j.jaad.2021.11.004. PMID:34798201. IF:15,487 (Q1/1D). Document Type: Article.
- Canal E, Bosch X, Belinchon I, Puig L. Nail Psoriasis. *ACTAS DERMO-SIFILIOGRAFICAS*. 2022; 113(5)DOI:10.1016/j.ad.2022.01.006. PMID:35697407. Document Type: Review.
- Carmona E, Iznardo H, Puig L. Retiform purpura in an 80-year-old woman. INTERNATIONAL *JOURNAL OF DERMATOLOGY*. 2022; 61(10). DOI:10.1111/ijd.16120. PMID:35106756. IF:3,204 (Q2/4D). Document Type: Editorial material.
- Carrascosa JM, Puig L, Romero IB, Salgado L, del Alcazar E, Lencina J, Moreno D, de la Cueva P. [Translated article] Practical Update of the Guidelines Published by the Psoriasis Group of the Spanish Academy of Dermatology and Venereology (GPs) on the Treatment of Psoriasis With Biologic Agents: Part 2-Management of Special Populations, Patients With Comorbid Conditions, and Risk. *ACTAS DERMO-SIFILIOGRAFICAS*. 2022; 113(6):T583-T609. DOI:10.1016/j.ad.2022.01.024. PMID:35748004. Document type: Article/Practice Guideline.
- Catala A, Munoz C, Galvan C, Riesco MR, Nebreda DR, Sola A, Giavedoni P, Llamas M, Gonzalez C, Cubiro X, Ruiz R, Gomez S, Mateo MPG, Pesque D, Marcantonio O, Fernandez D, Romani J, Pena NI, Gonzalez LC, Tercedor J, Carretero G, Masat T, Rodriguez P, Gimenez AM, Utrera M, Laguna EV, Menendez A, Lasser ES, Iglesias M, Naranjo LA, Hiltun I, Marco EC, Olabarrieta IP, Escobedo SM, Garcia X, Gutierrez MJC, Baeza G, Camps LB, Toledo T, Guilabert A. Cutaneous reactions after SARS-CoV-2 vaccination: a cross-sectional Spanish nationwide study of 405 cases. *BRITISH JOURNAL OF DERMATOLOGY*. 2022; 186(1). DOI:10.1111/bjd.20639. PMID:34254291. IF:11,113 (Q1/1D). Document Type: Article.
- Chabra S, Gill BJ, Gallo G, Zhu DT, Pitou C, Payne CD, Accioly A, Puig L. Ixekizumab Citrate-Free Formulation: Results from Two Clinical Trials. *ADVANCES IN THERAPY*. 2022; 39(6). DOI:10.1007/s12325-

022-02126-0. PMID:35449322. IF:4,070 (Q2/4D). Document Type: Article.
- Chicharro P, Llamas M, Armesto S, Acosta EH, Vidal D, Vilarrasa E, Rivera R, De P, Martorell A, Ballesca F, Belinchon I, Carretero G, Rodriguez L, Romero A, Pujol J, Salgado L, Sahuquillo A, Coto P, Rodriguez OB, Feltes R, Riera J, Dauden E. Secukinumab is effective and safe in the long-term treatment of plaque psoriasis in a daily practice setting: Multicenter study in 384 Spanish patients. *DERMATOLOGIC THERAPY*. 2022; 35(12):e15929. DOI:10.1111/dth.15929. PMID:36223184. IF:3,858 (Q2/3D). Document Type: Article.
- Chicharro P, Llamas M, Armesto S, Herrera E, Vidal D, Vilarrasa E, Rivera R, De la Cueva P, Martorell A, Ballesca F, Belinchon I, Carretero G, Rodriguez L, Romero A, Pujol J, Salgado L, Sahuquillo A, Coto P, Baniandres O, Feltes R, Alsina M, Dauden E. Fast and sustained improvement of patient-reported outcomes in psoriatic patients treated with secukinumab in a daily practice setting. *DERMATOLOGIC THERAPY*. 2022; 35(8):e15653. DOI:10.1111/dth.15653. PMID:35731640. IF:3,858 (Q2/3D). Document Type: Article.
- Colmenero M, del Boz J, Wittel JB, Roe E, Feito M, Vicente MA, Martin A, Perez S, Azon A, Valdivielso M, Torrelo A, Moya A, Campos M, Garnacho G, Defez J, Casano AV, Tercedor J, Alcala R, Gonzalez MA, Giacaman A, Hernandez A, Garcia MTM, Bauza A, Dominguez J, Garcia I, Grau M. Inter- and intra-observer variability in the selection of therapy for infantile hemangiomas among pediatric dermatologists in Spain. *PEDIATRIC DERMATOLOGY*. 2022; 39(4). DOI:10.1111/pde.15015. PMID:35504688. IF:1,997 (Q3/7D). Document Type: Article.
- Cubiro X, Garcia C, Tubau C, Puig L. Nodular scabies mimicking breast cancer skin metastasis. *INDIAN JOURNAL OF DERMATOLOGY VENEREOLOGY & LEPROLOGY*. 2022; 88(1). DOI:10.25259/IJDVL_63_2021. PMID:34623049. IF:2,217 (Q3/7D). Document Type: Letter.
- de Bruin MS, Serra E, Barbarot S, Grond S, Schuster C, Petto H, Capron JP, Raibouaa A, Werfel T. Indirect Treatment Comparison of Baricitinib versus Dupilumab in Adults with Moderate-to-Severe Atopic Dermatitis. *DERMATOLOGY AND THERAPY*. 2022; 12(6). DOI:10.1007/s13555-022-00734-w. PMID:35543919. IF:3,661 (Q2/3D). Document Type: Article.
- de Frutos JO, Carretero G, de Lucas R, Puig S, Serra E, Castro SG, Laserna FR, Loza E, Silvestre JF. Comorbidity identification and referral in atopic dermatitis: a consensus document. *JOURNAL OF DERMATOLOGICAL TREATMENT*. 2022; 33(5). DOI:10.1080/09546634.2022.2067815. PMID:35435103. IF:3,230 (Q2/4D). Document Type: Article.
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SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- Inflamaderm. Barcelona, 17/11/23. National. Ororganizers, moderators, speakers: Lluis Puig i Esther Serra.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- XI meeting of the Spanish Group of E-Dermatology and Image (GEDEI). Madrid, 02/11/2022. National. Moderator of the E-Dermatology and Artificial Intelligence section: Oriol Yélamos.
- XXXV International Course on Therapeutics, Chilean Society of Dermatology. Santiago de Chile (Chile), 19/08/2022. International. Invited to speak about "Management of skin toxicities in immuno-oncology." Guest speaker: Oriol Yélamos.
- Congress of the Ibero-Latin American College of Dermatology (CILAD). Madrid 30/06/2022. International. Invited to speak about "Dermatoscopy of pink lesions". Guest speaker: Oriol Yélamos.
- Congress of the Ibero-Latin American College of Dermatology (CILAD), Madrid, 30/06/2022. International. Invited to speak about "Clinical cases in dermoscopy – BAP1 inactivated tumors". Guest speaker: Oriol Yélamos.
- Congress of the Ibero-Latin American College of Dermatology (CILAD). Madrid, 01/07/2022. International. Invited to speak about "Update on the pathophysiology of rosacea. Current treatments, medical need and new perspectives. Guest speaker: Oriol Yélamos.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Euromelanoma campaign for melanoma screening and awareness. Spanish Academy of Dermatology and Venereology. Barcelona, 17/06/2022. General population. Speaker: Oriol Yélamos.

ANAESTHESIOLOGY



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Fonseca Pinto, Teresa (FGS)
Font Gual, Adria (FGS)
Garcia Alvarez, Maria Mercedes (FGS)
Garcia Muret, Albert (FGS)
Garcia Rodriguez, Alejandro (FGS)
Gil De Bernabe Sala, Maria Angels (FGS)
Gil Sanchez, Jose Maria (FGS)
Gine Serven, Marta (FGS)
Gomez Caro, Ana Maria (FGS)
Gonzalez Fernandez, Joaquin (FGS)
Gonzalez Rodriguez, Raul (FGS)
Gracia Tomas, Roger (FGS)
Guadalupe Fernandez, Nerea (FGS)
Gutierrez Marques, Alejandro (FGS)
Hermenegildo Chavez, Gisela Myrella (FGS)
Herranz Perez, Gracia (FGS)
Hinojal Blanco, Ignacio (FGS)
Illa Ribera, Sussana (FGS)
India Aldana, Inmaculada (FGS)
Italiano , Stefano (FGS)
Koller , Tobias Bernhard (FGS)
Maestre Hittinger, Maria Luz (FGS)
Martin Navarro, Manuel (FGS)
Martinez Garcia, Clara (FGS)
Merten , Alfredo R. (FGS)
Millan Moreno, Irina (FGS)
Miralles Bagan, Jordi (FGS)
Moral Garcia, M. Victoria (FGS)
Moreno Bueno, Marisa (FGS)
Mur Irizar, Marta (FGS)
Nuñez Sacristan, Sergio (FGS)
Pablo Fernandez, Rosa (FGS)
Pardo Pinzon, Laura Andrea (FGS)
Parrilla Quiles, Laura (FGS)
Paz Martin, Adriano (FGS)
Pelaez Vaamonde, Xavier (FGS)
Perez Garcia, Sergio (FGS)
Rivilla Lizano, M. Teresa (FGS)
Rodriguez Prieto, Mireia (FGS)
Rodriguez Vergara, Alex (FGS)
Sabate Tenas, Sergi (FGS)
Santacana Rillo, Ester (FGS)
Sneyers Closa, Marijke (FGS)
Solans Duran, Jose Ramon (FGS)
Toral Fernandez, Diego (FGS)
Villamizar Avendaño, Angelica (FGS)
Villamor Vazquez, Jose Maria (FGS)

DESCRIPTION

Research is mainly carried out in the field of perioperative medicine. We have collaborated together with the department of epidemiology in a large number of multicentric studies in this area.

MAIN LINES OF RESEARCH

Perioperative myocardial infarction. Pilar Paniagua, Sergi Sabaté, Mari Luz Maestre

The Individualized Perioperative Open-lung Ventilatory Strategy (iPROVE). Ana parera, Gonzalo Azparren

Bleeding associated coagulopaty, new treatment strategies. Tobias Koller.

SCIENTIFIC CHALLENGES

Critical analysis of new clinical technologies.

Patient blood management.

Perioperative medicine.

Development of new health service systems.

Clinical and preclinical research into physiology, pharmacology and anaesthetic/analgesic techniques.

DOCTORAL THESES IN PROGRESS

- Beltran de Heredia Marrodan, Sandra. Complicacions cardiovasculars i cerebrovasculars i mortalitat en pacients amb lesió miocardíaca perioperatòria (MINS) tractats amb aspirina i estatines: estudi prospectiu observacional. 2020-2023. Universitat Autònoma de Barcelona. Supervisors: Sabaté Tenas, Sergi; Gallart Gallego, Lluis.
- Mases Fernández, Anna. Anàlisi i validació dels predictors de risc de complicacions cardiovasculars majors peroperatòries. 2020-2023. Universitat Autònoma de Barcelona. Supervisors: Sabaté Tenas, Sergi; Gallart Gallego, Lluis.
- Prieto Butillé, Mercè. Estudi Fragilitat, Anestesia i Complicacions (Estudi FRAC). 2021-2024. Universitat Autònoma de Barcelona. Supervisors: Sabaté Tenas, Sergi; Gallart Gallego, Lluis.
- Popova, Ekaterina. Implementing a perioperative myocardial injury screening in noncardiac surgery with high-sensitivity cardiac troponin T: challenges and complexities. 2016-2023. Universitat Autònoma de Barcelona. Supervisors: Alonso Coello, Pablo; Paniagua Iglesias, Pilar; Ordoñez, Jordi; Bonfill Cosp, Xavier.

SCIENTIFIC PRODUCTION

- Campos NS, Bluth T, Hemmes SNT, Librero J, Pozo N, Ferrando C, Ball L, Mazzinari G, Pelosi P, Gama de Abreu M, Schultz MJ, Serpa A; REPEAT; investigators for the PROVHILO study; iPROVE study; PROBESE study investigators; PROVE Network [Unzueta C, Moral MV, Sabate S, Cegarra V]. Intraoperative positive end-expiratory pressure and postoperative pulmonary complications: a patient-level meta-analysis of three randomised clinical trials. *BRITISH JOURNAL OF ANAESTHESIA*. 2022; 128(6). DOI:10.1016/j.bja.2022.02.039. PMID:35431038. IF:11,719 (Q1/1D). Document type: Article.
- Devereaux PJ, Lamy A, Chan MTV, Allard RV, Lomivorotov VV, Landoni G, Zheng H, Paparella D, McGillion MH, Belley EP, Parlow JL, Underwood MJ, Wang CY, Dvirnik N, Abubakirov M, Fominskiy E, Choi S, Fremes S, Monaco F, Urrutia G, Maestre M, Hajjar LA, Hillis GS, Mills NL, Margari V, Mills JD, Billing JS, Methangkool E, Polanczyk CA, Sant'Anna R, Shukevich D, Conen D, Kavsak PA, McQueen MJ, Brady K, Spence J, Le Y, Mian R, Lee SF, Bangdiwala SI, Hussain S, Borges FK, Pettit S, Vincent J, Guyatt GH, Yusuf S, Alpert JS, White HD, Whitlock RP, VISION Cardiac Surg I. High-Sensitivity Troponin I after Cardiac Surgery and 30-Day Mortality. *NEW ENGLAND JOURNAL OF MEDICINE*. 2022; 386(9). DOI:10.1056/NEJMoa2000803. PMID:35235725. IF:176,079 (Q1/1D). Document type: Article.
- Devereaux PJ, Marcucci M, Painter TW, Conen D, Lomivorotov V, Sessler DI, Chan MTV, Borges FK, 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, Duceppe E, Ruetzler K, Parlow JL, Tandon V, Fleischmann E, Polanczyk CA, Lamy A, Astrakov SV, Rao M, Wu WKK, Bhatt K, de Nadal M, Likhvantsev VV, Paniagua P, Aguado HJ, Whitlock RP, McGillion MH, Prystajecky M, Vincent J, Eikelboom J, Copland I, Balasubramanian K, Turan A, Bangdiwala SI, Stillo D, Gross PL, Cafaro T, Alfonsi P, Roshanov PS, Belley EP, Spence J, Richards T, VanHelder T, McIntyre W, Guyatt G, Yusuf S, Leslie K, POISE I. Tranexamic Acid in Patients Undergoing Noncardiac Surgery. NEW ENGLAND JOURNAL OF MEDICINE. 2022; 386(21)DOI:10.1056/NEJMoa2201171. PMID:35363452. IF:176,079 (Q1/1D).
- Drudis R, Colomina J, Torra M, Sabate S, Villalba P, Marco G, Triquell X, Del Pozo D, Palliso F, Montero A. Adductor canal block performed 20 hours after total knee arthroplasty to improve postoperative analgesia and functional recovery: a double-blind randomized controlled clinical trial. *MINERVA ANESTESIOLOGICA*. 2022; 88(4). DOI:10.23736/S0375-9393.21.15838-9. PMID:34709013. IF:3,396 (Q3/6D). Document type: Article.
- Galan J, Mateo E, Carmona P, Gajate L, Mazer CD, Martinez MJ. Restrictive or liberal transfusion for cardiac surgery: Spanish results of a randomized multicenter international parallel open-label clinical trial. *MEDICINA INTENSIVA*. 2022; 46(1). DOI:10.1016/j.medin.2020.07.011; DOI (English Edition):10.1016/j.medine.2020.07.003. PMID:34991874. IF:2,799 (Q3/7D). Document type: Letter.
- Garg AX, Cuerden M, Aguado H, Amir M, Belley EP, Bhatt K, Biccard BM, Borges FK, Chan M, Conen D, Duceppe E, Efremov S, Eikelboom J, Fleischmann E, Giovanni L, Gross P, Jayaram R, Kirov M, Kleinlugtenbelt Y, Kurz A, Lamy A, Leslie K, Likhvantsev V, Lomivorotov V, Marcucci M, Martinez MJ, McGillion M, McIntyre W, Meyhoff C, Ofori S, Painter T, Paniagua P, Parikh C, Parlow J, Patel A, Polanczyk C, Richards T, Roshanov P, Schmartz D, Sessler D, Short T, Sontrop JM, Spence J, Srinathan S, Stillo D, Szczeklik W, Tandon V, Torres D, Van T, Vincent J, Wang CY, Wang M, Whitlock R, Wittmann M, Xavier D, Devereaux PJ. Effect of a Perioperative Hypotension-Avoidance Strategy Versus a Hypertension-Avoidance Strategy on the Risk of Acute Kidney Injury: A Clinical Research Protocol for a Substudy of the POISE-3 Randomized Clinical Trial. *CANADIAN JOURNAL OF KIDNEY HEALTH AND DISEASE*. 2022; 9:20543581211069225. DOI:10.1177/20543581211069225. PMID:35024154. Document type: Article.
- Li C-H, González V, Bertolí E, Viladés D, Descalzo M, Carreras F, Leta R, Cinca J, Capellades H, Cueva L, Paniagua P. Propofol sedation administered by cardiologists in echocardiography studies. *Rec: CARDIOCLINICS*. 2022; 57(1). DOI:10.1016/j.rccl.2021.02.007. Document type: Article.
- Li CHP, Asmarats L, Maestre ML, Fernandez E, Serra A, Arzamendi D. New PASCAL Ace implant system in complex percutaneous mitral valve repair. *REC-INTERVENTIONAL CARDIOLOGY*. 2022; 4(1). DOI:10.24875/RECICE.M21000201. Document type: Letter.
- Marcucci M, Painter TW, Conen D, Leslie K, Lomivorotov VV, Sessler D, Chan MTV, Borges FK, Martínez-Zapata MJ, Wang CY, Xavier D, Ofori SN, Landoni G, Efremov S, Kleinlugtenbelt YV, Szczeklik W, Schmartz D, Garg AX, Short TG, Wittmann M, Meyhoff CS, Amir M, Torres D, Patel A, Duceppe E, Ruetzler K, Parlow JL, Tandon V, Wang MK, Fleischmann E, Polanczyk CA, Jayaram R, et al. [Paniagua P]. Rationale and design of the PeriOperative ISchemic Evaluation-3 (POISE-3): a randomized controlled trial evaluating tranexamic acid and a strategy to minimize hypotension in noncardiac surgery. *TRIALS*. 2022; 23(1):101. DOI:10.1186/s13063-021-05992-1. PMID:35101083. IF:2,728 (Q4/8D). Document type: Article.
- Osuna AG, Rojas LF, Lamas C, Roig XA, Pla F, Videla S, Martinez MJ, Valle M, Font A, Fernández JA, Rodriguez M, Banos V. Population Pharmacokinetics of Intra-articular and Intravenous Administration of Tranexamic Acid in Patients Undergoing Total Knee Replacement. *CLINICAL PHARMACOKINETICS*. 2022; 61(1). DOI:10.1007/s40262-021-01043-9. PMID:34255299. IF:5,577 (Q1/3D). Document type: Article
- Ripollés J, Sánchez R, Abad A, Gimeno AM, Díez Y, Jove P, Aragó P, Ortiz S, Sánchez R, Ramírez JM, Trullenque R, Valentí V, Ramiro

Á, Correa OC, Batalla A, Gimeno C, Sanahuja JM, González FM, Galán P, Díez MJ, Vilallonga R, Zorrilla A, Pascual AM, Martínez J, Carrascosa T, Ruiz A, Martín E, Suárez A, Bausili M, Palacios Á, Olvera MM, Meza JA, Sánchez A, Abad A, Ferrando C, Martín B, Torres JR, Aguado S, Sánchez F, García JA, Aldecoa C, POWER Study Investigators Group 3. Higher Adherence to ERAS Society® Recommendations is Associated with Shorter Hospital Stay Without an Increase in Postoperative Complications or Readmissions in Bariatric Surgery: the Association Between Use of Enhanced Recovery After Surgery Protocols and Postoperative Complications after Bariatric Surgery (POWER 3) Multicenter Observational Study. *OBESITY SURGERY*. 2022; 32(4). DOI:10.1007/s11695-022-05949-6. PMID:35143011. IF:3,479 (Q2/3D). Document type: Article

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- Veliziotis I, Benítez A, Ramos I, Larrañaga L, Nuñez M, Adalid I, Ferrando C, Arruti E, Minini A, Bassas E, Taccone FS, Peluso L, Abad A, Abad A, Acevedo IA, Adalia R, Adalid I, Aguilar G, Aguilera L, Agulló AJ, Agustí M, Albala MI, Alberdi A, Albericio B, Alcon A, Alday E, Aldecoa C, Algar B, Aliaga J, Almuedo A, Alonso JR, Alonso P, Alonso M, Alonso O, Álvarez A, Álvarez JC, et al. [Bainac A, Moral MV, Paniagua P, Pérez-García S]. Early procalcitonin to predict mortality in critically ill COVID-19 patients: a multicentric cohort study. *MINERVA ANESTESIOLOGICA*. 2022; 88(4). DOI:10.23736/s0375-9393.22.15942-0. PMID:35072432. IF:3,396 (Q3/6D). Document type: Article

SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- Gender Differences in Chronic Postsurgical Pain after Thoracotomy: A GENDOLCAT Study - PWD173. IASP 2022 World Congress on Pain. Toronto (Canada), 19-23/09/2022. Speakers: Antonio Montes, Gisela Roca, Sergi Sabate, Olga Comps.
- Massive transfusion after a spontaneous splenic artery pseudoaneurysm rupture: an unusual cause of haemorrhagic shock. Euroanaesthesia 2022. Milan (Italy), June 2022. Speaker: Barbero S, Toral D.
- Cerebral invasive aspergillosis after cardiac transplant surgery. Euroanaesthesia 2022. AS-ESAIC-2022-01308, Milan (Italy). Speakers: M. Dominguez Tenreiro, S. Barbero Espinosa, V. Cegarra, T. Koller.
- Intraoperative cardiogenic shock secondary to Takotsubo syndrome. XXVI National Congress of SEDAR. Santiago de Compostela, Galicia, 21-23/04/2022. Speakers: Clara Martinez Garcia; Ana Maria Gomez Caro; Irina Millán Moreno; Alejandro Gutiérrez Marqués; Mireia Rodríguez Prieto; Maria Angeles Gil De Bernabé.
- Dyskeratosis congenita in a pediatric patient. Case report and review of literature. XXXVI National Congress of the Spanish Society of Anesthesiology, Resuscitation and Pain Therapy. Santiago de Compostela, 21-23/04/2022. Speakers: J. Baute, GP Marrero, I. India.
- Posterior reversible encephalopathy syndrome (PRES) after cardiovascular surgery: a case report. XXXVI National SEDAR Congress. Santiago de Compostela, April 2022. Speakers: Rodríguez A, Carmona L, Millán I, Toral D, Felipe M, Gil de Bernabé MA.
- Where do we come from and where are we going? XXXVI National SEDAR Congress. Santiago de Compostela, April 2022. Speakers: Gutiérrez A, Pérez S, Martínez C, Toral D, Bainac A, Gil de Bernabé MA. Patient safety.
- Intra- and postoperative hemostatic management in a patient with afibrinogenemia and thrombotic complications. About a case. XXXVI National SEDAR Congress. Santiago de Compostela, April 2022. Speakers: Carmona L, Rodríguez A, Martínez C, Gutiérrez A, Toral D, Gil de Bernabé MA.
- Analgesic management during the creation of neovagina in Mayer-Rokitansky-Kuster-Hauser Syndrome. XXXVI National SEDAR Congress. April 2022. Speakers: Toral D, Giné M, Gutiérrez A, Carmona L, Rodríguez A, Gil de Bernabé MA.
- Evaluation of compliance with the prehabilitation program in gynecological oncology at the Sant Pau hospital in Barcelona. XXXVI Congress of the Spanish Society of Anesthesiology, Resuscitation and Pain Therapy (SEDAR 2022). Santiago de Compostela, 21-23/04/2022. Speakers: Marta Giné Servén, Ramon Rovira Negre, Micaela Bastitta, Ignacio Hinojal Blanco, Pilar Paniagua Iglesias, M°àngels Gil De Bernabé Sala.
- Analgesic management during the creation of neovagina in Sd. XXXVI Congress of the Spanish Society of Anesthesiology, Resuscitation and Pain Therapy (SEDAR 2022). Santiago de Compostela, 21-23/04/2022. Speakers: Mayer-Rokitansky-Kuster-Hauser. Diego Toral Fernández, Marta Giné Serven, Alejandro Gutiérrez Marqués, Laurie Carmona Serrano, Alex Rodríguez Vergara, M Àngels Gil De Bernabé Sala.
- Use of veno-venous ByPass for the excision of an inferior vena cava sarcoma: a case report. XXXVI Congress of the Spanish Society of Anesthesiology, Resuscitation and Pain Therapy (SEDAR 2022). Santiago de Compostela, 21-23/04/2022. Speakers: Raúl Hernández Alós, Gerard Moreno Giménez, Pau Robles Simón, Marta Castellanos Calvo, Ana María Gómez Caro, Marta Giné Serven.
- Cervical multilevel RFP with stimulable epidural catheter. Contribution of this approach. Cristina Heredia. XI Pain Management Meeting for residents and young consultants – Luis Aliaga Awards (SCD). April 2022. Communication awarded with the Luis Aliaga Award 2022.

PLASTIC SURGERY



Group leader
Masia Ayala, Jaume (FGS)

Researchers
Condrea , Silvia (FGS)
Fernandez Garrido, Manuel (FGS)
Mallen Bosch, Elena (IR)
Perez Sempere, Maria (FGS)
Pons Playa, Gemma (FGS)
Zamora Alarcon, Paul David (FGS)

Research technicians
Guerrero Lojano, Andrea Elisabeth (FGS)
Lopez Fernandez, Susana (FGS)
Masso Cercos, Silvia (IR)
Mohedano Puig, Elena (IR)
Olivares Dominguez, Maria De Leyre (FGS)

MAIN LINES OF RESEARCH

Application of imaging techniques for intraoperative studies of perforator vessels with the aim to improve the design of flaps, evaluate the suitable blood perfusion and the viability of the flaps avoiding secondary postoperative complications secondary to vascular supply problems.

Anatomical studies of the variability of perforator vessels in the following regions: internal mammary artery, inferior epigastric system and internal superficial circumflex system.

Study of the perioperative and postoperative factors that influence on the viability of the microsurgical free flaps.

Research by indocyanine green angiography and Thermography of the concept of vascular blood balance after the disecction of a perforator flap.

Research by indocyanine green angiography of the relationship between the different anatomical patterns of lymphatic vessels in the upper extremity and its readiness to develop lymphedema in the affected breast cancer patients.

Feasibility of the research in animal models of major surgical and nonsurgical techniques existing today to treat secondary lymphatic insufficiency: fat transplant of autologous stem cells, stem cell transplantation autologous from bone marrow, lymphaticvenous anastomosis, free flap of vascularized autologous lymph nodes.

Linfangiogenesis studies in a comparative animal model between transplantation of adipose tissue stem cells vs bone marrow stem cells, lymphatic-venous anastomoses and transplantation of vascularized lymph nodes for lymphoedema treatment.

Research in an experimental animal model on lymphangiogenesis and regeneration of the lymphatic system after a model of obstructive lymphoedema.

Imaging studies using lymphography and indocyanine green, as well as lympho-magnetic resonance techniques.

Correlation between Indocyanine Green Lymphography and Thermography to evaluate areas of dermal backflow in lymphedema.

Correlation between Indocyanine Green Lymphography and Thermography to evaluate perfusion in free flaps.

SCIENTIFIC CHALLENGES

Improvement of the preoperative planning of perforator flaps with the help of advances in imaging techniques and knowledge of anatomy.

Consolidate and optimize preoperative management techniques for locating the most suitable perforating vessels for each microsurgical flap.

Minimize intra- and postoperative complications in perforator flaps using new imaging techniques to visualize intraoperatively patterns of vascularisation of the flaps and vascular blood supply dominance.

Lymphedema prevention in those patients with mastectomy in which we perform searching procedures of sentinel node and/or axillaries lymph node dissections using new techniques of surgical treatment for this disease (lymphatic venous anastomosis, transfer of vascularised lymph nodes,...).

Identification by indocyanine green angiography for those patients affected with breast cancer with a major risk of developing secondary lymphedema.

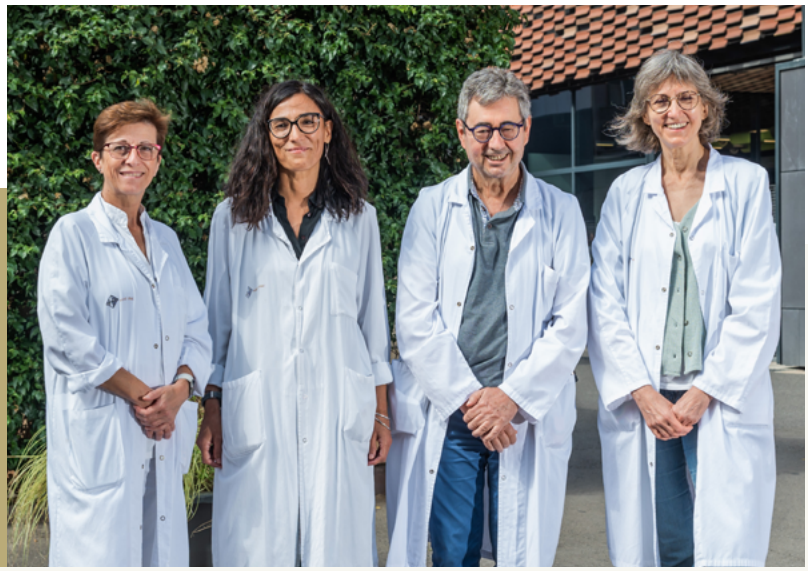
DOCTORAL THESES DEFENDED

- Salgado López, Laura. Ecografía intraoperatoria neuronavegada en la resección de tumores cerebrales intra-axiales: Efectividad de la técnica y correlación con la resonancia magnética. 28/04/2022. Universitat Autònoma de Barcelona. Supervisors: Masià Ayala, Jaume; de Quintana Schmidt, Cristian. http://hdl.handle.net/10803/675526.

SCIENTIFIC PRODUCTION

- Al-Sakkaf AM, Masia J, Auladell A, Shamardal AI, Vasconcello L, Sola I, Bonfill X. Evidence Mapping of the Treatments for Breast Cancer-related Lymphedema. *PLASTIC AND RECONSTRUCTIVE SURGERY-GLOBAL OPEN*. 2022; 10(1):e4045. DOI:10.1097/GOX.0000000000004045. PMID:35070599. Document type: Article.
- Amat V, Yelamos O, Agut E, Dalmau J, Mozos A, Lopez S, Roe E. Spitzoid proliferative nodules arising in a congenital melanocytic naevus: A case report with clinical, dermoscopic and histologic correlation. *AUSTRALASIAN JOURNAL OF DERMATOLOGY*. 2022; 63(3). DOI:10.1111/ajd.13861. PMID:35510363. IF:2,481 (Q3/6D). Document type: Article.
- Berner JE,Chan JK-K,Gardiner MD,Navia A,Tejos R,Ortiz M,Ortega A et al. International Lower Limb Collaborative (INTELLECT) study: a multicentre, international retrospective audit of lower extremity open fractures. NJ USA:WILEY, 2022. pp. 792-795. Document type: Conference paper.
- Campos JL, Pons G, Rodriguez E, Al AM, Vela FJ, Pires L, Jara MJ, Sánchez FM, Abellán E, Masiá J. Popliteal Vascular Lymph Node Resection in the Rabbit Hindlimb for Secondary Lymphedema Induction. *JOVE-JOURNAL OF VISUALIZED EXPERIMENTS*. 2022; 2022(189):e64576. DOI:10.3791/64576. PMID:36533826. IF:1,424 (Q3/7D). Document type: Article.
- Dip F, Alexandru N, Amore M, Becker C, Belgrado J-P, Bourgeois P, Chang EI-F, Koshima I, Liberale G, Masia J, Mortimer P, Neligan P, Batista BN, Olszewski W, Salvia SA, Suami H, Vankerckhove S, Yamamoto T, Lo Menzo E, White KP, Rosenthal RJ. Use of fluorescence imaging during lymphatic surgery: A Delphi survey of experts worldwide. *SURGERY*. 2022; 172(6). DOI:10.1016/j.surg.2022.08.026. PMID:36427924. IF:4,348 (Q1/2D). Document type: Article.
- Fernandez E, Suarez X, Carrasco A, Pinol P, Lopez S, Pons G, Serra JJB, de la Torre C, De Luna N, Gallardo E, Diaz J. RhoA/ROCK2 signalling is enhanced by PDGF-AA in fibro-adipogenic progenitor cells: implications for Duchenne muscular dystrophy. *JOURNAL OF CACHEXIA SARCOPENIA AND MUSCLE*. 2022; 13(2). DOI:10.1002/jcsm.12923. PMID:35132805. IF:12,063 (Q1/1D). Document type: Article.
- Fernandez M, Nunez T, Zamora P, Masia J, Leon X. The extended SCIP flap: An anatomical and clinical study of a new SCIP flap design. *JOURNAL OF PLASTIC RECONSTRUCTIVE AND AESTHETIC SURGERY*. 2022; 75(9). DOI:10.1016/j.bjps.2022.06.021. PMID:35961925. IF:3,022 (Q2/4D). Document type: Article.
- Kobialka P, Sabata H, Vilalta O, Gouveia L, Angulo A, Muixi L, Zanoncello J, Munoz O, Olaciregui NG, Fanlo L, Esteve A, Lavarino C, Javierre BM, Celis V, Rovira C, Lopez S, Baselga E, Mora J, Castillo SD, Graupera M. The onset of PI3K-related vascular malformations occurs during angiogenesis and is prevented by the AKT inhibitor miransertib. *EMBO MOLECULAR MEDICINE*. 2022; 14(7):e15619. DOI:10.15252/emmm.202115619. PMID:35695059. IF:14,260 (Q1/1D). Document type: Article.
- Lopez JG, Hernandez LS, Fernandez SL, Garrido MF. Abdominal Wall Reconstruction Using Unique Composite Anterolateral and Fascia Lata Perforator Free Flap After Failed Attempts. *INDIAN JOURNAL OF SURGERY*. 2022; 84(5). DOI:10.1007/s12262-021-03196-0. IF:0,437 (Q4/10D). Document type: Article.
- Manrique A, Salazar J, Arranz MJ, Bague S, Orellana R, Lopez A, Cerda P, Gracia I, Majercakova K, Peiro A, Trullols L, Fernandez M, Valverde S, Quintana MJ, Bell O, Artigas A, Sebio A. Pharmacogenetic Profiling in High-Risk Soft Tissue Sarcomas Treated with Neoadjuvant Chemotherapy. *JOURNAL OF PERSONALIZED MEDICINE*. 2022; 12(4):618. DOI:10.3390/jpm12040618. PMID:35455734. IF:3,508 (Q2/4D). Document type: Article.
- Martinez P, Linares PF, Piller N, Masia J, Yamamoto T, Lopez L, Monforte C. Multidisciplinary preventive intervention for breast cancer-related lymphedema: An international consensus. *EUROPEAN JOURNAL OF CANCER CARE*. 2022; 31(6):e13704. DOI:10.1111/ecc.13704. PMID:36113999. IF:2,328 (Q2/4D). Document type: Article.
- Martinez P, Verdu MA, Forero CG, Salazar SA, Linares PF, Monforte C, Masia J. Breast cancer-related lymphoedema: Risk factors and prediction model. *JOURNAL OF ADVANCED NURSING*. 2022; 78(3). DOI:10.1111/jan.15005. PMID:34363640. IF:3,057 (Q1/2D). Document type: Article.
- Nunez T, Zamora P, Masia J, Fernandez M. Ankle joint salvage surgery with an ipsilateral mid-fibula osteocutaneous free flap and contralateral anterolateral thigh free flap: A case report and literature review. *MICROSURGERY*. 2022; 42(5). DOI:10.1002/micr.30864. PMID:35083775. IF:2,080 (Q3/7D). Document type: Review.
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PALLIATIVE CARE



Group leader
Pascual Lopez, Antonio (FGS)

Researchers
Güell Perez, Ernest (FGS)
Martinez Peralta, Susana (FGS)

Research technicians
Collette , Nadia (IR)
Prada Jasimez, Maria Luisa (FGS)

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 o life Symptom evaluation and control: pain,dyspnoea, cognitive failure, complex situations.
Psychosocial care for patients and families: adaptation to the terminal situation, grief, spiritual needs.
Training in palliative care: training needs,outcomes.

SCIENTIFIC CHALLENGES
Prevention and management of professional stress through art therapy

Electronic patient-reported outcome measures (PROMs)

SCIENTIFIC PRODUCTION
- Collette N, Sola I, Bonfill X, Pascual A. Art Therapy in Advanced Cancer. A Mapping Review of the Evidence. *CURRENT ONCOLOGY REPORTS*. 2022; 24(12). DOI:10.1007/s11912-022-01321-0. PMID:35997935. IF:5,945 (Q2/3D). Document type: Article.
- Rodrigo A, Alonso A, Barril S, Farinas O, Gueell E, Pascual A, Castillo D. Impact of Early Referral to Palliative Care in Patients with Interstitial Lung Disease. *JOURNAL OF PALLIATIVE MEDICINE*. 2022; 25(9). DOI:10.1089/jpm.2021.0458. PMID:35714348. IF:2,947 (Q3/6D). Document type: Review.

SCIENTIFIC DISSEMINATION
Participation by invitation in national or international scientific conferences and talks
- "Sedation and euthanasia". XVI SEOM Course for Residents. Symptom Control and Support Therapy. Spanish Society of Medical Oncology. Valencia, March 2022. Speaker: Antonio Pascual.

RESEARCH VISIBILITY ACTIVITIES: Outreach activities to society
- "Clinical research at the end of life." Master's Degree in Applied Clinical Research in Health Sciences. Autonomous University of Barcelona. Barcelona, March 2022. Speaker: Antonio Pascual.
- Master in Comprehensive Palliative Care for people with advanced illnesses. Sant Pau Hospital - Autonomous University of Barcelona. Barcelona, January-June 2022. Teachers: Antonio Pascual, Ernest Güell, Nadia Collette, María Luisa Prada.
- "Art therapy at the end of life." Master of Psychotherapy and Clinical Psychology. University of Valencia. Valencia, Spain, April 2022. Speaker: Nadia Collette.
- "Art therapy in cancer." Master of Oncology Nursing, School of Nursing. Santa Creu i Sant Pau Hospital. Barcelona, March, 2022. Speaker: Nadia Collette.
- "Essential self-care. Cultivate awareness and self-knowledge." INPECS experiential course Institute for clinical and health excellence. Barcelona, February 2022. Speaker: Nadia Collette.
- Expert Course on Grief and Loss in the Cycle of Life. Institute of Integrative-Relational Psychotherapy in Grief and Loss. IL3 University of Barcelona. Barcelona, April 2022. Speaker: Nadia Collette.
- Nursing Strategy Course in processes with high emotional impact, University School of Nursing. Santa Creu i Sant Pau Hospital. Barcelona, June 2022. Speaker: Nadia Collette.

ANDROLOGY



Group leader
Ruiz Castañe, Eduard (Fund. Puigvert)

Researchers
Bassas Arnau, Lluis (Fund. Puigvert)
De Rocco Ponce, Maurizio (Fund. Puigvert)
Gonzalez Fernandez,
Monica (Fund. Puigvert)
Krausz , Csilla Gabriella (Fund. Puigvert)
Maestre Loren, Francesc (Fund. Puigvert)
Martinez Pasarell, Olga (Fund. Puigvert)
Riera Escamilla, Antoni (Fund. Puigvert)
Sanchez Curbelo, Josvany (Fund. Puigvert)
Sarquella Geli, Joaquim (Fund. Puigvert)
Vives Suñe, Alvaro (Fund. Puigvert)

Research technicians
Turki , Leila (Fund. 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 od 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

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 IIB Sant Pau.

To promote awareness and divulgate sexuality as health topic and as main aspect of global health and quality life inclusive in chronic and ill patients to professionals who requires a broad and multidisciplinar approach to their patients.

To work up in the relationship with patients associations and progressively incorporate them as workteam to develop a responsible research with relevant results with social impact.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Nephrology Group
Urology Group
Gynecological group
Syndromes of genome instability and DNA repair

EXTERNAL COLLABORATIONS

National

Medical and Molecular Genetics Centre (RI)-IDIBELL: genetics applied to infertility.
Cellular Biology and Medical Genetics Unit-UAB: preimplantation genetic diagnosis techniques.

International

Mario Serio Experimental and Clinical Biomedical Sciences Unit, University of Florence: genetics applied to male infertility.
Reproductive Genomics Laboratory, Human Genetics Centre (KU Leuven): genetics applied to male infertility.
New England Research Institutes: hypogonadism.
European Academy of Andrology: radiology examinations of the male genital tract.

Private
Participation in clinical studies including clinical trials and post-authorization studies sponsored by national and international pharmaceutical companies.

ACTIVE GRANTS

- Bassas Arnau, Lluis. Impact of COVID-19 on male reproductive health. 202128-31. Fundació La Marató de TV3. Duration: 2021-2024. 50.000,00 €
- Krausz, Csilla Gabriella. Estudio genético y genómico en pacientes infértiles y pacientes con tumor testicular de células germinales: desarrollo de nuevas herramientas para un diagnóstico precoz. PI17/01822. Instituto de Salud Carlos III (ISCIII). Duration: 2018-2022. 123.420,00 €
- Krausz, Csilla Gabriella. Análisis del exoma en pacientes azoospérmicos con bloqueo de la espermatogénesis: desarrollo de un panel génico 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. Evaluación del efecto de la terapia citostática sobre el genoma y el epigenoma del gameto masculino. Fundación Merck Salud. Duration: 2017-2022. 30.000,00 € (F. PUIGVERT)
- Krausz, Csilla Gabriella. Severe spermatogenic failure as a centinel for early diagnosis of late-onset Fanconi Anemia. Fanconi Anemia Research Fundation. Duration: 2021-2022. 103.900,00 $ (F.PUIGVERT)

DOCTORAL THESES IN PROGRESS

- De Rocco Ponce, Maurizio. Cross-sectional study of subjects with erectile dysfunction and a control group: histological and molecular characterization of ex vivo human corpus cavernosum. Universidad Autónoma de Barcelona. 2020-2023. Supervisors: Bassas Arnau, Lluis; Corcoy Pla, Rosa.

AWARDS
Eduard Ruiz Castañé. Appointed Coordinator of the Sexual and Reproductive Urology Working Group of the American Confederation of Urology (CAU). May 2022.

SCIENTIFIC PRODUCTION

- Bjorndahl L, Barratt CLR, Mortimer D, Agarwal A, Aitken RJ, Alvarez JG, Aneck N, Arver S, Baldi E, Bassas L, Boitrelle F, Bornman R, Carrell DT, Castilla JA, Parra GC, Check JH, Cuasnicu PS, Darney SP, de Jager C, De Jonge CJ, Drevet JR, Drobnis EZ, Du SS, Eisenberg ML, Esteves SC, Evgeni EA, Ferlin A, Garrido N, Giwercman A, Goovaerts I, Haugen TB, et al. Standards in semen examination: publishing reproducible and reliable data based on high-quality methodology. *HUMAN REPRODUCTION*. 2022; 37(11). DOI:10.1093/humrep/deac189. PMID:36112046. IF:6,353 (Q1/2D). Document type: Review.
- Cervan M, Bossini L, Guzman A, Rivera R, Garrido N, Lujan S, Romeu G, Santos S, Castilla JA, Gonzalvo MC, Clavero A, Vicente FJ, Maldonado V, Gonzalez S, Rodriguez I, Burgos M, Jimenez R, Pinto MG, Pereira I, Nunes J, Sanchez J, Lopez O, Pereira I, Marques PI, Carvalho F, Barros A, Bassas L, Seixas S, Goncalves J, Larriba S, Lopes AM, Carmona FD, Palomino RJ, IVIRMA GRP, Lisbon GRP. Common Variation in the PIN1 Locus Increases the Genetic Risk to Suffer from Sertoli Cell-Only Syndrome. *JOURNAL OF PERSONALIZED MEDICINE*. 2022; 12(6):932. DOI:10.3390/jpm12060932. PMID:35743717. IF:3,508 (Q2/4D). Document type: Article.
- Cervan M, Bossini L, Guzman A, Rivera R, Garrido N, Lujan S, Romeu G, Santos S, Castilla JA, Gonzalvo MD, Clavero A, Maldonado V, Vicente FJ, Burgos M, Jimenez R, Gonzalez S, Sanchez J, Lopez O, Pereira I, Marques PI, Carvalho F, Barros A, Bassas L, Seixas S, Goncalves J, Larriba S, Lopes AM, Palomino RJ, Carmona FD, IVIRMA GRP, Lisbon GRP. Common genetic variation in KATNAL1 non-coding regions is involved in the susceptibility to severe phenotypes of male infertility. *ANDROLOGY*. 2022; 10(7). DOI:10.1111/andr.13221. PMID:35752927. IF:4,456 (Q1/3D). Document type: Article.
- Cervan M, Tuttelmann F, Lopes AM, Bossini L, Rivera R, Garrido N, Lujan S, Romeu G, Santos S, Castilla JA, Gonzalvo MC, Clavero A, Maldonado V, Vicente FJ, Gonzalez S, Guzman A, Burgos M, Jimenez R, Pacheco A, Gonzalez C, Gomez S, Amoros D, Aguilar J, Quintana F, Calhaz C, Aguiar A, Nunes J, Sousa S, Pereira I, Pinto MG, Correia S, Sanchez J, Lopez O, Martin J, Pereira I, Marques PI, Carvalho F, Barros A, Gromoll J, Bassas L, Seixas S, Goncalves J, Larriba S, Kliesch S, Palomino RJ, Carmona FD. Immune and spermatogenesis-related loci are involved in the development of extreme patterns of male infertility. *COMMUNICATIONS BIOLOGY*. 2022; 5(1):1220. DOI:10.1038/s42003-022-04192-0. PMID:36357561. IF:6,548 (Q1/2D). Document type: Article.
- Fernandez A, Ribas J, Garcia A, Garcia S, Martinez O, Navarro J, Oliver M, Benet J. TMT-Based Proteomic Analysis of Human Spermatozoa from Unexplained Recurrent Miscarriage Patients before and after Oral Antioxidant Treatment. *BIOMEDICINES*. 2022; 10(8):2014. DOI:10.3390/biomedicines10082014. PMID:36009561. IF:4,757 (Q2/4D). Document type: Article.
- Garcia B, Martinez JI, Sarquella J, Justo J, Garcia E, Fernandez E, Ruiz E, Romero J. Peyronie's Disease Questionnaire (PDQ): Spanish translation and validation. *INTERNATIONAL JOURNAL OF IMPOTENCE RESEARCH*. 2022; 34(5). DOI:10.1038/s41443-021-00460-5. PMID:34282285. IF:2,408 (Q3/7D). Document type: Article.
- Gasanz C, Moreno D, Villegas JF, Peraza MF, Sarquella J, Ruiz E, Sanchez J. Effect of tadalafil 5 mg daily treatment on penile haemodynamics in patients with erectile dysfunction. *REVISTA INTERNACIONAL DE ANDROLOGIA*. 2022; 20(1). DOI:10.1016/j.androl.2020.08.002. PMID:33358311. IF:0,660 (Q4/10D). Document type: Article.
- Guzman A, Gonzalez S, Cervan M, Rivera R, Garrido N, Lujan S, Santos S, Castilla JA, Gonzalvo MC, Clavero A, Vicente FJ, Maldonado V, Villegas J, Burgos M, Jimenez R, Pinto MG, Pereira I, Nunes J, Sanchez J, Lopez O, Pereira I, Marques PI, Carvalho F, Barros A, Bassas L, Seixas S, Goncalves J, Lopes AM, Larriba S, Palomino RJ, Carmona FD, Bossini L, IVIRMA GRP, Lisbon GRP. Contribution of TEX15 genetic variants to the risk of developing severe non-obstructive oligozoospermia. *FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY*. 2022; 10:1089782. DOI:10.3389/fcell.2022.1089782. PMID:36589743. IF:6,081 (Q1/2D). Document type: Article.
- Houston BJ, Lopes AM, Laan M, Nagirnaja L, O'Connor AE, Merriner DJ, Nguyen J, Punab M, Riera A, Krausz C, Aston KI, Conrad DF, O'Bryan MK. DDB1-and CUL4-associated factor 12-like protein 1 (Dcaf12l1) is not essential for male fertility in mice. *DEVELOPMENTAL BIOLOGY*. 2022; 490. DOI:10.1016/j.ydbio.2022.07.006. PMID:35850260. IF:3,148 (Q2/4D). Document type: Article.

- Houston BJ, Riera A, Wyrwoll MJ, Salas A, Xavier MJ, Nagirnaja L, Friedrich C, Conrad DF, Aston KI, Krausz C, Tuttelmann F, O'Bryan MK, Veltman JA, Oud MS. A systematic review of the validated monogenic causes of human male infertility: 2020 update and a discussion of emerging gene-disease relationships. *HUMAN REPRODUCTION UPDATE*. 2022; 28(1). DOI:10.1093/humupd/dmab030. PMID:34498060. IF:17,179 (Q1/1D). Document type: Review.
- Jannini EA, Krausz C. Educational activities of the European Academy of Andrology. *ANDROLOGY*. 2022; 10. DOI:10.1111/andr.13246. PMID:36217715. IF:4,456 (Q1/3D). Document type: Article.
- Lopez O, Bossini L, Carmona FD, Bassas L, Larriba S. Genome-wide compound heterozygote analysis highlights DPY19L2 alleles in a non-consanguineous Spanish family with total globozoospermia. *REPRODUCTIVE BIOMEDICINE ONLINE*. 2022; 45(2). DOI:10.1016/j.rbmo.2022.03.035. PMID:35610156. IF:4,567 (Q1/2D). Document type: Article.
- Maestre F, Lopez X, Castillo JA, Cosentino M. Stress and coping in times of pandemic: Longitudinal follow-up of a group of medical patients. *ANSIEDAD Y ESTRES-ANXIETY AND STRESS*. 2022; 28(2). DOI:10.5093/anyes2022a13. Document type: Article.
- Minambres I, Sarda H, Urgell E, Genua I, Ramos A, Fernandez S, Balague C, Sanchez JL, Bassas L, Perez A. Obesity Surgery Improves Hypogonadism and Sexual Function in Men without Effects in Sperm Quality. *JOURNAL OF CLINICAL MEDICINE*. 2022; 11(17):5126. DOI:10.3390/jcm11175126. PMID:36079056. IF:4,964 (Q2/4D). Document type: Article.
- Nagirnaja L, Lopes AM, Charng WL, Miller B, Stakaitis R, Golubickaite I, Stendahl A, Luan TPC, Friedrich C, Mahyari E, Fadial E, Kasak L, Vigh K, Oud MS, Xavier MJ, Cheers SR, James ER, Guo JT, Jenkins TG, Riera A, Barros A, Carvalho F, Fernandes S, Goncalves J, Gurnett CA, Jorgensen N, Jezek D, Jungheim ES, Kliesch S, McLachlan RI, Omurtag KR, Pilatz A, Sandlow J, Smith J, Eisenberg ML, Hotaling JM, Jarvi KA, Punab M, Rajpert E, Carrell DT, Krausz C, Laan M, O'Bryan MK, Schlegel PN, Tuttelmann F, Veltman JA, Almstrup K, Aston KI, Conrad DF. Diverse monogenic subforms of human spermatogenic failure. *NATURE COMMUNICATIONS*. 2022; 13(1):7953. DOI:10.1038/s41467-022-35661-z. PMID:36572685. IF:17,694 (Q1/1D). Document type: Article.
- Nieschlag E, Forti G, Wu F, Toppari J, Krausz C. History of the European Academy of Andrology. *ANDROLOGY*. 2022; 10. DOI:10.1111/andr.13244. PMID:36217713. IF:4,456 (Q1/3D). Document type: Article.
- Oud MS, Smits RM, Smith HE, Mastrorosa FK, Holt GS, Houston BJ, de Vries PF, Alobaidi BKS, Batty LE, Ismail H, Greenwood J, Sheth H, Mikulasova A, Astuti GDN, Gilissen C, McEleny K, Turner H, Coxhead J, Cockell S, Braat DDM, Fleischer K, D'Hauwers KWM, Schaafsma E, Carrell DT, Hotaling JM, Jenkins TG, McLachlan R, Schlegel PN, Eisenberg ML, et al. [Krausz C, Riera-Escamilla A]. A de novo paradigm for male infertility. *NATURE COMMUNICATIONS*. 2022; 13(1):154. DOI:10.1038/s41467-021-27132-8. PMID:35013161. IF:17,694 (Q1/1D). Document type: Article.
- Palmisano F, Boeri L, Ievoli R, Sanchez J, Spinelli MG, Gregori A, Granata AM, Ruiz E, Montanari E, Sarquella J. Ten-year experience with penile prosthetic surgery for the treatment of erectile dysfunction: outcomes of a tertiary referral center and predictors of early prosthetic infection. *ASIAN JOURNAL OF ANDROLOGY*. 2022; 24(1). DOI:10.4103/aja.aja_27_21. PMID:33975985. IF:3,054 (Q2/4D). Document type: Article.
- Riera A, Vockel M, Nagirnaja L, Xavier MJ, Carbonell A, Moreno D, Pybus M, Farnetani G, Rosta V, Cioppi F, Friedrich C, Oud MS, van der Heijden GW, Soave A, Diemer T, Ars E, Sanchez J, Kliesch S, O'Bryan MK, Ruiz E, Azorin F, Veltman JA, Aston KI, Conrad DF, Tuttelmann F, Krausz C, GEMINI C. Large-scale analyses of the X chromosome in 2,354 infertile men discover recurrently affected genes associated with spermatogenic failure. *AMERICAN JOURNAL OF HUMAN GENETICS*. 2022; 109(8). DOI:10.1016/j.ajhg.2022.06.007. PMID:35809576. IF:11,043 (Q1/1D). Document type: Article.
- Santaballa A, Marquez C, Rodriguez A, Rovirosa A, Vazquez L, Zeberio I, Andres M, Bassas L, Ceballos E, Domingo J, Manau D. Multidisciplinary consensus on the criteria for fertility preservation in cancer patients. *CLINICAL & TRANSLATIONAL ONCOLOGY*. 2022; 24(2). DOI:10.1007/s12094-021-02699-2. PMID:34635959. IF:3,340 (Q3/7D). Document type: Article.

SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- Local Organizing Committee of the 12th European Congress of Andrology (ECA2022), Barcelona (Spain), 19-21/10/2022: Lluís Bassas Arnau, Maurizio De Rocco Ponce, Mónica González Fernández, Csilla Gabriella Krausz, Eduard Ruiz Castañe, Josvany René Sánchez Curbelo, Joaquim Sarquella Geli, Álvaro Vives Suñé.
- AKademia Mir, Sitges (Barcelona). 30/09-02/10/2022. National. Organizer: Mónica González.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- 2022 Fanconi Research Foundation Symposium, Austin (United States), 08-11/09/2022, International. A. Riera invited professor: Csilla Krausz, Antoni Riera.
- 1st Course of the Andrology branch. Chilean Society of Urology. Santiago, Chile. 26/08/2022. International. Invited professor: Josvany René Sánchez Curbelo.
- 12th European Congress of Andrology (ECA2022), Barcelona (Spain), 19-21/10/2022, International. A. Riera invited professor: Csilla Krausz, Antoni Riera.
- 12th European Congress of Andrology (ECA 2022). Barcelona. 19-21/10/2022, International." Invited professor: Maurizio De Rocco Ponce.
- 12th European Congress of Andrology (ECA 2022). Barcelona. 19-21/10/2022, International." Invited professor Álvaro Vives Suñé.
- Cervical cancer and sexuality. Round table at the AECC. Barcelona, 24/03/2022, National. Invited professor: Mónica González.
- Online nursing course. Fundación Puigvert, Barcelona. National. Invited professor: Mónica González.
- Jornada de Entre Dones. Hospital de Sant Pau, Barcelona, 21/05/2022. National. Invited professor and roundtable discussion: Mónica González.
- 14th Conference of the Pelvic Floor Unit (USP). The great challenge of postmenopause: genitourinary syndrome and sexual health. Hospital del Mar, Barcelona. 10/06/2022. National. Invited professor: Mónica González.
- Breast Cancer Day.Hospital de Sant Pau, Barcelona. 19/10/2022. National. Invited professor: Mónica González.
- AEU - XXIV Andrological Group Meeting and VI Reconstructive Surgery Group Meeting, Baiona, 03-04/02/2022, National. Invited roundtable moderator: Eduard Ruiz Castañé.

- Board of Experts, 10 and 17/02/2022 Istanbul (Turkey) (online). International. Invited professor: Eduard Ruiz Castañé.
- EAA Budapest School, 01-04/03/2022, Budapest (Hungary). International. Invited professor: Eduard Ruiz Castañé.
- VIII Urogenital Prosthetic and Reconstructive Surgery Course. Hospital Clínic, Barcelona. 24-25/03/2022. National. Invited professor: Eduard Ruiz Castañé.
- Webinar SMU, Mexican Society of Urology. México (online). 06/04/2022. International. Invited professor: Eduard Ruiz Castañé.
- HIM2 Rubió. Barcelona, 06/05/2022. National. Invited professor: Eduard Ruiz Castañé.
- XVII Congress of the Portuguese Society of Andrology, Évora (Portugal), 03-04/06/2022. International. Invited professor: Eduard Ruiz Castañé.
- 4th Andrology Symposium, Zagreb (Croatia). 27/06-01/07/2022. International. Invited professor: Eduard Ruiz Castañé.
- Webinar Spanish Association of Andrology, Sexual and Reproductive Medicine (ASESA). Online. 28/09/2022. National. Invited professor: Eduard Ruiz Castañé.
- Webinar Penile Transplantation. Dr. Boiko. Ucrania, 11/10/2022. International. Online. Invited professor: Eduard Ruiz Castañé.
- 18 Curso de Andrología and 12th. ECA 2022 Congress. Barcelona, 19-21/10/2022. International. Invited moderator and oral presentations: Eduard Ruiz Castañé.
- XLI Congress of the American Confederation of Urology (CAU 2022), XLVI International Congress of the Mexican College of National Urology (CMUN), XXVII Congress of the Ibero-American Society of Pediatric Urology (SIUP). Cancún (México), 26-30/10/2022. International. Moderator, Director of the course: The Andrology of the future. Invited professor: Eduard Ruiz Castañé.
- AEU-XXIV Andrological Group Meeting and VI Reconstructive Surgery Group Meeting, Baiona, 03-04 /02/2022, National. Invited roundtable moderator: Lluís Bassas.
- 33 National Congress of the Spanish Fertility Society, Bilbao, Spain. 04-06/05/2022. National. Invited professor: Lluís Bassas.
- AEU-XXIV Andrological Group Meeting and VI Reconstructive Surgery Group Meeting, Baiona, 03-04/02/2022, National. Invited roundtable moderator: Joaquim Sarquella.

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Cancer and sexuality. MatchTrial. Barcelona, 08/02/2022 and 05/07/2022. National. Two oral presentations for patients. National. Speaker: Mónica González.
- Conference "Phalloplasty and male fertility techniques" "ASEXVE 2022 Medical Meeting" Puigvert Foundation and Association of Bladder Exstrophy (ASEXVE). Fundació Puigvert, Barcelona, 12/11/2022. Patients with Bladder exstrophy and their families. National. Speaker: Sarquella.

UROLOGY



Group leader
Palou Redorta,
Juan (Fund. Puigvert)

Researchers
Algaba Arrea, Fernando (Fund. Puigvert)
Angerri Feu, Oriol (Fund. Puigvert)
Breda , Alberto (Fund. Puigvert)
Bujons Tur, Ana (Fund. Puigvert)
Emiliani Sanz, Esteban (Fund. Puigvert)
Errando Smet, Carlos (Fund. Puigvert)
Gallioli , Andrea (Fund. Puigvert)
Ponce De Leon Roca, Javier (Fund. Puigvert)
Rodriguez Faba, Oscar (Fund. 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 IIB 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, paediatric 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 tumour grade with confocal endomicroscopy in order to facilitate clinical decisions and avoid unnecessary procedures, the role of systemic chemotherapy in upper urinary tract tumours and the role 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 finally diagnoses 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 Malmoe University. He is leading several studies with new drugs (durvalumab, sansalimab, vedotin enfortumab,etc...) Bladder preservation in high grade tumours is a difficult decision and the possibility to detect those who will progress will allow earlier aggressive treatment. Another line of research is the nerve sparing surgery in cystectomy in order to preserve sexual function after radical surgery.

In the paediatric urology unit, led by Dra. Bujons, there are several topics under research related to long term follow-up 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, superthulium) comparative outcomes and settings, collaboration with IIBSantPau General and Digestive Surgery Group for primary hiperparatirodism, treatment and pH urine research for the management of cystinuria. In cystinuria, there exists an 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 espectrofotometry.

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 transcavernous 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 (RAP) in Barcelona (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 the robotic renal transplant all over Europe and undergoing analysis of the urogenital tumours in renal transplant patient in order 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 anterograde ejaculation with different methodologies (TURP, Rezum). The group also study the use of the Rezum system (intraprostatic vaporization) in BPH, the quality of life of patients who had undergone urethroplasty due to urethral stenosis, the use of oral mucosa for urethroplasties. A recent national collaboration for an Urethoplasties Registry has recently begun. In reconstructive urethral surgery and BPH, Dr Ponce de León is leading international research prospective study on prostate inflamation to validate a clinical nomogram in patients with lower urinary symptoms, and a prospective 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.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Collaboration with other IIB Sant Pau research groups.
Uro-oncology meetings: weekly meetings with urologists, oncologists, radiologists, radiation oncologists and pathologists.
Uro-pediatric meetings: weekly meetings with urologists, pediatricians, nephrologists, radiologists and nurses.
Functional urology meeting in chronic pelvic pain: monthly meetings with urologists, anesthesiologists, psychologists and nurses.
Female and Functional Urology Unit collaboration with Sant Pau Neurology Department for the joing evaluation and management of Neurogenic Bladder, specially in the field of CNS degenerative diseases like Multiple Sclerosis but also in other cases of Neurologic Disorders.
General and Digestive Surgery IIB Group: collaborative surgical group in complex pelvic tumours and urolithiasis research.
Clinical Epidemiology and Healthcare Services IIBSantPauGroup: bladder and prostate cancer.
Inflammatory IIBSantPau Group: Biomarkers in urooncology.
Paediatrics IIBSantPauGroup: research in uropediatric diseases.

EXTERNAL COLLABORATIONS

IRCCVTC (International Renal Cell Carcinoma Venous Thrombous Consortium): vena cava thrombus in kidney cancer.
European Reference Network for rare and complex urogenital diseases and conditions: rare urogenital pediatric conditions.
Aarhus University Molecular Genetics Department: bladder cancer.
International Robotic Cystectomy Consortium: robotic cystectomy.
LARG (Latin American Renal Cancer Group): renal cancer.
IBCG (International Bladder Cancer Group): bladder cancer.
IBCN (International Bladder Cancer Network): bladder cancer.
European Guidelines EAU Group: Non-Muscle Invasive Bladder Cancer.
European Guidelines EAU Group: Urothelial Carcinomas of the Upper Urinary Tract.
European Guidelines EAU Group: Testicular cancer panel position in 2020.
EURS Working Group on RAKT.
Champalimaud Center for the Unknown (Lisbon) and the Malome University: high-grade Non Muscle Invasive Bladder Cancer.
Columbia University New York - Urooncology.
GENS (Grupo Español de Neuromodulación de Raíces Sacras).
IDIBELL: Genetic research in cystinuria.
RAP (Phisiotherapy center): quality of life research in incontinence.
Genitourinary Pathology Society (GUPS) - Prostate cancer grading.
International Society of Uropathology (ISUP) - Expert opinion on grading of urothelial carcinoma.
World Health Organization Classification of tumours (WHO) - Squamous cell carcinoma of prostate.
Coordinador Nacional del Grupo de Uropatología de la Sociedad Española de Anatomía Patológica (SEAP).
Private national and international collaborations.
Clinical trials and postauthorization studies promoted by national and international pharmaceutics, medical devices industries and biotechnology companies.

DOCTORAL THESES DEFENDED

- Abu-Suboh Abadia, Amad. Crioablación percutánea en el tratamiento del carcinoma renal. 17/11/2022. Universitat Autònoma de Barcelona. Supervisors: Rodríguez Faba, Óscar;

Esquinas López, Cristina; Palou Redorta, Juan. http://hdl.handle.net/10803/688150.

- Breda, Alberto. En-bloc versus conventional transurethral resection of bladder tumors: prospective, comparative, and randomized evaluation on the impact of both techniques on postoperative complications, tumor staging and cancer outcomes. Universitat Autònoma de Barcelona. 18/11/2022. Supervisors: Palou Redorta, Joan; Rodríguez Faba, Óscar. http://hdl.handle.net/10803/688148.

DOCTORAL THESES IN PROGRESS

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- Aumatell, Júlia. Validación externa de los nuevos grupos de riesgo de la "European Association of Urology" en la predicción del riesgo de progresión en una serie contemporánea de pacientes con tumor vesical músculo invasor tratados con BCG. 2022-2024. Universitat Autònoma de Barcelona. Supervisors: Palou Redorta, Joan; Rodríguez Faba, Óscar.
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- Bravo, Alejandra. Estudio comparativo sobre las modulaciones de pulso de nueva generación en la litotricia, utilizando el láser de holmio y el láser de fibra de tulio. 2022-2024. Universitat Autònoma de Barcelona. Supervisor: Emiliani Sanz, Esteban.

AWARDS

- Award to best 3D video. "Augmented Reality-Guided Robotic-Assisted Kidney Transplantation: Revealing the Concealed American Urological Association. May 2022, New Orleans. Authors: Piana. A; Gallioli, A; Diana, P; Territo, A; Gaya, JM; Gavrilov, P; Rodríguez Faba, O; Huguet, J; Guirado, LI; Facundo, C; Campi, R; Bellin, A; Amparore, D; Serni, S; Palou, J; Breda, A.
- Joan Palou. EAU Frans Debruyne Life Time Achievement Award 2022. European Association of Urology. July 2022.
- Andrea Gallioli. Award to the best scientific work on kidney transplant. René Küss Award 2022.European Association of Urology. July 2022.
- "Joaquín Albarrán" award to best audiovisual communication. Asociación Española de Urología (Spanish Association of Urology). "Trasplante renal asistido por robot guiado por realidad aumentada 3D: Revelando lo oculto". Authors: Territo; A. Farré; A.Piana; A. Gallioli; P.Diana; J.M. Gaya; P. Gavrilov; O. Rodriguez Faba; J. Huguet; L. Guirado; C. Facundo; R. Campi; A. Bellin; J. Palou; F. Porpiglia; A. Breda. June 2022.
- Best poster award of the XXXI Jornades de la Societat Catalana de Malalties Infeccioses i Microbiologia Clínica. Title: "Implicació de la microbiota intestinal en les infeccions recurrents d'orina (ITUr)". Authors: Adrià Cruells Gascón; Marc Rubio Bueno; Laura Mateu Arrom; Carlos Errando-Smet et al. XXXI Jornades de la Societat Catalana de Malalties Infecciones i Microbiologia Clínica. Montbrió del Camp, 15 October.

SCIENTIFIC PRODUCTION

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SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- ESU-ESOU Masterclass on Non-muscle-invasive bladder cancer. Prague, 24-25/02/2022. International event. Co-Director: Palou Redorta, Juan.
- Everything we should know about prostate cancer in 2022. Barcelona, 22/09/2022. National event. Organization and direction: Palou Redorta, Juan.
- Prostate cancer case manager: how to improve the patient experience and optimize their clinical management. Barcelona, 22/09/2022. National event. Organization and Directors: Palou Redorta, Juan; Breda, Alberto.
- Medical Expert Training in NMIBC Management with Plasma and NBI. Barcelona, 27-28/09/2022. Organizer and Director: Palou Redorta, Juan.
- Workshop: Explore modes of treatment for upper tract urothelial carcinoma (UTUC). 3 editions in 2022: Barcelona, 12-13/04/2022; Barcelona, 06-07/09/2022; Barcelona, 18-19/10/2022. Organization and Directors: Palou Redorta, Juan; Breda, Alberto.
- Surgical Immersion Workshop. 2 editions in 2022: Barcelona, June 21-22; Barcelona, 20-21/09/2022. Organization and Directors: Palou Redorta, Juan; Breda, Alberto.
- Explore modes of treatment for kidney stones using PCNL and RIRS. Barcelona, 14-15/09/2022; Barcelona, 13 October. Organization and Directors: Palou Redorta, Juan; Angerri Feu, Oriol.
- Explore modes of treatment for kidney stones using PCNL and RIRS. 3 editions in 2022: Barcelona, March 3-4; Barcelona, 04-05/05/2022; Barcelona, 02-03/11/2022. Organization and Director: Angerri Feu, Oriol.
- Medical Expert Training in flexible ureterorenoscopy and percutaneous renal surgery. Barcelona, 30-31/03/2022. Director: Angerri Feu, Oriol.
- 10th International Techno-Urology Meeting (TUM). Orbassano, 28-29/04/2022. Organization: Breda, Alberto.
- Meeting of the EAU Robotic Urology Section. Barcelona, 26-28/10/2022. Organization and Director: Breda, Alberto.
- ESU-ESUT Masterclass on Lasers in Urology. Barcelona, 17-18/11/2022. Director: Breda, Alberto.
- SINUG Course – Complex Urinary Incontinence and Fistulas. Madrid, 25-26/11/2022. Co-organizer: Errando Smet, Carlos.
- XXVI National Meeting of the Andrology Group and VI National Meeting of the Reconstructive Surgery Group. Vigo, 03-04/02/2022. Organization and direction: Ponce De Leon Roca, Javier.
- Advanced urethral surgery course. Barcelona, 03-04/03/2022. National event. Co-director: Ponce De Leon Roca, Javier.
- Course: REZUM deep dive day – Training session. Barcelona, 15/11/2022. National event. Organization and direction: Ponce De Leon Roca, Javier.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

Dr. Joan Palou

19th Meeting of the EAU Section of oncological urology (ESOU22)
Title: Urachal tumours/rare variants
European Association of Urology
Madrid, 21-23/01/2022
Speaker

2022 ERUS and China Anti-Cancer Association GU Society (CACA GU). Exchanges on Uro-oncological Robotic Surgery
Moderator session: Robotic Bladder Cancer Surgery
European Association of Urology
Virtual, 23/01/2022
Moderator

XXXI National Meeting of the lithiasis and endourology, laparoscopy and robotics groups
Title: The "new" Robots. Already here... or a not so immediate future?
Spanish Association of Urology
Sevilla, 27-28/01/2022
Speaker

ESU-ESOU Masteclass on Non-Muscle-Invasive Bladder Cancer
Title: TURB/ en-bloc with PDD
Title: How to manage difficult situations during TURB (Hemorrage, TUR syndrome, obturator jerk, perforation: intra and extraperitoneal)?
Moderator session: Endoscopic management of NMIBC (semi-live section with practical examples – videos)
Moderator session: Cases prepared by participants discussed by the whole faculty.
European Association of Urology
Praga (República Txeca), 24-25/02/2022
Speaker and moderator

8th IUA-EAU Uro-oncology Seminar
Title: Radical cystectomy for oligometastatic MIBC
Title: Kidney-sparing strategies of upper urinary tract urothelial carcinoma
European Association of Urology
Virtual, 03-04/03/2022
Speaker

International Precision Medicine Forum
Robotic Surgery: Current Knowledge and Gaps
Title: Past, present and future of surgical robots in Urology.
Potential areas of research
Research Institute IDIVAL
Santander, 05-07/04/2022
Speaker

AUA 2022
Title: Bladder Cancer and Upper Tract TCC.
Moderator session: Are there limits to Robotic Surgery?
Round table participant: Case-Based Debate: Is Active Surveillance valid Option for 57 Year Old Patient with Recurrent TaLG Tumors, Small Size, Negative Cytology? Debater-Con
American Association of Urology
New Orleans (Luisiana), 13-16/05/2022
Speaker, moderator and round table participant

LXXXV National Congress of Urology
Title: New times in robotic surgery. New robots
Spanish Association of Urology
Burgos, 08-11/06/2022
Speaker

37th Annual EAU Congress
Moderator session: Joint Session of the European Association

of Urology (EAU) and the Federation of ASEAN Urological Associations (FAUA)
Title: Early cystectomy
Title: Urologist's point of view
Title: Nightmare in TURBT.
Title: Post plenary discussion 'Perioperative treatment of urothelial cancer in 2022': Meet the experts.
Title: Diagnosis, markers and innovations.
Title: Complications during surgery and what to do: Obturator nerve contraction, intra and extraperitoneal perforation, bleeding etc.
Title: How to deal with abnormal cytology including locations outside the bladder (UUT and urethra) and its limitations.
Debater 1 Should be classified/treated as intermediate risk, chemotherapy or BCG
Debater 1 Recommend RARP, continue to treat bladder, XRT would not be recommended given bladder history.
Session II: Medtronic: The Hugo "Boss": Semi-live Cystectomy
European Association of Urology
Amsterdam (Netherlands), 01-04/07/2022
Moderator, speaker, debater.

LVII Congress of the Colombian Society of Urology
Title: Changes in the management of muscle-invasive bladder cancer
Title: Urothelial carcinoma of the bladder and upper urinary tract: synthesized update
Colombian Society of Urology
Cartagena de Indias (Colombia), 25-27/08/2022
Speaker

18th Andrology Course Fundació Puigvert
Moderator session: Andrological implications in patients with prostate cancer
Fundació Puigvert
Barcelona, 19/10/2022
Moderator

12th European Congress of Andrology (ECA Barcelona 2022)
Moderator session: Postgraduate course - Update on male reproduction
Moderator session: Clinical Science Session – Uro-Andrology
European Academy of Andrology
Barcelona, 19-21/10/2022
Moderator

ERUS22: 19th Meeting of the EAU Robotic Urology Section
Live surgery: RARP
Live surgery: Robotic uretero-ileal stricture repair
Moderator session: Update on urothelial cancer
European Association of Urology
Barcelona, 26-28/10/2022
Surgeon and moderator

ESU-ESUT Masterclass on Lasers in Urology
Title: Videos UTUC – Pre-surgery set-up discussion
Title: Videos UTUC – En bloc resection of bladder TCC/TFL
European Association of Urology
Barcelona, 17-18/11/2022
Speaker

XII Meeting of the GECARE Group and Bladder Tumor
Moderator session: The "real-life" of clinical practice in the care process of high-risk NMIBC and TVMI bladder carcinoma. Opportunities and strategies of Urology in this new challenge.
Spanish Association of Urology
Madrid, 14-15/12/2022
Moderator

Dr. Ferran Algaba
Update in Prostate Cancer: Multidisciplinary management from the screening to metastatic disease
Title: Pathological diagnosis for the clinician (including variants of PCa)
Grupo Centro de Tumores GU
Madrid, 22/04/2022
Speaker

37th Annual EAU Congress
Title: Kidney tumours with the 2022, WHO eyes.
Title: Testis tumours: New insights with clinical impact.
European Association of Urology
Amsterdam (Països Baixos), 01-04/07/2022
Speaker

19th Meeting of the EAU Robotic Urology Section (ERUS22)
Title: Latest update on prostate pathology
European Association of Urology
Barcelona, 26-28/10/2022
Speaker

Dr. Oriol Angerri
XXXI National Meeting of the Lithiasis and Endourology, Laparoscopy and Robotics Groups.
Title: Kidney transplant and lithiasis.
Spanish Association of Urology.
Sevilla, 27-28/01/2022.
Speaker.

Webinar AIS Channel.
Title: Mini-ECIRS in a Horseshoe kidney in Supine position.
Online, 15/03/2022.
Speaker.

Webinar Coloplast.
Title: Clinical cases in endourology.
Online, 31 March.
Speaker.

AUA Congress.
Title: Simposi Laser vs Laser.
American Urological Association.
New Orleans, EUA, 14/05/2022.
Speaker.

XXVIII IDU International Practical Course.
Title: Laser Holmium: new pulse modulations.
Online, 06/06/2022.
Speaker.

37th Annual EAU Congress
Title: Role of miniaturized PCNL after the introduction of disposable flexible Ureteroscopes.
Title: Pre-recorded video Mini supine combined intrarenal surgery.
Title: Presentation: Simultaneous PCNL in one session.
European Association of Urology.
Amsterdam, 01-04/07/2022.
Speaker.

Percutaneous surgery workshop
Tutor: Live surgery.

General Hospital of Valencia.
Valencia, 12/07/2022.
Faculty.

11th IAU Annual Conference.
Title: MiniPCNL.
International Alliance of Urolithiasis.
Guangzhou, China, 15-17/06/2022.
Speaker

Coloplast Endourology Update Course.
Coordinator course.
Title: Crystallographic study of lithiasis and supine percutaneous surgery.
Barcelona, September 2022.
Course coordinator and speaker.

Percutaneous surgery workshop.
Tutor: Live surgery.
Hospital Clínico Málaga.
Málaga, September.
Faculty.

Société International Urology Congress.
Session: Controversies in urinary stones management.
International Urology Association
Montreal, Canada, 09-13/11/2022.
Moderator.

ESUT Laser Masterclass.
Semilive Surgey, MiniPCNL.
Session: Moderation Litiasis Session.
Barcelona, 17-18/11/2022.
Moderator and faculty.

12th International Meeting Technology and training in Endourology 2022.
Session: Focus on: Stone treatment in anomalous kidneys and urinary tract.
Pre-recorded surgery: ECIRS in a horseshoe kidney.
Torino (Italy), 23-2/11/2022.
Moderator and Faculty.

Urolithiasis days
Title: MiniPCNL, where is the limit?
Istanbul, Turkey, 01-02/12/2022.
Speaker.

Dr. Alberto Breda
19th Meeting of the EAU Section of Oncological Urology (ESOU22)
Title: In Bloc resection in non-muscle invasive bladder cancer: Where do we stand?
Co-chair session Urothelial cancer II.
Co-chair session ESU-ESOU-ERUS.
European Association of Urology.
Madrid, 21-2/01/2022.
Speaker and Chair.

XXIV National Meeting of the Andrology Group and VI National Meeting of the Reconstructive Surgery Group
Title: Auto transplantation.
Spanish Association of Urology.
Vigo, 03-04/02/2022.
Speaker

ESU-ESOU Masterclass on Non-muscle-invasive bladder
Title: Lasers in NMIBC surgery
Title: In-bloc resection with Thulium laser
Title: Complications of intravesical treatment and their management
Co-moderator session: Management of patients with BCG failure.
European Association of Urology.
Prague, Czech Republic, 24-25/02/2022.
Speaker and moderator.

Semi-Live GLOBAL
Title: Transurethral therapy of TCC of the upper urinary tract
Co-chair Session: Bladder Cancer
Co-chair: Kidney II
Heidelberg, Germany, 02-05/03/2022.
Speaker and Chair.

XXX National Meeting of the Transplant Group
Session: Kidney transplant
Conclusions and presentation of the next round table
Spanish Association of Urology
Alacant, 31/03-01/04/2022
Moderator.

10 International Techno-Urology Meeting (TUM)
Surgery: Cognitive 3D guided Robot-assisted Partial Nephrectomy
Torí, Italy, 28-29/04/2022
Surgeon in live surgery.

Virtual eGrand Rounds SIU Academy - Update in Urothelial Cancer Management
Surgery: RIRS UTUC
Online, 27/04/2022
Surgeon in live surgery.

AUA 2022
Title: Robotic Auto transplantation: 'The no Incision Transplant'
American Urology Association.
New Orleans, 13-16/05/2022
Speaker

UROtech22
Session: Live surgery II - Screen III: New technologies from China
Title: Robotic Auto-transplantation
Istanbul, 26-28/05/2022
Moderator and speaker.

Webinar AEU
Title: Penile cancer, minimizing the surgical impact: reconstruction and inguinal lymphadenectomy.
Spanish Association of Urology.
Online, 31/05/2022.
Speaker

LXXXV National Congress of Urology
Title: Intraoperative complications of robotic kidney transplant, how to avoid them?
Faculty member of the course: Extraperitoneal robotic surgery in urology. When and how to do it.
Spanish Association of Urology.
Burgos, 8-11/06/2022.
Speaker and faculty member.

Challenges in Laparoscopy & Robotics 2022
Semi live surgery: Laparoscopic Nephroureterectomy

Milà (Itàlia), 15-1/06/2022.
Surgery presenter.

37th Annual EAU Congress
Session: Game changing session 1
Session: Challenges in renal cancer
Session: Nightmares in surgery of retroperitoneal disease
Title: Case-based debate Kidney-sparing treatment of upper urinary tract urothelial carcinoma should be expanded. Pro
Title: Renal cancer How to proceed with the partial/radical LP/RA nephrectomy: Tips and tricks.
Title: ESTU-ESOU Joint topics Urological cancer management in the ESRD and KT population: Choosing the best technique to combine with future transplant
Session: Meet the experts in robotic surgery
Title: Video-assisted PowerPoint presentation Retroperitoneal
Pre-recorded video Early experiences using Medtronic Hugo RAS system in a partial nephrectomy
Session II: Medtronic: The Hugo "Boss": Semi-live Tips and tricks
Session II: Medtronic: The Hugo "Boss": Semi-live Kidney transplantation
Session: Video Session: Technically challenging partial nephrectomies
Session: Difficult cases in renal transplantation
Session: Advanced course on laparoscopic renal surgery.
Title: Transperitoneal renal surgery: Step by step.
Title: Retroperitoneal renal surgery: Step by step.
Title: Complex kidney cases.
Title: Postoperative complications: Incidence and management.
Special cases. A. Breda
European Association of Urology.
Amsterdam, 01-04/07/2022
Sessions' moderator and speaker

XXXV National Meeting of the Urology Oncology Group
Title: Conventional TUR versus en bloc resection. Results of a prospective study and implications for daily clinical practice.
Spanish Association of Urology
Castellón de La Plana, 06-07/10/2022.
Speaker

12th European Congrees of Andrology (ECA)
Title: Late effects of uro-oncological surgery on sexual function.
European Academy of Andrology.
Barcelona, 20/10/2022.
Speaker.

ESU-ESUT Masterclass on Lasers in Urology
Director of the Masterclass
Session: Videos UTUC
Title: Pre-surgery set-up discussion
Pre-recorded surgery: RIRS +Thulium/ Holmium for UTUC
Title: Pre-surgery set-up discussion
Pre-recorded surgery: PCN Laser ablation of UTUC
European Association of Urology.
Barcelona, 17-18/11/2022.
Director Masterclass, moderator and speaker.

Formación en Trasplante Renal de Donante Vivo - XIX edición
Title: Trasplante renal robótico
Organización Nacional de Trasplante.
Online, 21-24/11/2022.
Speaker.

12th International Meeting Technology and Training in Endourology 2022
Title: En bloc resection vs standard TURBT in NMIBC
Moderator session: Upper tract urothelial carcinoma
Title: Diagnosis and management of low risk UTUC
Torino (Itàlia), 23-25/11/2022.
Speaker and moderator.

19th Meeting of the EAU Robotic Urology Section (ERUS22)
Co-chair
Title: New machines are here
Live surgery: RAPN
Barcelona, 22/11/2022.
Co-chair and speaker.

1st Annual World Congress of Robotic Surgery
Title: Robot-Assisted Prostatectomy: The ERUS lecture
Moderator session: Live Surgery Robot-Assisted Partial Nephectomy
Nova York (EUA), 8-10/12/2022.
Speaker and moderator.

Dra. Anna Bujons
EAU Sections of Uro-Technology and Urolithiasis (ESUT and EULIS) in collaboration with the EAU Robotic Urology Section (ERUS)
Moderator session: Live surgery II - Screen I: New technology for percutaneous stone surgery
Title: Update on surgical management of kidney stones in children.
European Association of Urology
Urotech, Istambul, 26-28/05/2022
Moderator and speaker.

37 EAU Annual Congress
Title: State of the art: Cystine in children
Title: ESU curse: Urodynamics in children: Pitfalls in urodynamics, incontinence and urotherapy.
European Association of Urology.
Amsterdam, 01-04/07/2022
Speaker

LVII Congress of the Colombian Society of Urology
Title: Predictive factors for recurrent lithiasis in children.
Percutaneous Surgery Course
Ureteroscopy and RIRS Course
Colombian Society of Urology.
Cartagena de Indias, 25-27/08/2022
Speaker

XVIIIth ESPU Educational Course
Title: UPJ
Title: Mini-perc
European Society for Paediatric Urology
Rome, 9-10/09/2022
Speaker

XXXI National Meeting of the Pediatric Urology Group,
Title: Prognostic factors in the recurrence of stones in the upper urinary tract of patients with exstrophy-epispadias complex
Title: SuperPulsed Thulium fibre laser: first clinical experience in paediatric RIRS
Title: Robotic pyeloplasty in an infant's horseshoe kidney
Title: Retrograde intrarenal surgery with high-power laser and virtual basket in a paediatric patient
Moderator session: Paediatric lithiasis.

Spanish Association of Urology.
Madrid, Spain 30/09/2022
Speaker

III Congress AUCA
Title: Ureteroscopy, PNL in paediatric patients When yes, when not?
Title: Urinary lithiasis in paediatric age: Predictive factors for the ecurrent formation of metabolic urinary lithiasis
Urological Association of Central America and the Caribbean.
Costa Rica, 14-17/09/2022
Speaker

XLI Congress of the American Confederation of Urology (CAU)
Title: Vesicoureteral reflux. Control and treatment
Title: Proximal Hypospadias: Current Surgical Techniques
Cancún, México, 26-30/10/2022
Speaker.
XXVII Congress of the Ibero-American Society of Paediatric Urology (SIUP)
Title: Prognostic factors in the recurrence of stones in the upper urinary tract of patients with exstrophy-epispadias complex
Title: SuperPulsed Thulium fibre laser: first clinical experience in paediatric RIRS
Title: Robotic pyeloplasty in an infant's horseshoe kidney
Title: Retrograde intrarenal surgery with high-power laser and irtual basket in a paediatric patient
Title: Simultaneous bilateral endoscopic surgery (SBES) in a paediatric patient
Moderator round table: Endoscopia en urología pediátrica
Sociedad Iberoamericana de urología Pediátrica
Cancún, México, 26-30/10/2022
Speaker and moderator

Dr. Esteban Emiliani
XXXI National Meeting of the Lithiasis and Endourology, Laparoscopy and Robotics Groups
Title: Endourological treatment of tract tumor: How do I treat it?
Spanish Association of Urology
Seville, 27-28/01/2022
Speaker

Endoluminal & Technology Symposium 2022
Title: What we are doing for stone surgery in my hospital
South Korea & Singapore, 16/04/2022
Speaker

UROtech22
Title: Semi-live surgery RIRS with LithoVue Single-Use Digital Flexible Ureteroscope and Moses technology.
European Association of Urology
Istanbul, 26-28/05/2022
Speaker

37th Annual EAU Congress
Title: Urolithiasis in urinary system anomalies: Horse shoe kidneys.
Title: Urolithiasis in urinary system anomalies: After bladder substitution/ ileal conduit/ureteral reimplantation.
Title: Bilateral stone treatment; do's and dont's.
Title: How to become a good consultant, how to cope with residency.
Pre-recorded video Retrograde intrarenal surgery.
Participant al: Debate Are disposable ureteroscopes 'gone with the wind'? No!
European Association of Urology
Amsterdam (Netherlands), 01-04/07/2022

Speaker and participant

XLI Congress of the American Confederation of Urology (CAU 2022)
XLVI International Congress of the Mexican College of National Urology (CMUN) XXVII Congress of the Ibero-American Society of Paediatric Urology (SIUP)
Title: Update and indications for the use of single-use endoscopes.
Title: Complex endoscopic surgeries in urinary diversions or horseshoe kidney.
Title: ECIRS – step by step prone and supine position.
Title: Innovation in stone lasers (Holmium - New Generation, TFL, Tulio YAG)
Title: COOK SYMPOSIUM: Battle of the Accesses
Title: Disposable x reusable ureteroscopes
American Confederation of Urology
Cancún (Mexico), 26-30/10/2022
Speaker
12th International Meeting Technology and Training in Endourology 2022
Live surgery: ECIRS
Moderator session: The case of a 2 cm pyelic Stone
Title: Advanced Thulium Laser with RealPulse® Technology
Technology and Training in Endourology
Torino (Italia), 23-25/11/2022
Surgeon, moderator and speaker

The Talents 2022
Title: Mose's-Funnel-Virtual Basket-Long Pulse: all are equivalent: No
Roma (Italia), 8-10/12/2022
Speaker

ESU-ESUT Masterclass on Lasers 2022
Title: Thulium Fiber Lasers.
Moderator session: Videos stones
European Association of Urology
Barcelona, 17-18/11/2022
Speaker and moderator

45th Annual Scientific Meeting of Indonesian Urological Association (ASMIUA)
Makassar (Indonesia), 14-18/09/2022

Dr. Carlos Errando
Urodynamics Unit Operator. SINUG course
Title: Cystomanometry
Online, 10/01- 27/03/2022
Speaker

UROwebinar
European School of Urology / European Section of Genitourinary Reconstructive Surgeons Session: EAU: Female urethral stricture management.
European School of Urology
10/02/2022
Moderator

Course Approach to the Lower Urinary Tract in LUTS/HBP (UroAtrium)
Round table session: LUTS in men. In which cases the cause is the prostate: Current evidence on combined treatment in LUTS-HBP.
Caceres, 16-18/03/2022
Round table participant

VIII Urogenital Prosthetic and Reconstructive Surgery Course
Hospital Clínic

Title: Triangular: Slings fijos vs ATOMS vs REEMEX.
Barcelona, 24- 25/03/2022
Participant of the session

37th Annual EAU Congress
Moderator Video Session 5: Functional urology: The full Monty
European School of Urology
Amsterdam (Països Baixos), 1-4 juliol
Moderator
Zephyr Artificial Sphincter Workshop. Presentation Sphincter Zephyr. Live Surgery.
Hospital Rio Ortega, Valladolid, 21/10/2022

SINUG Course
Complex Urinary Incontinence and Fistulas
Title: The artificial sphincter stops working; and now that?
Moderator round table: Urinary fistulas: diagnosis and reconstruction
Madrid, 25-26/11/2022
Speaker and moderator

Dr. Andrea Gallioli
ERUS22 (26-28/10/22)
Title: Endomicroscopy in prostate cancer: is it the right choice?
Title: Robot-assisted renal transplantation
European Association of Urology
Barcelona, 26-28/10/2022
Speaker

Dr. Ponce de León
XXIV National Meeting of the Uro-andrological Group and VI National Meeting of the Urological Reconstructive Surgery Group
Moderator round table: Clinical cases
Moderator round table: Preliminary results PIEM morbidity of oral mucosal extraction for urethroplasty
Moderator: Subcutaneous scrotal flap in penile urethroplasty
Moderator round table: Complex ureteral stricture
Moderator: Reconstructive treatment of distal urethral strictures
Title: Complex ureteral stricture: Replacement with intestine
Spanish Association of Urology
Vigo, 03-04/02/2022
Moderator and speaker

Balearic Association of Urology Meeting 2022
Title: Advances and technical update in anterior urethroplasty
Balearic Association of Urology
Mallorca, 28/05/2022
Speaker

LXXXV National Congress of Urology
Session and title: Urethra, Penis and Scrotum-Non Oncology I. Reconstruction of perineal urethrostomy stricture with buccal mucosa graft.
Session and title: Upper Urinary Tract-Non Oncology I. Ureteral replacement with remodelled intestine. Monti technique.
Session and Title: Complex ureteral stricture: Buccal graft vs replacement with intestine vs auto transplantation. Substitution with intestine
Spanish Association of Urology
Burgos, 08-11/06/2022
Speaker

42 Congrés della Société Internationale D'Urologie (S.I.U.)
SIU 2022 Spanish Course on Genitourinary Reconstructive Surgery PONENTE.
Dubai, 12-15/05/2022
Speaker

37 Congreso European Association of Urology
Title: Male LUTS and sex life: What do patients want from treatments.
Moderator: Interactive clinical case.
European Association of Urology.
Amsterdam, 01-04/07/2022
Speaker and moderator

Advanced Urethral Surgery Course
Title: Variants of TT urethroplasty
Title: Follow-up of urethral surgery: guidelines vs reality
Hospital del Mar
Barcelona, 03-04/03/2022
Speaker

Dr. Rodríguez Faba
Webinar Fundación ONCOSUR
Title: Challenges in the management of bladder cancer
ONCOSUR
Madrid, 15/03/2022
Speaker

Congress of the Galician Society of Urology
Title: Immunotherapy in CVNMI
Moderator session: Biomarkers in CVNMI
Sociedad Gallega de Urología
Vigo, 19/05/2022
Speaker and moderator

LXXXV National Congress of Urology
Faculty member: Training course - Current CVNMI treatment for risk groups.
Faculty member: Training course - Immunotherapy in genitourinary tumors: Urologist's perspective
Title: High-grade positive cytology without bladder tumor.
Spanish Urology Association
Burgos, 8-11/06/2022
Faculty member and speaker

37 European Association of Urology Congress
Title: Focal treatment
Moderator session posters: Renal transplant
European Association of Urology
Amsterdam, 01-04/07/2022
Speaker and moderator

2nd international workshop in urothelial carcinoma
Title: Role of cystectomy in N+
Madrid, 04/10/2022
Speaker

XXIV Congress ACLU
Title: Systemic treatment of renal cancer 2022
Castilian Leonese Association of Urology
Ponferrada, 21-22/10/2022
Speaker

19th Meeting of the EAU Robotic Urology Section
Faculty ESU Course: Advanced course in Robotic cystectomy and diversion
European Association of Urology
Barcelona, 27/10/2022
Faculty member

New frontiers in kidney transplant
Moderator session: Pros and cons of robotics in kidney transplantations
Florence, 4-5/11/2022
Moderator

25th Symposium of the Catalan Society of Urology
Title: Small renal mass
Barcelona, 18-19/11/2022
Speaker

Bladder Mad (ProCav)
Title: Neovejigas ileales
Moderator session: Clinical cases
Aranjuez, 25-26/11/2022
Speaker and moderator
XII Reunión Nacional del grupo GECARE
Moderator session: Handling of TVNMI
Spanish Urology Association
Madrid, 14-15/12/2022
Moderator

RESEARCH VISIBILITY ACTIVITIES

Outreach activities to society

- Fundació Puigvert i Asociación de Extrofia Vesical (Asexve). Barcelona, 12/11/2022. Patients with Bladder exstrophy and their families. National activity. Speaker: Dra. Anna Bujons.

REPRODUCTIVE HEALTH



Group leader
Calaf Alsina, Joaquim (UAB)

Researchers
Balcells Eichenberger, Laura (FGS)
Coma Barbara, Marina (FGS)
Estadella Tarriel, Josep Ramon (FGS)
Guinot Gasull, Misericordia (FGS)
Muro Blanc, Patricia (FGS)
Perello Capo, Josep (FGS)
Rams Llop, Noelia (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.

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.

ACTIVE GRANTS

- Contribucion a la "THE WEST LONDON POF DATABASE" Gestión de bases de datos de investigación. Codigo estudio POF-DB.21/039. Investigadora principal y coordinadora a nivel español. Dra.M. Guinot
- Estudio epidemiologico observacional en pacientes con insuficiencia ovárica prematura código del estudio: IIBSP-IOP-2012-109. clinical trials.gov id:nc T02068976.Investigadora principal y coordinadora a nivel Nacional Dr.M.Guinot

AWARDS

- Patricia Muro Blanc. New Investigator Award. The Best New Investigator at the 14th European Congress of Andropause and Menopause. EMAS (European Society of Andropause and Menopause) Florence.

SCIENTIFIC PRODUCTION

- Blanch L, Simó M, Vanrell C, Parés P, Dosouto C, Porta O, Estadella J. Why do we still perform hysteriscopies in the Operating Room?. *WORLD JOURNAL OF GYNECOLOGY & WOMEN'S HEALTH*. 2022; (5) 4: 1-4. DOI:10.33552/WJGWH.2022.05.000618. Document type: Article.
- Capítulo: ESTRÓGENOS: LA GÉNESIS DEL TROMBOEMBOLISMO. In: WHC Exeltis Day. Madrid: Canal Editorial, 2022. ISBN:978-84-18568-91-6. Document type: Book chapter.
- Capo JP, Gonzalez GL, Rius J, Alsina JC. Real-world satisfaction and menstrual bleeding pattern with available LNG-IUD among Spanish young women. *EUROPEAN JOURNAL OF CONTRACEPTION AND REPRODUCTIVE HEALTH CARE*. 2022; 27(6). DOI:10.1080/13625187.2022.2112562. PMID:36148980. IF:1,752 (Q4/9D). Document type: Article.
- Fidecicchi T, Fruzzetti F, Lasa L, Calaf J. COVID-19, gender and estroprogestins, what do we know?. *EUROPEAN JOURNAL OF CONTRACEPTION AND REPRODUCTIVE HEALTH CARE*. 2022; 27(1). DOI:10.1080/13625187.2021.2000959. PMID:34842025. IF:1,752 (Q4/9D). Document type: Review.
- Haile L, van de Roemer N, Gemzell K, Capo JP, Lasa IL, Vannuccini S, Koch MC, Hildebrandt T, Calaf J. The global pandemic and changes in women's reproductive health: an observational study. *EUROPEAN JOURNAL OF CONTRACEPTION AND REPRODUCTIVE HEALTH CARE*. 2022; 27(2). DOI:10.1080/13625187.2021.2024161. PMID:35040737. IF:1,752 (Q4/9D). Document type: Article.
- Mendoza N, Ramirez I, de la Viuda E, Coronado P, Baquedano L, Llaneza P, Nieto V, Otero B, Sanchez S, de Frutos VA, Andraca L, Barriga P, Benitez Z, Bombas T, Cancelo MJ, Cano A, Branco CC, Correa M, Doval JL, Fasero M, Fiol G, Garello NC, Genazzani

AR, Gomez AI, Gomez MA, Gonzalez S, Goulis DG, Guinot M, Hernandez LR, Herrero S, Iglesias E, Jurado AR, Lete I, Lubian D, Martinez M, Nieto A, Nieto L, Palacios S, Pedreira M, Perez E, Pla MJ, Presa J, Quereda F, Ribes M, Romero P, Roca B, Sanchez A, Sanchez R, Santaballa A, Santamaria A, Simoncini T, Tinahones F, Calaf J. Eligibility criteria for Menopausal Hormone Therapy (MHT): a position statement from a consortium of scientific societies for the use of MHT in women with medical conditions. MHT Eligibility Criteria Group. *MATURITAS*. 2022; 166. DOI:10.1016/j.maturitas.2022.08.008. PMID:36081216. IF:5,110 (Q1/2D). Document type: Review/Practice guideline.

- Perello J, Pujol P, Perez M, Artes M, Calaf J. Heavy Menstrual Bleeding-Visual Analog Scale, an Easy-to-Use Tool for Excessive Menstrual Blood Loss That Interferes with Quality-of-Life Screening in Clinical Practice. *WOMENS HEALTH REPORTS*. 2022; 3(1). DOI:10.1089/whr.2021.0139. PMID:35651998. Document type: Article.
- Singh SS, Alsina JC, Vannuccini S, Koga K, Silva AL, Yang X, Estrade JP, Catherino W. Clinical perspectives on the menstrual pictogram for the assessment of heavy menstrual bleeding. *HUMAN REPRODUCTION OPEN*. 2022; 2022(4):hoac048. DOI:10.1093/hropen/hoac048. PMID:36382010. IF:7,130 (Q1/1D). Document type: Editorial material.

SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- MA. and Reproduction. Casa de Convalescència. Case based learning course on Gynaecological Endocrinology. Barcelona, 30/11 – 02/12/2022. Directors: Calaf J, Espinos JJ, Checa .
- Practical aspects of contraception and intrauterine devices. Kalispera. 29/09/2021 - 20/05/2022. Teaching assistant: Perelló J.
- Update on hormonal IUDs. I update day on contraception of the Balearic Contraception Society.Mallorca, 06/05/2022. Speaker: Perelló J.
- TRANSFORM EUROPEAN PROJECT. "Citizen science for the improvement of health care: the endometriosis project in the first person at the Hospital de la Santa Creu i Sant Pau". Speaker: Perelló J.

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)
Pedro Olive, Agusti (FGS)
Rojas Cordero, Jady Vivian (FGS)
Soto Cambres, Ana Maria (FGS)
Vila Capel, Antoni (FGS)

Research technicians
Cifuentes Antolinez, Patricia (IR)
Pla Sanchez, Monica (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 tumour and oligometastases.

Identification of predictive factors for radiotherapy response and toxicity and inclusion of algorithms to personalise post-irradiation follow-up of patients.

We are investigating how to quantify the impact on clinical outcomes of peer-review sessions incorporated into clinical practice.

MAIN LINES OF RESEARCH

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.

We participate in a European project for the development of a predictive model for lung cancer patients, using omics-based variables that integrates 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)

Research on modifications of the combination chemotherapy and radiotherapy scheme in the treatment of glioblastoma multiforme using a murine model. Josep Balart

Patterns of recurrence and predictive factors of local recurrence after neoadjuvant chemoradiotherapy in patients with rectal cancer. Josep Balart, AnaM Soto.

Clinical impact of the use of respiratory movement control techniques in radiotherapy for breast cancer: Eugènia Otero (MIR-3), Josefina Fuentes, Gemma Sancho, Núria Jornet (Medical Physiscs).

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 oncogeriatric oncology. Arantxa Mera, Gemma Sancho.

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).

Predictive factors of response to radiotherapy in head and neck tumours. Laura Montezuma, Xavier León (ENT department).

Irradiation of large-volume sarcomas with lattice technique. Katarina Majercakova, Josep Isern.

Toxicity prognostic factors in total body irradiation administered in haematopoietic cell transplantation conditioning; the impact of lung dose reduction. Antoni Vila, Gemma Sancho

SCIENTIFIC CHALLENGES

Prostate radiotherapy planning with synthetic CT from MR imaging.

Use of AI to identify predictors of response and toxicity to radiotherapy in lung and prostate cancer.

Identification of local recurrence patterns and associated predictive factors after neoadjuvant QT-RT.

Clinical impact of ablative radiotherapy of oligometastases.

Modifications to QT-RT combination treatment regimens in glioblastoma multiforme.

Surface-guided radiotherapy with respiratory motion control techniques. Josep Balart, Núria Farré, Sonia Bermejo, Cristina Ansón (Medical Physics).

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS

Collaboration with Maria Virtudes Cespedes, PhD. Scientist, Miguel Servet Programme Gynecologic & Peritoneal Oncology Group in the following research projects:

1. PI20/00623 "Innovative nanotherapy for highly-metastatic peritoneal cancers: activating neuroreceptors to kill cancer stem cells". IP MV Cespedes. Instituto de Salud Carlos III, 2021-2024. (Josep Balart)
2. 550_C_20190314_1702. "Genomic signatures for the prediction of recurrence and metastasis in Endometrial Cancers". IP: Maria Virtudes Céspedes (Coordinadora) IIB. Sant Pau, Hospital de La Santa Creu i Sant Pau; Dra. María Macías (Institut de Recerca Biomèdica de Barcelona, IRB) La Marató TV3.2020-2024 (Josep Balart)

EXTERNAL COLLABORATIONS

- HCP representative EURACAN in Sarcomas (start 2020) K. Majercakova
- Member of WP 5 of FOSTER (European Osteosarcoma Consorcium) K. Majercakova
- Member of GEC ESTRO gyn, CI in the EMBRACE studies (studies to develop, perform and evaluate image guided radiotherapy and brachytherapy in cervix cancer) K. Majercakova
- GEIS 75 study - Phase II multicohort trial of trabectedin and low-dose radiation therapy in advanced/metastatic sarcomas (SYNERGIAS), multicenter study. K.Majercakova (IP)
- FIS: Circulating hcXCR4/Serpin E1 tumour emboli in the prognosis of head and neck cancer. (start 2020). K Majercakova (IC)
- CLINICAL PROTOCOL CA20973L: A Phase 3, Randomized, Open Label Study to Compare Nivolumab plus Concurrent Chemoradiotherapy (CCRT) followed by Nivolumab plus Ipilimumab or Nivolumab plus CCRT Followed by Nivolumab vs CCRT followed by Durvalumab in Previously Untreated, Locally Advanced Non-small Cell Lung Cancer (LA NSCLC). (CheckMate 73L, CHECKpoint pathway and nivoluMAb clinical Trial Evaluation 73L). Promoter: Bristol-Myers Squibb Research and Development. Open: April/2019 - N Farré (IC)
- ETOP 14-18 CHESS: A multicentre single arm phase II trial assessing the efficacy of immunotherapy, chemotherapy and stereotactic radiotherapy to metastases followed by definitive surgery or radiotherapy to the primary tumour, in patients with synchronous oligo-metastatic nonsmall cell lung cancer. Promoter: European Thoracic Oncology Platform (ETOP). Open: April/2019-N Farré (IC)
- A Phase III, Randomized, Placebo-controlled, Double-blind, Multi-center, International Study of Durvalumab Following Stereotactic Body Radiation Therapy (SBRT) for the Treatment of Patients with unresected Stage I/II, lymph-node negative Non-small Cell Lung Cancer (PACIFIC-4/RTOG 3515). Promoter: Astra-Zeneca. RTOG FOUNDATION. Open: Dec 2018-N Farré (IC)
- KEYNOTE-671: A phase III, randomized, double-blind trial of platinum doublet chemotherapy +/- pembrolizumab (MK-3475) as neoadjuvant/adjuvant therapy for participants with resectable stage IIB or IIIA non-small cell lung cancer (NSCLC). Promoter: MSD. Open: April 2018-N Farré (IC)
- A phase II trial of atezolizumab plus induction chemotherapy (CT) plus chemo-radiotherapy and atezolizumab maintenance therapy in non-resectable stage IIIA-IIIB non-small cell lung cancer (NSCLC) patients. APOLO: Atezolizumab plus induction chemotherapy plus CT-radiotherapy. Promoter: Fundación GECP (Grupo Español de Cánncer de Pulmón). GECP 20/08 . Sponsor: Roche. Open: 2021 N Farré (IC)
- Phase III study for evaluation of the diagnostic performance of [18F] CTT1057 PET imaging in patients with prostate
- cancer with rising PSA levels [biochemical recurrence (BCR)] (GuidePath). Clinical Trial Protocol CAAA405A12301. EUDRACT: 2020-003959-16. Promoter: Novartis. A Mera (IC)
- E2-RADIatE: EORTC-ESTRO RADiotherapy InfrAstrucTure for Europe EORTC protocol number: 1811. EORTC research project . Sub-study OligoCare:A pragmatic observational cohort study to evaluate radical radiotherapy for oligo-metastatic cancer patients (1822). IP: Matthias Guckenberger and Piet Ost. Site Activation 2021. G Sancho (IP Sant Pau)
- The TrueNTH Global Registry (2017-2019), an international strategy funded by the Movember Foundation. Prostate Cancer Outcomes Global Initiative to Compare and Reduce Variation in Localised Prostate Cancer ("PCO•CRV")". Promotor Movember. G Sancho (IP Sant Pau). This project is led by Dr Motserrat Ferrer (Health ServicesResearch Group IMIM (Hospital del Mar Medical Research Institute) - G Sancho (IC Sant Pau)
- Collaborative study to evaluate a potential synergy combining metronomic temozolomide and radiotherapy using an animal model of glioblastoma. This is a project led by Ana Candiota, PhD and Josep Balart, MD, PhD, that will be carried on the Department of Biochemistry and Molecular Biology, Unit of Biochemistry and Biosciences of the Autonomous University of Barcelona, UAB, and the CIBER-BBN (Centro de Investigación Biomédica en Red en Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN), and the Department of Radiation Oncology of Hospital de la Santa Creu i Sant Pau.
- Collaborative study to evaluate the impact of molecular expression in cervical cancer associated to HPV infection in response to radiotherapy. This is a collaborative project led by Pablo Moreno-Acosta, PhD, from the Cancer Biology Research, and Clinical, Molecular and Cellular Radiobiology Research of the Nacional de Cancerología of Colombia; and Josep Balart, MD, PhD, (Hostpital de la Santa Creu i Sant Pau).
- Collaborative project to study the use of nanoparticles consisting on gold nano loaded with cisplatin as a radiosensitizer. This project has culminated in a proposal to be applied to Asociación Española Contra el Cáncer -- Ayuda Proyectos Estratégicos AECC 2023---. The principal investigator is Victor Franco-Puntes, PhD from Vall Hebron Institut de Recerca. The in vivo experimental part of this project will be lead by Josep Balart, MD, PhD in the facilities of IRHSCSP.

GRANTS AWARDED

- Farre Bernado, Nuria. CANCER MULTI-OMICS AVATARS FOR INTEGRATED PRECISION MEDICINE. EraPerMed Farre. Unión Europea (GenCat FUNDING - Aciones complementarias). Duration: 2023-2025. 198.202,00 €

DOCTORAL THESES IN PROGRESS

- Montezuma Niño, Laura. Evaluation of the prognostic capacity of biomarkers in patients with squamous cell carcinoma of the head and neck. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: León Vintró, Xavier; Sancho Pardo, Gemma.
- Rojas Cordero, Jady Vivian. Clinical impact of peer review sessions within the quality control process in Radiation Oncology. 2022-2025. Universitat Autònoma de Barcelona. Supervisors: Sancho Pardo, Gemma; Jornet Sala, Núria; Nomdedéu Guinot, Josep.

SCIENTIFIC PRODUCTION

- Camacho M, Leon X, Pujol A, Montezuma L, Quer M, Garcia J. Prognostic value of transcriptional expression of fibronectin type III domain-containing 4 (FNDC4) in head and neck carcinoma patients treated with chemoradiotherapy. *CLINICAL & TRANSLATIONAL ONCOLOGY*. 2022; 24(11). DOI:10.1007/s12094-022-02870-3. PMID:35752749. IF:3,340 (Q3/7D). Document type: Article.
- Eraso A, Sanz J, Molla M, Reyes V, Pedro A, Arenas M, Martinez E, Ballester R, Cambra MJ, Garcia V, Prades JL, Borras JM, Algara M. Evidence-based guidelines for hypofractionated radiation in breast cancer: conclusions of the Catalan expert working group. *CLINICAL & TRANSLATIONAL ONCOLOGY*. 2022; 24(8). DOI:10.1007/s12094-022-02798-8. PMID:35190961. IF:3,340 (Q3/7D). Document type: Article.
- Lara PC, Rodriguez JI, Palacios A, Lozano A, Hervas A, Villafranca E, Gomez A, Sancho G, Maldonado X. Phase II Study of ENZAlutamide Combined With Hypofractionated Radiation Therapy (ENZART) for Localized Intermediate Risk Prostate Cancer. *FRONTIERS IN ONCOLOGY*. 2022; 12:891886. DOI:10.3389/fonc.2022.891886. PMID:35912190. IF:5,738 (Q2/4D). Document type: Article.
- Manrique A, Salazar J, Arranz MJ, Bague S, Orellana R, Lopez A, Cerda P, Gracia I, Majercakova K, Peiro A, Trullols L, Fernandez M, Valverde S, Quintana MJ, Bell O, Artigas A, Sebio A. Pharmacogenetic Profiling in High-Risk Soft Tissue Sarcomas Treated with Neoadjuvant Chemotherapy. *JOURNAL OF PERSONALIZED MEDICINE*. 2022; 12(4):618. DOI:10.3390/jpm12040618. PMID:35455734. IF:3,508 (Q2/4D). Document type: Article.
- Rodríguez F, Caruana P, De la Fuente N, Español P, Gámez M, Balart J, Llurba E, RAMON N, Ruiz R, Martín C, Corchero JL, Céspedes MV. Nano-Based Approved Pharmaceuticals for Cancer Treatment: Present and Future Challenges. *BIOMOLECULES*. 2022; 12(6):784. DOI:10.3390/biom12060784. PMID:35740909. IF:6,064 (Q2/3D). Document type: Review.
- Suarez JF, Zamora V, Garin O, Gutierrez C, Pont A, Pardo Y, Goni A, Marino A, Hervas A, Herruzo I, Cabrera P, Sancho G, de Leon JP, Macias V, Guedea F, Vigues F, Castells M, Ferrer M, Multictr Spanish Clinically Lo GRP. Mortality and biochemical recurrence after surgery, brachytherapy, or external radiotherapy for localized prostate cancer: a 10-year follow-up cohort study. *SCIENTIFIC REPORTS*. 2022; 12(1):12589. DOI:10.1038/s41598-022-16395-w. PMID:35869124. IF:4,996 (Q2/3D). Document type: Article.

SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- XXI SEOR congress. Palma de Mallorca, 28-30/09/2022. Scientific Committee: Gemma Sancho Pardo.
- First Meeting of the SEOR Sarcomas Group.Live Webinar National Meeting. February 2022. Scientific Commitee: Josep Isern Verdum.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- Time factor in radiotherapy of sarcomas: Improving results through fractionation? XXI LORD congress. Palma de Mallorca, 28-30/09/2022. National. Conference speaker by invitation: Josep Isern Verdum.
- Local Treatment Workshop: Radiotherapy in Sarcomas. XX GEIS International Symposium. Malaga, 06 - 07/10/2022. International. Speaker by invitation: Josep Isern Verdum.
- First Meeting of the SEOR Sarcomas Group. Live Webinar National. Chairman: Josep Isern Verdum.

LOCOMOTOR SYSTEM RESEARCH



Group leader
Crusi Sererols, Xavier (FGS)

Researchers
Aguilera Roig, Xavier (FGS)
Almenara Fernandez, Marta (FGS)
Bascuñana Ambros, Helena (FGS)
Carrera Fernandez, Ion (FGS)
De Caso Rodriguez, Julio (FGS)
Gelber Ghertner, Pablo Eduard (FGS)
Gonzalez Rodriguez, 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)

Research technicians
Cuartero Archs, Jordi (FGS)

DESCRIPTION

We try to develop a deep and exhaustive scientific work in order to improve the understanding of the pathologies affecting the foot and the ankle in terms of aetiology, diagnosis and treatment, not only orthopaedic conditions but also traumatic injuries.

MAIN LINES OF RESEARCH

floating toe
Morton's neuroma
Achilles tendon ruptures
posterior malleolus fractures

ACTIVE GRANTS

- Gelber Ghertner, Pablo Eduard. Preservación en fresco de aloinjertos osteocondrales a 37°C. PI18/01771. Instituto de Salud Carlos III (ISCIII). Duration: 2019-2023. 68.970,00 €

DOCTORAL THESES DEFENDED

- González Osuna, Aránzazu. Uso de fármacos hemostáticos para la reducción del sangrado en cirugía protésica de rodilla. 19/05/2022. Universitat Autònoma de Barcelona. Supervisors: Videla Cés, Sebastià; Aguilera Roig, Xavier; Lamas Gómez, Claudia Mariana; Monllau Garcia, Joan Carles. http://hdl.handle.net/10803/687228

SCIENTIFIC PRODUCTION

- Arigita AP, Lecha M, Alguero AS, Farreras RP, Vasquez AG, Ambros HB, Ballester LV. lugar impacto y tipo Differences in the quality of life of patients with oropharyngeal dysphagia according to the place of residence: impact on food selection and type of diet. *NUTRICION HOSPITALARIA*. 2022; 39(1):03824. DOI:10.20960/nh.03824. PMID:34894712. IF:1,169 (Q4/9D). Document type: Article.
- Fernández Á, Poggio D, Llusá M, Álvarez C, Cufí M. Graphic Representation of Intraosseous and Extraosseous Talus Blood Supply. Illustrated Anatomy. *REVISTA ESPANOLA DE CIRUGIA ORTOPEDICA Y TRAUMATOLOGIA*. 2022; 66(5). DOI:10.1016/j.recot.2021.03.004. PMID:34148811. Document type: Article.
- Gamba C, Gomez CA, Zaragoza JM, Alexandre CL, Adames DB, Gines A. PROXIMAL MEDIAL GASTROCNEMIUS RELEASE Surgical Technique. *JBJS ESSENTIAL SURGICAL TECHNIQUES*. 2022; 12(1):e20.00039. DOI:10.2106/JBJS.ST.20.00039. PMID:35692721. Document type: Article.
- Gelber PE, Ramirez E, Farinas O. Early Postoperative CT Scan Provides Prognostic Data on Clinical Outcomes of Fresh Osteochondral Transplantation of the Knee. *AMERICAN JOURNAL OF SPORTS MEDICINE*. 2022; 50(14). DOI:10.1177/03635465221129601. PMID:36322380. IF:7,010 (Q1/1D). Document type: Article.
- Gelber PE, Ramirez E, Grau A, Gonzalez A, Farinas O. Computerized tomography scan evaluation after fresh osteochondral allograft transplantation of the knee correlates with clinical outcomes. *INTERNATIONAL ORTHOPAEDICS*. 2022; 46(7). DOI:10.1007/s00264-022-05373-6. PMID:35411436. IF:3,479 (Q2/3D). Document type: Article.
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PAIN AND NEUROSCIENCES



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Genove Cortada, Maria Merce (FGS)
Heredia Carques, Cristina (FGS)
Melo Cruz, Martha Cristina (FGS)
Muñoz Hernandez, Isabel (FGS)
Revuelta Rizo, Miren Eli. (FGS)
Roses Alvarez, Laia (FGS)
Santeularia Verges, Maria Teresa (FGS)
Sarmiento Luque, Teresa Eugenia (FGS)

Research technicians
Santos Vives, Alicia (IR)

DESCRIPTION

Our research is clinical and is basically directed at possible treatments to relieve pain. In terms of pharmacology or techniques.

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 thesis, but we are not currently following it.

Neurostimulation and pain relief.

MAIN LINES OF RESEARCH

Neurostimulation in Catalonia. Creation of a database of patients undergoing neurostimulation. Miren Revuelta Rizo, Rubén Diaz Jover.

Identify the best profile of patients (their psychopathological characteristics) before the implementation of neuromodulation techniques. Teresa Sarmiento, Miren Revuelta, Ruben Diaz, Marta Ferrándiz, Mercè Genové.

The effect of pulsed radiofrequency on the chronic omalgia pain. Rubén Diaz Jover.

The effect (analgesic & side effects) of spinal Ziconotide. Marta Ferrándiz Mach, MercèGenové Cortada.

Factors that influence the postoperative pain. Teresa Santeularia Vergés, Cristina Heredia Carques.

Characterizing the profile according to gender when patiens reach our pain clinic. Teresa Santeularia Vergès, Martha Melo Cruz, Elena Català Puigbò.

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, Martha Melo, Isabel Muñoz, Laia Rosés, Rubén Diaz, Cristina Heredia, Miren Revuelta, Elena Català.

Quality of care in pain clinics using the iso 9001 – 2015 methodology (international organization for standardization). 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.

SCIENTIFIC CHALLENGES

Establish the possible differences in brain area involvement between acute and chronic pain.

Determine the extent of chronic pain according to the involvement of diferent brain areas and if these alterations can improve with the relive of pain.

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.

ACTIVE GRANTS

- 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. EudraCT 2017-004612-19. Diaz Jover, Ruben ; Colabs: E.

Català, M. Revuelta, M. Genové, A. Parera, A. Bainac, I. Hinojal, M. Griera. No finançat.

- Dolor persistente y afectación en la calidad de vida a los 3, 6 y 12 meses en pacientes COVID-19 que han requerido de cuidados críticos. IIBSP-COV-2020-63. IP: Melo Cruz, Martha Cristina; Colabs: R. Diaz, M. Revuelta, T. Santeularia, M. Genové, M. Ferrandiz, A. Parera, J. Baldirá, L. Roses, A. Piñeiro, I. Muñoz, E. Català. Inici Gener -2021. Finalitzat Octubre 2022.
- LESVIPREGA20P3-3_ESP_TSite No 00079. Promotor Laboratorios Lesvi, S.L. (Neuraxpharm group). Protocolo LESVIPREGA/20/P3-3. IP. Genove Cortada, Maria Merce. Data Inici: Octubre 2022. Competitiu Europeu.

AWARDS

- Cristina Heredia Carqués; Ruben Diaz Jover; Martha Cristina Melo; Miren Revuelta Rizo. Radiofrecuencia Pulsada Cervical Multinivel mediante catéter epidural estimulable. ¿Qué nos puede aportar este abordaje? XI Reunió: Abordatge del Dolor per a residents i adjunts joves. 8 Abril 2022. Premi Luis Aliaga 2022 de la Societat Catalana de Dolor.

SCIENTIFIC PRODUCTION

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- Medel J, Serrano A, Batet C, Lorente L, Bella S, Ferrandiz M, Monerris MD, Boada S, Villoria J, Ribera MV, Montes A, Videla S. Advances and Pitfalls of Specialized Pain Care through Public and Private Health Care Providers in Catalonia and the Balearic Islands: A Physician's Survey. *PAIN RESEARCH & MANAGEMENT*. 2022; 2022:4077139. DOI:10.1155/2022/4077139. PMID:35637851. IF:2,667 (Q3/7D). Document type: Article.
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NURSING CARE RESEARCH



Group leader:
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Researchers
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Armora Verdu, Miriam (FGS)
Balaguer Sancho, Judith (FGS)
Berga Congost, Gemma (FGS)
Buil Manzanares, Neus (FGS)
Cebria Morales, Maria Queralt (FGS)
Cordoba Sanchez, David (FGS)
De Andres Muñoz, Sandra (FGS)
De Francisco Profumo, Seyla (FGS)
Diez Garcia, Cecilia (FGS)
Fernandez Sanchez, Susana Pasion (FGS)
Garcia Barrachina, Marina (FGS)
Marquez Lopez, Adrian (Fund. 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)
Vicente Perez, Silvia (FGS)
Villalobos Abello, Alba (FGS)

MAIN LINES OF RESEARCH
Fall prevention and analysis of fall-related factors.
Translation and validation of care evaluation questionnaires.
Constipation and ageing.
Quality of life related to nursing care.
Development and application of health science methods: qualitative and qualitative methods, text analysis and discourse analysis.
Patient satisfaction with nursing care.
Attention to the family.
Pain.

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.

COLLABORATIONS WITH OTHER IIB SANT PAU RESEARCH GROUPS
Mas Dalmau, Gemma (collaborator) with Alonso Coello, Pablo Ignacio (Clinical Epidemiology and Healthcare Services). Optimisation of antibiotic prescription in acute non-complicated respiratory tract infections in children: a multicenter factorial randomised controlled trial targeting health professionals and parents. La Marató de TV3 Grant (MARATO 20180410).

EXTERNAL COLLABORATIONS
Torralbas Ortega, Jordi. SELTO: escudo de protección para resorvorios venosos subcutáneos. Nursing Research Group. I3PT. Institut de Recerca i Innovació Parc Taulí. Sabadell.

Cordoba Sanchez, David (IP a Hospital de la Santa Creu i Sant Pau). Validity and reliability study of the ESCID Scale adapted to measure pain in critical patients with acquired brain injury, non-communicative and with artificial airway: ESCID-DC. PI20/00431 Estudio financiado por el Instituto de Salud Carlos III (ISCIII) y cofinanciado por la Unión Europea (UE). Promotor: Instituto de Investigación Sanitaria Hospital 12 de Octubre (i+12).

Berga Congost, Gemma. Creation and study of the psychometric properties of a new instrument (questionnaire) to measure the degree of adherence to recommended self-care behaviors and lifestyle change in patients who have suffered acute coronary syndrome. IIBSP-INT-2019-74. Collaboration with the University of Nursing of Sant Pau hospital (Autonomous University of Barcelona) and the Hospital Clínic (IDIBAPS).

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 €
- Torralbas Ortega, Jordi. CIR2020/0032 I3PT. Validació de l'escut de seguretat per a reservoris venosos subcutanis en població adolescent. 22a Convocatòria de les Beques Taulí de Recerca i Innovació. 2020. 4000€; 12 Premio ANECORM Proyecto Investigación. 2021. 4000€; Premio Sham de Gestión de Riesgos Sanitarios, Seguridad del paciente y calidad assistencial. 2021. 3000€ (FGS)

DOCTORAL THESES DEFENDED

- Roca-Sarsanedas, Jaume. Evaluación de la efectividad del calor seco en las extravasaciones del contraste yodado. 19/01/2022. Universitat de Barcelona. Supervisors: Falcó Pegueroles, Anna; Galimany Masclans, Jordi. http://hdl.handle.net/10803/673891.

DOCTORAL THESES IN PROGRESS

- Berga Congost, Gemma. Early treatment in the diagnosis of acute myocardial infarction: impact of an educational and organizational intervention. 2018-2023. Universitat de Barcelona. Supervisors: Martínez Momblán, Mª Antonia; Brugaletta, Salvatore.
- Buil Manzanares, Neus. Història de la infermeria quirúrgica de l'Hospital de la Santa Creu i Sant Pau. 2018-2025. Universitat de Vic-Universitat Central de Catalunya (UVIC-UCC). Supervisor: Galbany Estragués, Paola.
- García Barrachina, Marina. Impacto de una intervención de psicoeducación enfermera en pacientes con patología dual. 2019-2025. Universitat de Barcelona. Supervisors: Puig Llobet, Montserrat; Martínez Martínez, Cristina.
- Mas Dalmau, Gemma. Delayed antibiotic prescription in respiratoy tract infection in primary care: a randomize clinical trial, econòmic evaluation quan qualitative study. 2015-2023. Universitat Autònoma de Barcelona. Supervisors: Alonso Coello, Pablo; Cruz Gómez, Irene; Bonfill Cosp, Xavier.
- Mateos Dávila, Mª Almudena. Validación de un nuevo protocolo de utilización de la anticoagulación regional con citrato diluido en las técnicas continuas de depuración extracorpórea aplicadas al paciente crítico. 2020-2023. Universitat de Barcelona. Supervisors: Guix Comellas, Eva Maria; Betbesé Roig, Antonio Jorge; Tortosa Moreno, Avelina.
- Torralbas Ortega, Jordi. Sexoafectividad en el Trastorno del Espectro Autista: necesidades percibidas y conductas observadas. 2019-2024. Universitat de Lleida. Supervisor: Roca Llobet, Judith.
- Valverde Bernal, Jonatan. Impact of a PROgram of Cardiovascular nurse interventionS in VALvular haEmodynamic unit (PROCESS-VALVE). 2019-2025. Universitat de Barcelona. Supervisors: Martínez Soler, Fina; Moreno Arroyo, Carmen.

AWARDS

- Cebrià Morales, Maria Queralt. Utilidad clínica de la Clinically Useful Depression Outcome Scale (CUDOS) para determinar los síntomas de respuesta precoz en pacientes diagnosticados Trastornos del Ánimo. XXIV Certamen (2022) de Premios de Investigación de la Revista Metas de Enfermería, primer premio, 30 de diciembre de 2022. 3.000,00 €
- Navarro Colom, Marta i Torralbas Ortega, Jordi. 13° Premio ANECORM a un proyecto de investigación dispositivo de sujeción cefàlica en broncoscopias, ANECORN, Barcelona, 2022. 3.000,00 €
- Buil Manzanares, Neus Programa de Ayudas a Doctorandos y Realización de Tesis. Data concessió: Novembre 2022. Consejo General de Enfermería. 700,00 €
- Palomeque Artuñedo, Amaya. Proyecto PediTab: Dispositivo de soporte en situaciones de emergencia en el entorno pediátrico. Sello de Calidad ITEMAS, ISCIII.
- Armora Verdu, Miriam. Projecte Preparat-B. Projecte selecionat en la Crida d'Innovació CIMTI 2022.

SCIENTIFIC PRODUCTION

- Arrarte V, Campuzano R, Duque J, Aldama G, Barrios V, Bonanad C, Conde AC, Olmo RF, Gamez J, Guzman G, Rey CN, Vivas D, Avanzas P, Berga-Congost G, Boraita A, Bueno H, Calvo D, Delgado V, Dos L, Ferreira I, Doblas JJ, Figal DP, Sambola A, Tejedor AV, Ferreiro J, Alfonso F, SEC Working Esc ESC Guide GRP2021, SEC C. Comments on the 2021 ESC guidelines on cardiovascular disease prevention in clinical practice. REVISTA ESPANOLA DE CARDIOLOGIA. 2022; 75(5). DOI:10.1016/j.rec.2021.10.023. PMID:35165071. Document type: Editorial material.
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- Calvo D, Pombo M, Benito B, Cano O, Andres MLF, Gomez M, Candil FJJ, Lillo IM, Morina P, Penafiel P, Rincon LM, Tolosana JM, Avanzas P, Berga-Congost B, Boraita A, Bueno H, Calvo D, Campuzano R, Delgado V, Dos L, Ferreira I, Doblas JJG, Figal DP, Sambola A, Tejedor AV, Ferreiro JL, Alfonso F, SEC Working SEC Guideline GRP2021, SEC C. Comments on the 2021 ESC guidelines on cardiac pacing and cardiac resynchronization

therapy. REVISTA ESPANOLA DE CARDIOLOGIA. 2022; 75(5). DOI:10.1016/j.rec.2021.11.015. PMID:35090861. Document type: Editorial material.
- Fernández JA, Carrasco M, Mateos-Dávila A, Santana YG. Trastornos hidroelectrolíticos. Manifestaciones clínicas y tratamiento. ENFERMERIA INTENSIVA. 2022; 33. DOI:10.1016/j.enfi.2022.07.005. Document type: Review.
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- González-Cebrián M, Valverde-Bernal J, Bajo-Arambarri E, Castillo-Poyo R, Trilla-Colominas M, Neiro-Rey C, Fradejas V, García-Aranda FJ, Villalba-Lizandra N, Calvo-Barriuso E. Documento de consenso de la figura de la TAVI NURSE del grupo de Trabajo de Hemodinámica de la Asociación Española de Enfermería en Cardiología. ENFERMERÍA EN CARDIOLOGÍA. 2022; 29(86):5-13. Document type: Article.
- Grupo de Trabajo de Enfermería de la Sociedad Española de Reumatología (GTESER), Enfermería de la Sociedad Reumatológica de la Comunidad de Madrid (ESERCOM), Federación de Asociaciones de Enfermería Comunitaria y (ConArtritis), Atención Primaria (FAECAP) y Coordinadora Nacional de Artritis [Fernández SP]. Guía práctica para enfermería de fármacos sintéticos dirigidos en enfermedades inflamatorias inmunomediadas. 2022. Available from: https://www.codem.es/Adjuntos/CODEM/Documentos/Informaciones/Publico/0c5726d8-34d8-4116-bb82-1f75d36b307b/944D24D0-A455-44C7-8A51-10D3CF7C1DB0/bd27c766-b8db-4265-adb6-1eb84c6b2c2c/bd27c766-b8db-4265-adb6-1eb84c6b2c2c.pdf. Document type: Practice guideline.
- Grupo de Trabajo de Enfermería de la Sociedad Española de Reumatología (GTESER), Federación de Asociaciones de Enfermería Comunitaria y Atención Primaria (FAECAP) y Coordinadora Nacional de Artritis (ConArtritis) [Fernández SP]. Global SL. 2022; Available from: https://www.codem.es/Adjuntos/CODEM/Documentos/Informaciones/Publico/0c5726d8-34d8-4116-bb82-1f75d36b307b/8C46ED7D-7305-43B2-BB43-A28B9F9F505C/16ae2d17-406b-47a1-ae2d-2f4e7dd21ac1/16ae2d17-406b-47a1-ae2d-2f4e7dd21acl.pdf. Document type: Practice guideline.
- Martinez P, Verdu MA, Forero CG, Salazar SA, Linares PF, Monforte C, Masia J. Breast cancer-related lymphoedema: Risk factors and prediction model. JOURNAL OF ADVANCED NURSING. 2022; 78(3). DOI:10.1111/jan.15005. PMID:34363640. IF:3,057 (Q1/2D). Document type: Article.
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- Roca J, Naves SG, Canet O, Torralbas J, Tort G, Postic T, Martinez L. Service Learning in the Nursing Bachelor Thesis: A Mixed-Methods Study. International Journal of Environmental Research and Public Health. 2022; 19(19):12387. DOI:10.3390/ijerph191912387. PMID:36231688. IF:4,614 (Q1/3D). Document type: Article.
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- Torralbas-Ortega J, Manozzo LP, Pinzón-Espinosa J, Blanco-Blanco J, Sánchez Fernández M. (2022). Actitudes hacia la sexualidad de los padres de adolescentes con trastorno del espectro autista. ENFERMERÍA Y SALUD MENTAL;1(20):5-11. DOI:10.5538/2385-703X.2022.20.5. Document type: Article.
- Valverde-Bernal J, Rodríguez-Martí S, Berga-Congost G, Pérez-Montejo B, Delgado-Sánchez FJ, Herrero-Alvárez M, Bajo-Aranbarri E. Enfermeria en la sala de Hemodinámica. Consultas de enfermería en Hemodinámica. 2022. In: Manual de Hemodinámica e intervencionismo cardíaco. McGraw-Hill. Document type: Book chapter.

SCIENTIFIC DISSEMINATION

Congresses, scientific symposium organized nationally or internationally

- XLVII National Congress of the SEEIUC. Seville, June 2022. Presentation at a round table: Almudena Mateos-Dávila.
- XXVI International Care Research Meeting. INVEST. Pamplona, November 2022. Poster by Almudena Mateos-Dávila.
- Pre-surgical checklist in pediatric emergencies. 68th Congress of the Spanish Association of Pediatrics. June 2022. Poster by: Amaya Palomeque, Maria del Mar González, Sandra Liliana

Ortega, Alejandra Torrado, Júlia Paüls, Clàudia Barceló, Elena Viedma, Maria Teresa Ramos, Raquel Valdés.

- Feasibility of measuring pulmonary electrical impedance by bronchoscopy. 55th National Congress of the Spanish Society of Pulmonology and Thoracic Surgery (SEPAR), Pamplona from 02-04/06/2022. Poster by Albert Rafecas Codern, Georgina Company Se, Esther Palones Femenia, Lexa Nescolarde Selva, Alfons Torrego Fernandez, Javier Rosell Ferrer, Virginia Pajares Ruiz, Pere J. Riu Costa, Marta Navarro Colom, Ramon Bragós Bardia.
- The role of the interventional nurse. SEPAR winter meeting 04-05/11/2022 in Tarragona 2022. Oral communication: Marta Navarro.
- I International Symposium on Nursing and school Health. 24/03/2022. Murcia. Vice President of the Scientific Committee: Torralbas Ortega J.
- "Implementation of an early discharge protocol after TAVI in times of COVID-19." 32nd Annual Course of the Nursing Working Group on Hemodynamics. Alicante. 2022 Speakers: Jonatan Valverde Bernal, Ester Bajo Aranbarrim Luis Asmarats Serra, Xavier Millán Alvárez, Chi Hion Li, Dabit Arzamendi.
- "Nursing role in the implementation of the post-TAVI early discharge program." SEC Congress of Cardiovascular Health 22. Palma de Mallorca. 2022. Speakers: Jonatan Valverde Bernal, Ester Bajo Aranbarri, Luis Asmarats Serra, Xavier Millán Alvárez, Lola Gutiérrez Alonso, Chi Hion Li, Dabit Arzamendi Aizpurua.
- "Analysis of the degree of follow-up of the Hemodynamics nursing consultation after one year of its creation." SEC Congress of Cardiovascular Health 22. Palma de Mallorca. 2022. Speakers: Jonatan Valverde Bernal, Ester Bajo Aranbarri, Gemma Berga Congost, José Martínez Pérez.
- "Analysis of the effectiveness and safety of a post-TAVI early discharge program." CSC Congress 2022. Madrid. 2022. Speakers: Jonatan Valverde Bernal, Ester Bajo Aranbarri, Mariona Berrocal Comalat, Laura Tintorer, José Martínez Pérez, Gemma Berga Congost, Luis Asmarats Serra.
- Satisfaction with medication, treatment burden and quality of life of patients receiving buprenorphine treatment; 24th Dual Pathology Congress; Madrid; 2022. Poster BY: Santiago Duran-Sindreu, Marina García Barrachina, Teresa Palaus Monserrat, Cristina Pinet, Elisa Ribalta, Francisca Batlle, Mercè Madre, Joan Trujols i Albet.
- Incidence of adverse medication effects in buprenorphine treatment according to route of administration in patients with opioid use disorder; VI Catalan Congress of Mental Health Nursing; 2022; Tortosa. Poster by: Fernández, J. Antonio Úbeda Ardanuy, Joan Trujols i Albet;
- The satisfaction of both nurses in the global assessment of income, in a hospital detoxification unit; VI Congrés català mental health nursing; 2022; Tortosa. Poster BY: Teresa Palaus Monserrat, Marina García Barrachina, Elizabeth Rojas Lobato, Carmen Marimon Rovira, Seyla de Francisco Prófumo, Joan Trujols Albet.
- National Congress of Cardiovascular Health of the Spanish Society of Cardiology and the Spanish Association of Nursing in Cardiology. Organizing Committee and Scientific Committee. National. October 2022. Palma de Mallorca (Spain). Speaker: Gemma Berga Congost.
- EuroHeartCare 2022 of the Association of Cardiology Nursing and Allied Professions. International. May 2022, Madrid (Spain). Scientific Committee: Gemma Berga Congost.
- eCardio. National. Virtual. February 2022, Madrid (Spain). Organizing Committee and Scientific Committee: Gemma Berga Congost.
- Rhythm 2022. National. June 2022, Granada (Spain). Scientific Committee: Gemma Berga Congost.
- Interventional Cardiology Congress. National. June 2022, Alicante (Spain). Scientific Committee: Gemma Berga Congost.
- Accompaniment by an expert nurse to the families of people who died in an Emergency Department. XXIII SEMES National Congress, June 2022, Vigo. Speakers: C Beltran Vilagrasa, G Mas Dalmau, L Casas Llopart, B Acosta Mejuto, R Arranz Perez, C Cervilla Reyes.

SCIENTIFIC DISSEMINATION

Participation by invitation in national or international scientific conferences and talks

- Treatment of intravenous iodinated contrast extravasations. Spanish Society of Radiological Nursing. Gijon. 09-30-2022. National. Scientific conference. Speaker: Jaume Roca-Sarsanedas.
- "Acute Coronary Syndrome from the prehospital emergency, hemodynamics and ICU" SEC Cardiovascular Health Congress 22. Palma de Mallorca. 2022. Moderation: Jonatan Valverde Bernal.
- Presentation: "Role of the TAVI coordinator: its crucial impact on patient treatment." TAVI: optimization symposium. Madrid 2022. Speaker: Jonatan Valverde Bernal.
- Presentation: "Impact of the Hemodynamic nursing consultation on the quality indicators of percutaneous valve procedures." CSC'22 coronary and structural course. Madrid 2022. Speaker: Jonatan Valverde Bernal.
- Presentation: "TAVI NURSE consensus document." Presentation. 32nd Annual Course of the Nursing Working Group on Hemodynamics. Alicante, 2022. Speaker: Jonatan Valverde Bernal.
- Webinar: New consensus documents Spanish Nursing Association. National. November 2022, Virtual. Chair: Gemma Berga Congost.
- Session: Online follow-up in cardiology: is it efficient, effective and/or efficient? National Congress of Cardiovascular Health of the Spanish Society of Cardiology and the Spanish Association of Nursing in Cardiology. National. Palma de Mallorca (Spain), October 2022. Chair: Gemma Berga Congost.
- New consensus documents Spanish Nursing Association. National Congress of Cardiovascular Health of the Spanish Society of Cardiology and the Spanish Association of Nursing in Cardiology. National. Palma de Mallorca (Spain), October 2022. Chair: Gemma Berga Congost.
- Evaluation of an educational intervention into an emergency department to improve diagnosis and early treatment in STEMI. National Congress of Cardiovascular Health of the Spanish Society of Cardiology and the Spanish Association of Nursing in Cardiology. National. Palma de Mallorca (Spain), October 2022. Speaker: Gemma Berga Congost.
- Integrated management of patients with atrial fibrillation: myth or reality? Annual meeting of the Cardiac Rhythm Association, Ritmo 2022. Spanish Society of Cardiology. National. Granada, Spain, June 2022. Chair: Gemma Berga Congost.
- TAVI I. 33rd Congress of the Association of Interventional Cardiology. Spanish Society of Cardiology. National. Alicante, June 2022. Speaker: Gemma Berga Congost.
- Multidisciplinary perspectives on prevention and cardiac rehabilitation. EuroHeartCare 2022 and Heart Failure 2022, Association of Cardiology Nursing and Allied Professions

(ACNAP) and European Society of Cardiology (ESC). International. Madrid (Spain), May 2022. Chair: Gemma Berga Congost.

- Clinical cases: Early nursing management of serious complications in the catheterization laboratory. EuroHeartCare 2022 and Heart Failure 2022, Association of Cardiology Nursing and Allied Professions (ACNAP) and European Society of Cardiology (ESC). International. Madrid (Spain), May 2022. Speaker: Gemma Berga Congost.
- Update in Cardiology Nursing. eCardio Congress 2022. Spanish Society of Cardiology, Madrid (Spain). National. February 2022. Chair: Gemma Berga Congost.
- Association of age on the time of primary PCI activation for STEMI patients at emergency department. EuroHeartCare 2022 and Heart Failure 2022, Association of Cardiology Nursing and Allied Professions (ACNAP) and European Society of Cardiology (ESC). International. Madrid (Spain), May 2022. Speaker: Gemma Berga Congost.
- Association of gender on the time of first medical contact primary PCI activation for STEMI patients at emergency department. EuroHeartCare 2022 and Heart Failure 2022, Association of Cardiology Nursing and Allied Professions (ACNAP) and European Society of Cardiology (ESC). International. Madrid (Spain), May 2022. Speaker: Gemma Berga Congost.

CARDIAC SURGERY



Group leader
Ginel Iglesias, Antonino (FGS)

Researchers
Casellas Casanovas, Sandra (FGS)
Montiel Serrano, José (FGS)
Rosello Diez, Elena (FGS)
Tauron Ferrer, Manel (FGS)

MAIN LINES OF RESEARCH

Off-pump coronary artery by-pass 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 check-list implementation.
Risk scores.
Cardiac protection: Del Nido cardioplegia.
Mini-invasive techniques: mini-sternotomy, mini-thoracothomy, 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 myocaqrdial 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: epicardic fat study (Endocrinology), calcium chanels in auricular myocites (ICCV).

SCIENTIFIC PRODUCTION

- Ballester C, Canes L, Alonso J, Puertas L, Tauron M, Rodriguez C, Martinez J. Nuclear receptor NOR-1 (Neuron-derived Orphan Receptor-1) in pathological vascular remodelling and vascular remodelling. *CLINICA E INVESTIGACION EN ARTERIOSCLEROSIS*. 2022; 34(4). DOI:10.1016/j.arteri.2022.03.002. PMID:35581107. Document type: Review.
- Castano M, Sbraga F, de la Sota EP, Arribas JM, Camara ML, Voces R, Donado A, Sandoval E, Morales CA, Gonzalez JM, Barquero M, Fletcher D, Rodriguez J, Molina D, Bellido A, Vigil C, Tena MA, Reyes G, Gomez F, Rivas J, Guevara A, Tauron M, Borrego JM, Castillo L, Miralles A, Canovas S, Berastegui E, Aramendi JI, Aldamiz G, Pruna R, Silva J, de Ibarra J, Legarra JJ, Ballester C, Rodriguez R, Daroca T, Paredes F. Extracorporeal membrane oxigenation in COVID-19 patients: Results of the ECMO-COVID Registry of the Spanish Society of Cardiovascular and Endovascular Surgery. *CIRUGIA CARDIOVASCULAR*. 2022; 29(2). DOI:10.1016/j.circv.2022.01.007. Document type: Article.
- Ruiz A, Li C-HP, Valdovinos P, Rodríguez Á, Bonet A, Tauron M, Ligero C, Millan X, Alegret JM, Viladés D, Arzamendi D. Hemolytic Anemia After Surgical Mitral Valve Repair Treated With Transcatheter Edge-to-Edge Device. *JACC: CASE REPORTS*. 2022; 4(12). DOI:10.1016/j.jaccas.2022.03.021. Document type: Article.
- Jimenez P, Nombela L, Munoz E, del Valle R, Trillo R, Hernandez JMD, Salido L, Elizaga J, Ojeda S, Gila JS, del Blanco BG, Berenguer A, Lasa G, Carrillo CU, Albarran A, Ruiz R, Moreu J, Gheorghe L, Arzamendi D, Yanes G, Diaz J, Perez I, Artaiz M, Vaquerizo B, Cruz I, Ruiz V, Blanco R, Baz JA, Villa M, de Salazar AO, Tascon V, Casellas S, Moreno R. Early clinical outcomes after transaxillary versus transfemoral TAVI. Data from the Spanish TAVI registry. *REVISTA ESPANOLA DE CARDIOLOGIA*. 2022; 75(6). DOI:10.1016/j.rec.2021.07.019. PMID:34711513. IF:6,975 (Q1/3D). Document type: Article.
- Herraiz A, Tarifa C, Jimenez V, Llach A, Godoy H, Colino H, Nolla C, Casabella S, Izquierdo P, Benitez I, Benitez R, Rosello E, Rodriguez E, Vinolas X, Ciruela F, Cinca J, Hove L. Influence of sex on intracellular calcium homoeostasis in patients with atrial fibrillation. *CARDIOVASCULAR RESEARCH*. 2022; 118(4). DOI:10.1093/cvr/cvab127. PMID:33788918. IF:13,081 (Q1/1D). Document type: Article.
- Garcia C, Dominguez JN, Lodde V, Munk R, Abdelmohsen K, Gorospe M, Jimenez V, Ginel A, Hove L, Aranega AE, Franco D. Identification of atrial-enriched lncRNA Walras linked to cardiomyocyte cytoarchitecture and atrial fibrillation. *FASEB JOURNAL*. 2022; 36(1):e22051. DOI:10.1096/fj.202100844RR. PMID:34861058. IF:5,834 (Q1/2D). Document type: Article.

- Nolla C, Casabella S, Jimenez V, Vallmitjana A, Tarifa C, Herraiz A, Llach A, Tauron M, Montiel J, Cinca J, Chen SRW, Benitez R, Hove L. beta 2-adrenergic stimulation potentiates spontaneous calcium release by increasing signal mass and co-activation of ryanodine receptor clusters. *ACTA PHYSIOLOGICA*. 2022; 234(4):e13736. DOI:10.1111/apha.13736. PMID:34709723. IF:7,523 (Q1/1D). Document type: Article.
- Blanco R, de la Fuente H, Rodriguez C, Martin L, Sanchez R, Jimenez R, Rodriguez I, Curtabbi A, Garcia MM, Vera A, Rivero F, Cuesta J, Jimenez LJ, Cecconi A, Duran A, Tauron M, Alonso J, Bueno H, Villalba M, Enriquez JA, Robson SC, Alfonso F, Sanchez F, Martinez J, Martin P. CD69 expression on regulatory T cells protects from immune damage after myocardial infarction. *JOURNAL OF CLINICAL INVESTIGATION*. 2022; 132(21):e152418. DOI:10.1172/JCI152418. PMID:36066993. IF:19,456 (Q1/1D). Document type: Article.
- Casabella S, Jimenez V, Tarifa C, Casellas S, Lu TT, Izquierdo P, Gich I, Jimenez M, Ginel A, Guerra JM, Chen SRW, Benitez R, Hove L. Impact of R-Carvedilol on beta 2-Adrenergic Receptor-Mediated Spontaneous Calcium Release in Human Atrial Myocytes. *BIOMEDICINES*. 2022; 10(7):1759. DOI:10.3390/biomedicines10071759. PMID:35885069. IF:4,757 (Q2/4D). Document type: Article.

05.2

TRANSVERSAL PROGRAMMES

05.2.1 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 a number of oncological, cardiovascular or neurological diseases among others. Research is this programme will lead to new treatments and therapeutic strategies to improve patients' lives.

05.2.2 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 programme we face the era of personalized precision medicine and address the challenge of diagnosing genetic disorders sooner and better.

05.2.3 Biomarkers, Prognostic and Diagnostic

Research on disease biomarkers are essential in high complexity medical care as it allows to adjust the diagnosis and predict 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.

05.2.4 Better Health Care

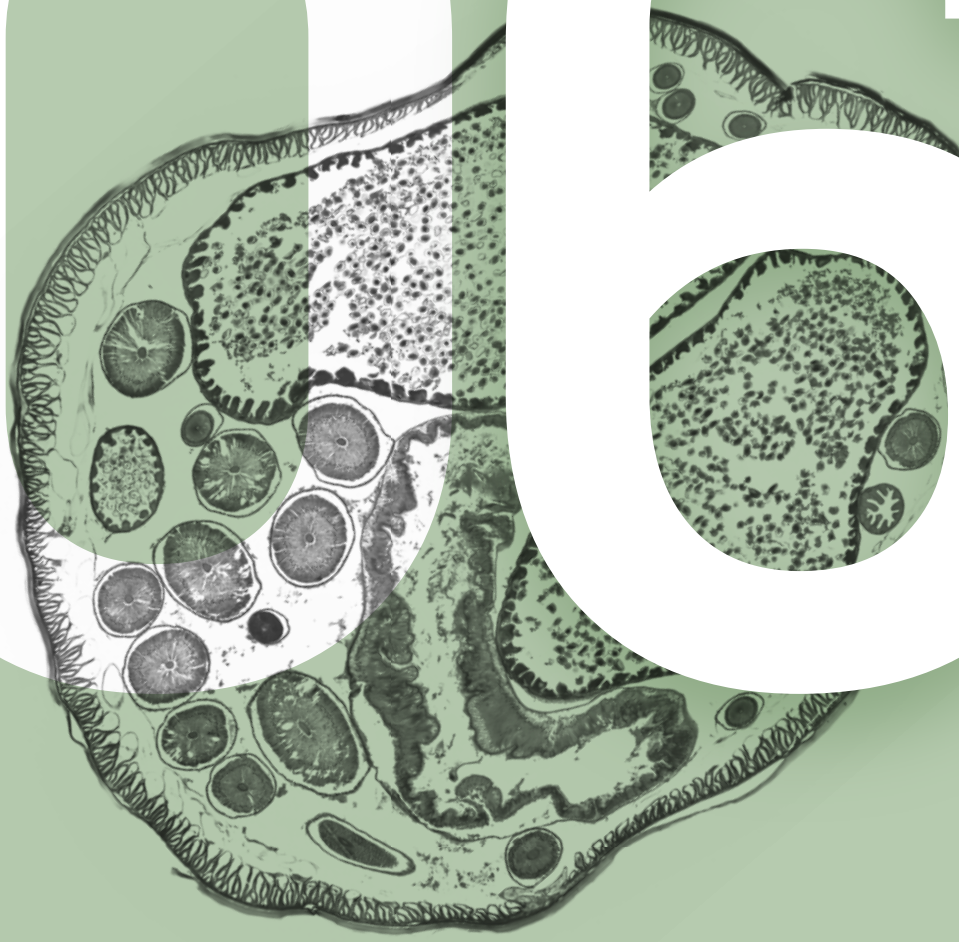
We are an Institute with healthcare professionals linked to all medical specialties and nursing. The translational research of this program aims to respond to the clinical challenges of patients in the form of healthcare improvements. This is evident in improvements in diagnosis, medical or surgical procedures or care circuits always focused to the benefit of the patients.

05.2.5 COVID-19 Reseach

The outbreak of the SARS-CoV-2 virus and the consequent pandemic has driven many 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: understand to fight the disease.



06



CORE FACILITIES AND SCIENTIFIC SERVICES



Coordinator:
Javier Crespo
jcrespo@santpau.cat

Excellence in biomedical research requires the use of sophisticated and costly technical equipment, which in turn requires the training of highly specialized staff. In order to enhance returns on investment and the efficient use of available resources, IIB Sant Pau established state-of-the-art core facilities.

In brief, the IIB Sant Pau core facilities were established to:

- 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.

Their strenghts are customer focus and rapid delivery; highly competitive rates and excellent quality; multidisciplinary team with many years of experience, technology state f the art: and direct client/expert contact.

06.1

GENOMICS AND TRANSCRIPTOMICS UNIT

Coordinator:
Sandra Camino
SCamino@santpau.cat
transcriptomica@santpau.cat



Functions

The Genomics and Transcriptomics platform is a core facility focused on giving advice, offering specific services in genomics or transcriptomics techniques, and making specific equipment available to researchers and the scientific community.

Specifically, GT Platform offers the following services:

- Quantitation and quality control of nucleic acid samples (Qubit 3.0, Nanodrop 2000, and Bioanalyzer 2100)
- Sample processing for Microarrays studies (Gene expression, miRNA profiles, Cytogenetics, GWAS)
- Real-time PCR projects (Gene expression, miRNA detection, allelic discrimination, CNV, absolute quantification....)
- Next-Generation Sequencing: exome sequencing, targeted RNA or DNA sequencing (Ampli-Seq technology), small RNA sequencing, de novo sequencing, ChiP-Seq, 16S sequencing, metagenomics,...
- 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,...
- Omics Data analysis

Some of the equipment used to carry out these techniques can be accessible for researchers after specific user training.

The unit offers a quality service guaranteed for the ISO 9001: 2015 certification. The Genomics and trascriptomics platform is a Quality Accredited facility since 2009.

Equipment

- Affymetrix GS 3000 System array platform (upgrade 7G).
- 7900HT Fast Real-Time PCR system (96-well, 384-well, and TLDA blocs) (AB-ThermoFisher Sci)
- Bioanalyzer 2100 (Agilent Tech).
- Nanodrop 2000 (ThermoFisher Sci).
- Qubit 3.0 (ThermoFisher Sci)
- Infinite M200 PRO (Tecan) microplate reader: spectrophotometer, fluorimeter, luminometer.
- 3130xl Genetic Analyzer capillary electrophoresis sequencer (ThermoFisher Sci).
- Ion GeneStudio S5 Next-Generation Sequencing System, with Ion Chef System (ThermoFisher Sci).

Grants

- IRHSCSP. "Affymetrix Microarrays System". Co-funding: FEDER.
- IRHSCSP. "DNA genetic analyzer and protein arrays platform for the Genomics and Proteomics area of the Technical Laboratory for scientific and technical support". IF07/3675-1. Co-funding: FEDER.

06.2
BIOINFORMATICS UNIT

Staff:
Maísa García
mgarciaar@santpau.cat

Sandra Camino
scamino@santpau.cat



Functions
- To support the design of high-throughput experiments.
- To perform biostatistical and bioinformatic analysis, mainly of:
  - genomic and transcriptomic data
  - immunohistochemistry image data
  - proteomic data

Equipment
- Workstations
- Specific software (licensed and free)

06.3
FLOW CYTOMETRY UNIT

Coordinator:
Marta Soler
MSolerC@santpau.cat - citometria@santpau.cat

Staff:
Lia Rios
LRos@santpau.cat



Functions
The flow cytometry platform provides users with the latest generation equipment for cytometric analysis and separation of cell populations. Unit staff support users in experimental design, data acquisition, and analysis of results. Furthermore, unit staff performs periodic training of the users to facilitate their non-assisted use of the equipment in the platform.

The flow cytometry platform is certified by the 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

The flow cytometry platform has a wide range of applications in flow cytometry and cell sorting and is open to innovation with new techniques at the request of researchers.

Conventional cytometry:

- Characterization of cell populations by multicolour 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 sorter

- 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)

- 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

Analyzer cytometer

- FACSCalibur (BD). 2 lasers: 4 fluorescence parameters.
- FACSCanto II (BD). 3 lasers: 8 fluorescence parameters.
- MACSQuant 10 (Miltenyi Biotec). 3 lasers: 8 fluorescence parameters. Equipped with a magnetic enrichment column.
- MACSQuant VYB (Miltenyi Biotec). 3 lasers: 8 fluorescence parameters. It is equipped with a yellow-green laser (561nm) and it specializes in bacteria and fluorescent proteins (GFP, mCherry, dTomato...).
- MACSQuant 16 (Miltenyi Biotec). 3 lasers: 14 fluorescence parameters. Specialized in nanocytometry.

Cell sorting

- FACSAria (BD) inside class II biosafety cabinet. 3 lasers: 9 fluorescence parameters. Collection in cytometry tubes (up to 4 populations), plaque, or slides. Single-cell option.
- AutoMACS Pro (Miltenyi Biotec) inside class II biosafety cabinet. Automated magnetic separation.

Multiplex Analysis

- MAGPIX (Luminex). Analysis of up to 50 analytes per plaque.
- Cell dissociation:
- gentleMACS Octo Dissociator with Heaters (8 independent positions).

Off-line analysis programs

- FACSDiva and Cell Quest Pro.
- Flow Logic- software for cytometric analysis (Miltenyi).
- Belysa Immunoassay Curve-Fitting Software (Luminex- Millipore).

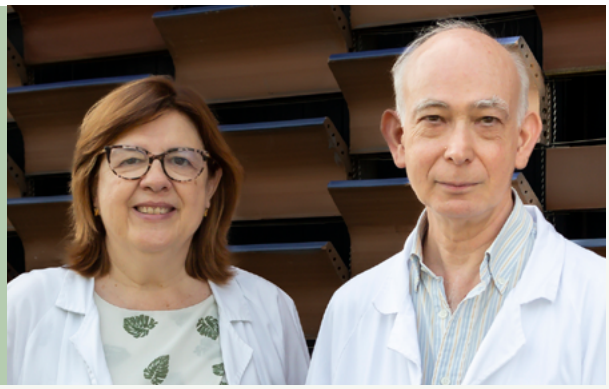
Grants

- IRHSCSP. "Flow cytometry cell sorter: analysis system and high throughput cell sorting". IF06/3678-1. Co-funding: FEDER.
- IRHSCSP. "Contrato de suministro por adquisición de dos citómetros de flujo de 3 láseres para la Fundación Privada Institut de Recerca de la Santa Creu i Sant Pau". NEGSPIR 20/25. Co-funding: FEDER.

06.4
MICROSCOPY UNIT

Coordinator:
Esther Peña Sendra
EPena@santpau.cat - microscopia@santpau

Technical Staff:
Josep Oriol, Juan Babot
ojuan@santpau.cat



Functions

The Confocal Microscopy platform is a core facility focused on biomedical research. The main function is to advise on the experimental design, choose the equipment that best suits the needs and train the user in it, acquire, quantify, and analyze images. The Confocal Microscopy platform is certified by the ISO 9001:2015.

Services

- Advice on the preparation and/or approach to studies.
- Training.
- Immunofluorescence from 2 to 5 fluorochromes.
- Reconstruction of 3D and 4D images.
- Co-location studies.
- Inter and intra-interactions (FRET and FLIM).
- Conventional or brightfield fluorescence microscopy of living, fixed cells, and tissues.
- Time lapse
- Pathological studies of different tissues, stained by conventional immunohistochemistry (freezing or paraffin) and quantification of the images.

Equipment

- Leica SP5 multispectral confocal AOBS system with high-resolution scanning, high-speed tandem digitalization, FLIM/FCS modules and time-lapse incubation modules.

- Leica SP2 AOBS multispectral confocal AOBS system with high-resolution scanning, high-speed tandem digitalization,and time-lapse incubation modules.

- Zeiss AXIOVERT 200M inverted fluorescence microscope with temperature and CO2 control, incubation cabinet that allows working with live cells both in fluorescence and in bright field. Equipped with fluorescence filters: DAPI, FITC, Rhodamine. Equipped with polarizers systems that allow capturing images of polarized light with all objectives.
- 5X/0.15 Plan-Neofluar Ph1 – Sí DIC II Ph1
- 10X/0.30 Plan-Neofluar Ph1 – Sí DIC II Ph1
- 20X/0.50 Plan-Neofluar Ph2 – Sí DIC II Ph2
- 40X/0.75 Plan-Neofluar Ph2 – Sí DIC II Ph2
- 63X/1.4 Oil Plan-Apochromat Ph3 (Oil)
- Olympus BX51 fluorescence microscope with double head. Equipped with fluorescence filters: DAPI, FITC, TRITC, TXRED. With the objectives:
- 2x Plan N 0.06 ∞/-/FN22
- 4x Plan N 0.10 ∞/-/FN22
- 10x Plan N/0.25 ∞/-/FN22
- 20x Plan N 0.40BD ∞/0.17/FN 22 UIS 2
- 40x Plan N 0.65 FN22
- 100x UPlan FLN 1.3 oil-UIS2 ∞/0.17/FN26.5
- Nikon Eclipse 80i microscope. Equipped with the fluorescence filters: FITC, G-1B (546), FITC-CY3. With the objectives:
- Plan Fluor 4X/0.13 ∞/- nd17.1
- Plan Fluor 10x/0.3 PH1 DLL∞/- Wd16
- Plan Fluor 20x/0.5 PH1 DLL∞/0.17 Wd2.1
- Plan Fluor 40X/0.75 PH2DLL∞/0.17WD0.72
- Plan Apo VC 60x/1.4oil∞/0.17WD0.13
- Stand for macrophotography with lighting
- Stereomicroscope LEICA MZ 9.5

Grants

- IRHSCSP. "Zeiss digital time-lapse microscope". IF01/3664. Co-fundingt: FEDER.
- IRHSCSP. "Confocal microscopy and accessories". IF08/3643. Co-funding: FEDER

06.5
BIOBANK AND IMMUNOHISTOCHEMISTRY UNIT



Staff:

Biobank
Sabina Cisa Wieczorek
Iris Rodríguez Rodríguez
M. Angels Velasco Murcia
Mario Casanova Sánchez

Tumour bank
Mario Casanova Sánchez
M. Angels Velasco Murcia

Immunohistochemistry
Iris Rodríguez Rodríguez
M. Angels Velasco Murcia

Histopathological techniques' scientific advice
J. Oriol Juan-Babot

Image / Digital pathology
J. Oriol Juan-Babot
Iris Rodríguez Rodríguez

Functions

The Biobank and Immunohistochemistry unit is a support platform for biomedical research whose main function is the processing of biological samples according to quality criteria.

The Biobank IIB Sant Pau, as part of the Biobank and Immunohistochemical Platform, is a non-profit public establishment, authorized by the Directorate General for Planning and Research in Health, of the Department of Health of the Generalitat de Catalunya and is registered in the National Registry of Biobanks of the Carlos III Health Institute (number B.0000722) in accordance with RD1716/2011, of November 18, which establishes the basic requirements for authorization and operation of biobanks for biomedical research purposes and of the treatment of biological samples of human origin, and the operation and organization of the National Registry of Biobanks for biomedical research is regulated. Likewise, the Biobanc IIB Sant Pau is part of the current National Platform of Biobanks (PT20/00196), this being one of the ISCIII Platforms to Support R&D&i in Biomedicine and Health Sciences of the Strategic Action in Health 2017-2020.

Its mission is to obtain, process, store, manage and make available to the scientific community human biological samples and associated data, in accordance with agreed standard working procedures, as well as maintaining the traceability of the sample and its associated data, in order to promote quality biomedical research, respecting the rights of donors.
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.

The Biobank IIB Sant Pau acts, therefore, as a link between sample donors, healthcare personnel and the scientific community for the harmonization of the rights, duties and interests of each of the groups in order to facilitate the advancement of quality biomedical research.

On the other hand, the Immunohistochemistry laboratories of the Biobank and Immunohistochemistry Platform offer biological sample processing services, both of human origin and animal models, for analysis using histological techniques, from sample processing, cutting and staining to digitalization of the preparations, histological analysis and delivery of results. The Platform offers the possibility of implementing new histological methods and stains, according to the demand and needs of our users, both internal and external. In addition, user training is carried out so that they can use the platform's equipment in a self-service mode.

The Biobank and Immunohistochemical Platform is certified under the ISO 9001:2015 standard for all the services offered by it.

Services

In addition to the catalogs of human biological samples, the Biobank and Immunohistochemical Platform offers a wide range of services:

Biobank
- 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

Immunohistochemistry
- Tissue decalcification
- Tissue processing for paraffin embedding and O.C.T.
- Section of paraffin blocks and O.C.T.
- Section of fresh tissue
- Antigen retrieval
- Automatic, single and double immunostaining
- Stains: hematoxylin-eosin, giemsa, oil red, trichrome, PAS, Wright's stain, alcian blue, safranin, sirius red, etc...
- Preparation of tissue microarrays (TMA)
- Fluorescent in situ hybridization (FISH) on tissue
- Digitization of histological preparations, under bright field, fluorescence and FISH conditions
- Qualitative and quantitative histological analysis

The Platform offers the possibility of implementing new histological methods and stains, according to the demand and needs of our users, both internal and external.

Equipment
- 15 Ultralow freezers -80°C NUAIRE NU-9668E with double-emergency system alarm. 24h monitoring
- Liquid nitrogen tank CHART MVE 1211 with automatic filling
- Vapour nitrogen tank CBS V-5000 EHAB with automatic filling

Biosafety BSL-2 Laboratory
- Biosafety cabinet IIA NUAIRE
- Refrigerated centrifuge HERAEUS MEGAFUGE 40R
- Refrigerated centrifuge KENDRO LABOFUGE 400R
- Refrigerated centrifuge EPPENDORF 5415R
- Cell counter BIORAD TC-20
- Nucleic acid extractor QIACUBE

Immunohistochemistry new IR-HSCSP building
- Tissue processor SAKURA TISSUE TEK VIP 5 JR
- Microwave Tissue processor KOS
- Paraffin Embedding Module SAKURA TISSUE TEK TEC5
- Cold plate for Paraffin Modules LEICA ARCADIA C
- Rotary Microtome MICROM HM355S.
- Paraffin section flotation bath SELECTA TERMOFIN.
- Drying oven TERMARKS B8000
- Cryostat LEICA CM1950
- Immunohistochemistry automatic stainer AGILENT AUTOSTAINER AS48
- Automatic Stainer for histologic staining SAKURA TISSUE TEK PRISMA
- Semiautomatic tissue array GALILEO CK3500.
- Fume hood NUAIRE NU-S813-400E
- Fume hood NUAIRE NU-164-424E
- Scanner Panoramic Scan II (3DHistech) for digital pathology

Immunohistochemistry Lab Pavilion 11
- Paraffin Embedding Module LEICA EG1150H: assisted and non-assisted
- Cold plate for Paraffin Modules LEICA EG1150C: assisted and non-assisted
- Rotary Microtome LEICA JUNG RM2055: assisted and non-assisted
- Paraffin section flotation bath LEICA HI1210: assisted and non-assisted.
- Drying oven MEMMERT BE 300
- Cryostat LEICA JUNG CM3050S: assisted and non-assisted
- Vibratome LEICA VT1000S: assisted
- Fume gard LABORSYSTEM
- Scanner Panoramic MIDI BF for digital pathology.
- Workstation for qualitative and quantitative histological analysis

Grants
- IR-HSCSP. "Plataformas ISCIII. Biobanco IIB Sant Pau. Instituto de Investigación del Hospital de la Santa Cruz y San Pablo". Plataformas ISCIII de apoyo a la I+D+I en Biomedicina y Ciencias de la Salud 2020. PT20/00196. Amount: 207.900€. Co-funding FEDER
- IR-HSCSP. "Network of Tumor Banks of Catalonia's Tumor Bank Sant Pau Node Maintenance". ICO Agreement. Quantitat: 14.000€
- IR-HSCSP. "Plataformas ISCIII. Biobanco IIB Sant Pau. Instituto de Investigación del Hospital de la Santa Cruz y San Pablo". Plataformas ISCIII de apoyo a la Investigación en Ciencias y tecnologías de la Salud 2013. PT13/0010/0034. Amount: 21.304,35€. Co-funding FEDER
- IR-HSCSP. "Equipamiento para completar la Plataforma Biobanco". Proyecto PROMIS 2012 de Infraestructuras. II12/00001. Amount: 113.516,15€. Co-funding FEDER
- IR-HSCSP. RETICS de Biobancos 2009. RD09/0076/00081 Amount: 473.403,92€. Co-funding FEDER
- IR-HSCSP. "Convenio para la mejora y adecuación y mejora de los Biobancos del SNS". ISCIII. Amount: 165.000€. Co-funding FEDER

06.6
CLEAN ROOM

Coordinator:
Matilde Parreño
mparreno@santpau.cat



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, microfuge, hypoxia incubators, fridge and -20 °C combi.

The IIB Sant Pau Clean Room is accredited to develop advanced therapies at IIB Sant Pau. The Research Institute of the Hospital de la Santa Creu i Sant Pau – IIB Sant Pau, in collaboration with the Banc de Sang i Teixitis 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, certificate that allows the production and quality control of cellular medicines type CAR-T.

06.7
PROTEOMICS UNIT

Coordinator:
Maísa García-Arguinzonis
mgarciaar@santpau.cat



The Proteomics Unit bridges the scientific challenges of our researchers and the analysis platform.

The unit offers support and advice to design experiments and studies, according to the researchers needs. It helps and support researchers in sampling and sample preparation; analysis and data interpretation of the resulting data from mass spectrometry techniques; and in silico analysis to confirm or verity results.

06.8
RADIOACTIVITY UNIT

Supervisor:
Javier Crespo
jcrespo@santpau.cat



Functions
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.

It has been authorized by the nuclear safety authority and its staff supervise compliance with the corresponding laws, guidelines and regulations.

Services include support for:

- In vitro labelling of proteins, lipoproteins and liposomes.
- Cellular proliferation and toxicity.
- Nucleic acid labelling.
- Immunoassay techniques.
- Determination of enzymatic activities using radiolabelled substrates.
- Analysis and separation of labelled molecules.
- Cellular cholesterol efflux.
- In vivo metabolism.

Facilities
The Radioactivity Unit has the following facilities:

- 1 room for radioactive material storage.
- 7 equipped laboratories, one of them refrigerated.
- 1 room for gamma- and beta- counters.
- 1 room for radioactive waste storage.
- 1 room for controlled disposal of radioactive waste.
- Radioactive liquid waste containers for controlled radioactive waste disposal.
- Shielding accessories for radiation safety (table top shields, shielded containers, protective equipment, etc).
- Portable radiation and environmental contamination detectors.
- 1 ventilated rack for in vivo studies.
- 2 chemical safety cabinets for gas extraction.
- 1 vertical laminar air flow cabinet for cell cultures.
- 1 CO2 incubator for cell cultures.

06.9
CELLULAR CULTURE UNIT

Coordinator:
Estefania Segalés
ESegales@santpau.cat

Staff:
Margarita Domingo



Introduction
Currently, in vitro culture techniques are essential for the research carried out by many scientific groups. The cell culture service offers an infrastructure with different facilities that reach a total area of more than 400m2, located on the 1st and 2nd floors of the main building, plus a laboratory on pav.11 of the old site. These are laboratories where research groups and those who may require it, can carry out the experimental part of cell cultures of their research projects.

Description
The service consists of different facilities 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). In each of the facilities, users have the adequate and basic equipment necessary to obtain and maintain cell cultures: laminar flow cabinets and biological safety cabinets (a total of 25), CO2 incubators (28), ovens, centrifuges, water baths, inverted microscopes, balances, vacuum traps, cell counters, refrigerators, freezers (-20 and -80°C), hybridization ovens and autoclaves.

Equipment such as: special biosafety cabinets to work with cytostatic products and/or nanoparticles, fluorescence and image capture microscopes, binocular microscopes with lighting and display screen, particle counters, UV stations and nucleofection equipment are located in these facilities.

In addition, the service has hypoxia stations and a laboratory restricted to the use of radioactivity in cultures, a laboratory to carry out bacterial cultures and a laboratory where biological samples can be processed (not related to obtaining cultures) that require handling under biosafety conditions.

Functions
The staff of the service is dedicated to keep the laboratory in optimal working conditions. They take care of preventive maintenance, equipment control, cleaning and disinfection, daily supervision of the correct functioning of the instruments (cabinets and incubators), management and processing of waste, autoclave sterilization, internal work in the laboratory, calibration of equipment and controls (mycoplasma, surface contamination, sterilization procedures, ...). More important, they advise and train users for the correct use of laboratories and support them with any question or request regarding equipment or working conditions, as well as authorizations for access and use of biological material.

The person in charge of the service forms part of the service users' commission, the Biosafety Committee and the IR Quality Committee at the same time, a fact that allows her to integrate various fundamental aspects in order to carry out the tasks of supervising the service. She is trained in PRL, in the implementation of the ISO Standard and also has the auditor accreditation for the same standard. The previous experience of years in basic research allows her to integrate the interest of users with the management of laboratories in her dedication.

All the management of the service facilities is subject to the ISO 9001:2015 Standard. Authorization is available to work with GMOs in part of the facilities.

06.10

ANIMAL EXPERIMENTATION SERVICE (SEA)



Coordinator:
Laura Casaní

Manager of Animal Research Facilities:
Sergi Florit

Technical staff:
Fanny Ceballos
Ángel Juncosa
Lorena Masiá
Eleonor Masiá

The Animal Experimentation Service is the area dedicated to the house and care of experimental animals, and to work with experimental procedures that use them. The SEA has the ISO 9001: 2015 certification and guarantees compliance with the legal and ethical laws related to the use of animals for experimentation and for other scientific purposes. It is officially registered as a breeding center, supplier and user of experimental animals (B9900067 and REGA ES080190036528), it also has the authorization to house and work with Genetically Modified Organisms (A/ES/08/21 and A/ES/08/I-14) . The staff of the SEA is also officially trained and accredited: Welfare and Animal Health Specialist, Advisor on Animal Welfare, Technicians and Caregivers.

Translational research needs a responsible use of experimental animals and the reproducibility of results. The use of animals of high genetic and healthy quality and their use, maintenance and well-being in appropriate facilities are mandatory to obtain these results. The SEA offers its services to maintain the animals in the right conditions and also advices and gives specialized support to the researchers in the design and realization of the experimental procedures and techniques.

SEA consists of 2 separate buildings:

- Conventional Facility, one floor aea of 650m2, designed according to the requirements of Decret 214/1997 and R D 53/2013; It has the necessary facilities to house up to 40 pigs, 114 rabbits, 350 rats and 2500 mice in conventional conditions and 90 ratios and 2200 mice in SPF or Special Pathogen-Free conditions (individually ventilates cages in a possitive pressure room).

  The SEA facility has work halls for rodents and rabbits and 4 experimental operating theaters for pigs. It also has advanced medical equipment for small animals: bioluminescence (Hamamatsu), high frequency ultrasound (Vevo2100), intravital microscope, flow measurement equipment and probes, ECG monitor, NIP equipment, mechanical ventilators , equipment of anesthesia with sebu / isoflorane, surgery microscopes,.. For the large animals the SEA has: multiparameter monitors, defibrillators, anesthesia equipment with sebo / isoflorane, mechanical ventilators, RX (Philips and Siemens) equipment, equipment Trans-echocardiography and transesophageal echocardiography (Philips iE33), intravascular echocardiography (Siemens Acuson), real-time 3D imaging equipment (CartoXP), radiofrequency ablation equipment, 12-lead ECG.

  The operating theaters can be used to teach microsurgery courses, experimental surgery, medical equipment presentations.

- The Biomodule-SPF is a barrier area of 30m2 that can house up to 400 immunodeprimed mice. The entrance to the installation is through an air shower for people or a SAS of peroxide for materials. Work with animals is under biosafety hood, it has a preclinicalin vivo image system for fluorescence and / or bioluminescence (IVIS Spectrum) and inhalatory anesthesia equipment.

06.11

ETHICS COMMITTEE FOR ANIMAL RESEARCH (CEEA)



President:
Laura Casaní

Secretary:
Sergi Florit

Vocals:
Sandra Camino
Jose M. Guerra
Esther Jorge
Esther Peña
Cristina Rodriguez
Elisabet Sánchez
Gemma Vilahur

The Ethics Committee for Animal Research of the Research Institute of the HSCSP is an independent body that according to the current legislation on laboratory research animals (European Directive 2010/63/EU, Spanish RD 53/2013 and Catalan Decret 214/1997) 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. No animal research can be carried out in the Animal Facilities of the IRHSCSP without the ECAR approval.

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

The functions of ethics committee for animal research are the following:

- Report favorably on the implementation of the experimental projects after verifying the suitability of the procedure in relation to the objectives of the study, the possibility to achieve valid results with the minimum number of animals, the consideration of alternative methods to animal use and the suitability of the selected species.
- Ensure that animals do not suffer unnecessarily and that they are given, when needed, analgesics, anesthetics or other methods to eliminate pain, suffering or distress.
- Supervise that humanitarian euthanasic methods are used.
- Ensure that personnel involved in the procedure is qualified to perform the assigned tasks.
- Review already assessed procedures or suspend those procedures already initiated that do not comply with the requisites established by the protocol.

06.12
GENERAL EQUIPMENT

Coordinator:
Maribel Baldellou
mbaldellou@santpau.cat



The aim of the general equipent and common spaces management unit is to regulate work in the shared spaces, ensuring their proper use in a safe and quality environment. The objective of this unit is to provide technical support to research groups. For this purpose, PST a equipment and facilities to researchers that allow them to perform the most modern and state-of-the-art techniques in different research areas. Its organization as a transversal service promotes cooperation and interaction between the different research groups. This platform is organized in different units and services that offer solutions to different requirements.

The facility is certified to ISO 9001:2015.

07



RESEARCH SUPPORT AND MANAGEMENT

07.1

CLINICAL RESEARCH AREA

Coordinator:
Rosa Mª Antonijoan
rantonijoana@santpau.cat



07.1.1. CENTRE FOR DRUG RESEARCH (CIM SANT PAU)

Staff:

Research staff
Jimena Coimbra
Joan Martínez
Pol Molina Perelló
Montserrat Puntes
Sandra Giménez

Nursing staff
Maite Garrido
David Martínez
Maribel Martínez
Marta Castillo

Logistic support
Judit Claramunt
Sara Mora
Susana Clos
Sonia Coma
Consuelo García
Pura Martínez

Data management
Ignasi Gich
Mª Ángeles Funes
Ana Gomis
Esteve Mercader



Functions
CIM conducts clinical drug trials and/or clinical research in compliance with methodological, ethical and legal requirements in the context of international GCP guidelines.

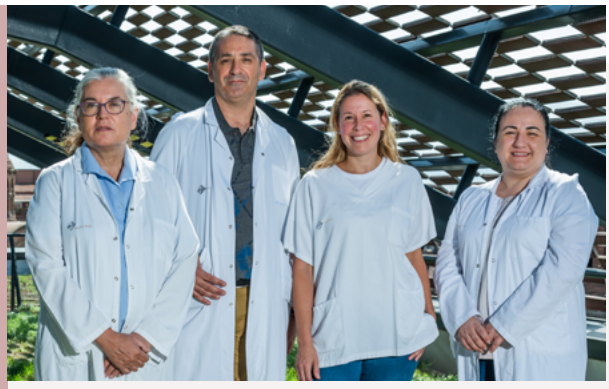
Research as a business unit
- Phase I clinical trials (of no therapeutic interest for participants) in special populations and healthy volunteers (bioequivalence, tolerability, pharmacokinetics and pharmacodynamics, first administration in humans).
- Collaboration with HSCSP researchers in conducting 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 (behavioural safety).
- Studies of effects during wakefulness (behavioural safety).
- Studies of effects on sleep quality and architecture.

Facilities
Care area
- 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, diningroom, leisure room.
- Restricted area for drug storage and for 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.
- Temporary documentation archive.

07.1.2 CLINICAL TRIAL DOCUMENTATION MANAGEMENT (AGDAC)



Manager:
Rosa Mª Antonijoan
rantonijoana@santpau.cat

Coordinator:
Montserrat Ruiz
mruizb@santpau.cat

Staff:
Elisenda Brunet
M. Àngels Piera

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.

Facilities

Several areas have been designated to implement these functions:

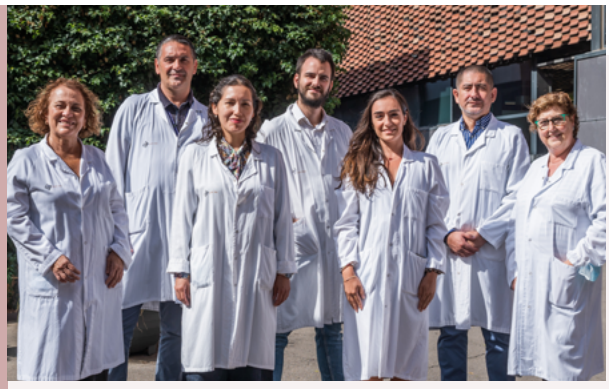
- Head office and administration area.
- Data processing and management area.
- Clinical trial monitoring meeting rooms.
- Documentation filing area.
- Cold room.
- Archive

07.1.3 CLINICAL RESEARCH AND CLINICAL TRIALS UNIT (UICEC)

Coordinator:
Claudia E. Delgado
cdelgadoe@santpau.cat

Responsible:
Rosa Mª Antonijoan
rantonijoana@santpau.cat

Staff:
Yaira Mathison
Johan Ayala
Jordi Peri



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 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

- Advice on study design.
- Data entry.
- Data processing.
- Development of statistical reports.
- Electronic CRFs validation and management.
- Documentation and reports.

Documentation, archiving, monitoring and follow-up

- 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.

Management and finantial 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.

07.1.4 ETHICS COMMITTEE FOR INVESTIGATION WITH MEDICINAL PRODUCTS (CEIM)

CEIm Composition

The composition of the CEIm attached to the HSCSP is as follows:

President
Robert Belvís Nieto

Physician. Specialist in Medical Neurology

Vice-president
Estela Moreno Martínez

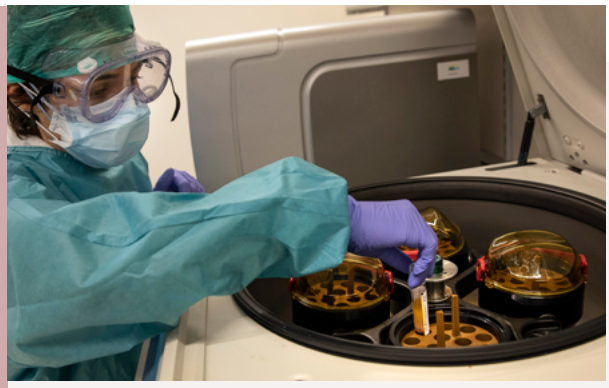
Specialist in Hospital Pharmacology

Secretary
Milagros Alonso Martínez

Physician. 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 Verneda.** 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 Viciana Rodríguez.** User Attention Unit.



Mission, functions and areas of action

The Ethics Committee for research with medicinal products (CEIm) is an independent body which, in accordance with the corresponding legal provisions, ensures that the rights, safety and wellbeing 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.

More specifically, its functions are as follows:

- To assess the methodological, ethical and legal aspects of:
- Clinical trials with medicines and medical products
- Observational studies
- Pharmacodynamic and pharmacogenetic studies
- Studies evaluating psychological treatments and surgical procedures.
- Studies involving invasive procedures and the use of health data (medical records and biological samples).
- To evaluate amendments and modifications to projects approved by the CEIC.
- To track and monitor clinical trials with drugs and clinical research with medical products.

07.1.5 CEIM TECHNICAL OFFICE



Coordinator:
Milagros Alonso
MAlonsoMa@santpau.cat

Administrative Staff:
Robert Caballero
RCaballeroB@santpau.cat

Marisol Mogollón
Mmogollon@santpau.cat

Presentation

The CEIm secretariat is responsible for assessing methodological, ethical, legal and other information regarding research projects listed in the agenda of CEIC meetings, and also for advising HSCSP and HSCSP-IR researchers on the preparation and presentation of clinical research projects.

Functions

- To receive, register and validate documentation regarding clinical research projects submitted to the CEIm for evaluation.
- To prepare and send calls for meetings, the agenda and copies of the summary of protocols, patient information sheets and informed consent forms to all CEIm members.
- To prepare and present a description of the projects listed in the meeting agenda, the corresponding methodological, ethical and legal analyses and any other relevant information to the CEIm.
- To act as a point of reference in communication with researchers, sponsors, management/medical management and health authorities on all matters related to evaluated research projects and the operations of the CEIm.
- To prepare and sign CEIm reports and communicate decisions to sponsors and researchers.
- To prepare the minutes of meetings and distribute them on schedule to CEIm members.
- To manage documentation on CEIm operations and activities and on evaluated research projects.
- To process agreements regarding clinical trials to be performed in the HSCSP.
- To certify the actions of the CEIm.
- To prepare the annual CEIm report.
- To ensure compliance with Standard Operating Procedures (SOPs).

07.2

RESEARCH AND INNOVATION MANAGEMENT AREA

Deputy Director:
Míriam Ors
mors@santpau.cat



07.2.1 INNOVATION AND TECHNOLOGY TRANSFER UNIT

Coordinator:
Míriam Ors
mors@santpau.cat

Strategic Innovation Manager:
Jana Iscla

Tech Transfer and Innovation Managers:
Daniel Callao
Natalia Ichaso
Alba Arroyes



The Innovation and Technology Transfer Unit promotes an entrepreneurial and innovative culture among the health professionals at the hospital, and transfers its knowledge towards the business sector.

The main objective of the unit to foster a culture based on open innovation and cooperation in R&D, with a straight focus towards market and internationalization.

Our innovation model aims to facilitate the innovation generated by Sant Pau's professionals, to improve the translational ability of the centre, thereby strengthening its excellence and contributing to its economic sustainability.

The Innovation and Tech Transfer Unit of the Institute provides the following range of services:

- Management of the technological innovation developed by the Institute, from ideas uptake to its transfer to the market once converted into products or services.
- To facilitate technological collaboration between our research groups and industry.
- To support funding for technology development projects.
- Management of the Institute's intellectual property.
- To support the creation of spin-offs and start-ups.
- Perform technology vigilance (TV) to know the state-of-the-art and to be aware of market trends. This knowledge allows us to analyze, value and make decisions with less risk and to anticipate changes.

07.2.2 NATIONAL PROJECTS UNIT

Coordinator:
Fabiola Fernández

ffernandezh@santpau.cat

Staff:

Eva José
Eva de la Vara
Amanda García
Eva Vicente
Marta Lorente
Eva Garcia



Functions

- Search and broadcast of public and private national funding, broadcast, assessment and review for the success of the application submission, send applications, register and monitoring until its resolution.
- Registration of granted projects, economic monitoring of projects and agreements, costs validation (concept/balance), preparing annual and final reports, manage incidences, inter-locutor with official institutions.
- Activity reports: scientific report, Board, Direction and others.
- Internal and external audits from different financial institutions.
- Researchers: meetings for starting and managing projects.
- Interaction with different transversal areas to implement the regulations of the calls.

07.2.3 INTERNATIONAL PROJECTS UNIT

Coordinator:
Noemi Carranza

ncarranza@santpau.cat

Staff:

Declan de la Fuente



Functions

- Search and broadcast of public and private international funding, broadcast, assessment and review for the success of the application submission, send applications, register and monitoring until its resolution.
- Registration of granted projects, economic monitoring of international projects and agreements, costs validation (concept/balance), preparing annual and final reports, manage incidences, interlocutor with official institutions.
- Activity reports: scientific report, Board, Direction and others.
- Internal and external audits from different financial institutions.
- Researchers: meetings for starting and managing projects.
- Interaction with different transversal areas to implement the regulations of the calls.

07.2.4 KNOWLEDGE MANAGEMENT UNIT

Coordinator:
Montserrat Campmany
mcampmany@santpau.cat

Staff:
Cati Pérez
Neus Milan



Functions

- Design mechanisms and implement tools for the collection and organization of data and information to feed decision making.
- Manage and transform information and data to contribute to the fulfillment of objectives and strategies.
- Advise on bibliometrics, scientific publications and open access.
- Respond to external requests for data and information (statistical surveys, SIRECS, etc).
- Implement policies to improve information systems.
- Develop new indicators of use for the institution.
- Update research group staff details on the intranet.

07.2.5 QUALITY ASSURANCE UNIT

Coordinator:
Marta Mitjà
mmitja@santpau.cat

Staff:
Agostina Robledo
Jordina Pasqual



Functions

- Establish mechanisms to assess Quality and Best Scientific Practices at IIB Sant Pau, promoting continuous improvement and excellence goals.
- Establishment and monitoring of IIB Sant Pau's Quality Assurance Program.
- Implement and follow-up of the Integrated Management System, including the establishment of improvement policies under the following standards:
  - Good Manufacturing Practices, specific to Advanced Therapy Medicinal Products, at the Clean Room.
  - Good Clinical Practices, at CIM Sant Pau Phase I Unit
  - Good Clinical Practices, at Medical Oncology Phase I Unit.
  - ISO 9001, Quality Management System, at Scientific and Technical Services.
  - UNE 166002, R+D+i Management System, at Innovation and Transference Unit.
- Good Laboratory Practices.
- Quality Management in the different stages of Advanced Therapy Medicinal Product's production.
- Perform internal audits:
  - Batch documentation of Advanced Therapy Medicinal Products.
  - Clinical Trial protocols, data bases, experimental phases, ins tallations, processes and final reports.
  - Scientific and Technical Services.
  - Suppliers.
- Coordinate, oversee and follow up of the external Inspections / audits from:
  - Public Administration (ex: Generalitat, Española de Medicamentos y Productos Sanitarios...).
  - Clinical Trial Promoters.
  - Certification Entities.
- Provide support for Quality Management System's design and implementation in other areas.
- Coordinate the ISO Quality Committee and the Good Manufacturing Practices Committee.
- Provide support at design stage of the new IR-HSCSP Clean Room.

07.2.6 RESPONSIBLE RESEARCH AND INNOVATION (RRI) UNIT

Coordinator:
Mª Rosa Ballester
mballesterv@santpau.cat



IIB Sant Pau is aligned with the principles of the RRI and work through to meet and anticipate society's needs in a transparent, open, inclusive and sustainable perspective. For this purpose, and according to the institution's mission, we are building an institutional impact strategy that will enable us to design a new assessment policy to measure the impact of research that adopts European commitments.

Our Institution encourages the implementation of these principles as a working framework, and we develop initiatives in each of the RRI agendas. The goals we have set to work on the 6 RRI agendas are:

- **Governance**
  Incorporate RRI principles into the governance of the institution.
  Foster RRI at all stages of any research project.
  Define the institutional impact literacy (what, who, how and why).
- Ethics
  Provide areas for ethical reflection.
  Promote and encourage integrity in research.
- Gender Equality
  Ensure gender balance in decision making.
  Gender perspective in teams and project content.
- Open Access (Open Science)
  Ensure the implementation of open access policies established by the institution.
  Fostering open access in research.
- Citizen Participation
  Facilitate mechanisms for citizen participation.
  Promote their participation in research projects allowing a joint development and decision making.
- Science Education
  Foster multi-stakeholder collaboration (formal and non-formal education providers, organisations and civil society).
  Encourage critical thinking and scientific culture among citizens, as well as scientific interest among young people.

The objective of the Unit is to promote, design or implement specific tools and actions to help researchers to improve their research proposals and to encourage society to get involved in science.

Due to the cross-cutting actions described in the RRI Plan, the Unit works in a cross-cutting manner with other units, more closely with: the Knowledge Management Unit (UGC) in relation to open science, the Scientific Communication and Culture Unit (UCCC+i), in terms of activities related to citizen participation and science education, and with the Human Resources Unit (URRHH), in terms of the implementation and monitoring of the principles set out in the European Charter for Researchers (HSR4R).

In addition, the Responsible of the Unit, is member of the commission negotiating the new IR-HSCSP Equality Plan and is the Coordinator of the Research Working Group (WG) of the Health and Gender Commission (CdSiG) of the HSCSP.

She is also member of the Community of Practice Hipàtia d'Alexandria (coordinated by AQuAs) carrying out specific actions to promote changes in health research centres in order to eliminate gender inequality in the Catalan research system.

07.2.7 SCIENTIFIC SECRETARIAT

Coordinator:
Ma José Bartolomé
mbartolome@santpau.cat



The scientific secretary provides support to the Scientific Direction and acts as a liaison with the scientific community.

The scientific secretary proactively responds to the scientific community needs and advises researchers on internal procedures and policies. She supports the scientific director managing and organising the Internal Scientific Committee meetings and gives support to the directors of the strategic scientific areas.
This unit offers global administrative support to the scientific direction in strategic institutional projects, such as the Joint Scientific Project, the integration project or the scientific assessment and group evaluations, among others.

The scientific secretariat also plans, organises and manages scientific meetings, conferences, sessions or training initiatives to promote scientific exchange, excellence and to boost collaboration amongst the IIB Sant Pau research groups.

07.3

ADMINISTRATION MANAGEMENT AREA



Managing Director:
Jaume Bacardit
jbacardit@santpau.cat

07.3.1 FINANCE UNIT



Coordinator:
Laura San Martin
lsanmartins@santpau.cat

Staff:

Accounting
Soraya González
Anna Espallargas

Income and Treasury
Sandra Parera
Esther Andrés
Núria Vanaclocha
Núria García

Expenses and Purchase
Lorena Bustamante
Héctor Sánchez
Meritxell Criado
Sara Diaz
Grace Careaga

The Financial Unit is in charge of the institutional treasury and the financial and accounting management of the institute. As well as the management of own income and expenses and their accounting record. The unit supports research groups in the financial control of their accounts.

Functions

- Manage accounts and fiscal matters; design, administer and control budget-related issues; manage and monitor financial and material resources.
- Management of public body funding requirements: fulfil obligations imposed by government and official regional and state entities; ensure compliance with current fiscal, financial, labour and legal regulations and with HSCSP Research Institute–IIB Sant Pau management policies.
- Administration and management of activities, providing management support for research groups in different areas; project management, invoicing, control and monitoring of projects, general administration, management of services.

07.3.2 LEGAL ADVICE AND PUBLIC PROCUREMENT UNIT

Coordinator:
Silvia Ribas

sribas@santpau.cat

Staff:

Lourdes Gaig
Uxue Moreno
Maria Rull



Functions

The Legal Advice and Public Procurement Unit of IR Sant Pau is responsible for overseeing and supporting the institute in all its areas, in order to ensure the correct compliance with established legal regulations, offering advice both at a preventive and resolutive level, in all branches of public and private law (civil, commercial, administrative, labor law, criminal compliance, the transparency law, etc.).

With regard to the General Data Protection Regulation (GDPR), the unit ensures correct data processing, both, internal and external, and validates the functions of the protection delegate.

The legal unit is also responsible for contracting works, services and supplies required by the foundation, in accordance with the procedures and regulation of the Public Sector Contracts Act.

07.3.3 HUMAN RESOURCES UNIT

Coordinator:
Ruth Acosta

racosta@santpau.cat

Staff:

Gisele Domenech
Mireia Ventura
Mireia Puigsegur



Functions

The HR Unit manages all processes related to human resouces at IIB Sant Pau. It provides support and services to IIB Sant Pau employees and research groups in all issues related to the e ployee life cycle. These services include:

- Recruitment and contracting
- Onboarding, training and development
- Payroll, compensation and benefits
- Training and development
- etc.

The unit, which has been created in 2021, is also developing and implementing IIB Sant Pau HR policies. It also contributes to the implementation of the Human Resources Strategy for Researchers (HRS4R) in the institute.

07.3.4 GENERAL SERVICES UNIT

Coordinator:
Javier Crespo
jcrespo@santpau.cat

Staff:
Pau Escartín
Cristina Garcia
Laura Rios
Josep



The General Services Unit is responsible for the structural maintenance of the building and facilities. It supports the administrative structure, manages the warehouse and the reception.

Functions

- Building management.
- Maintenance of the building and equipment.
- Reception and access control.
- Warehouse
- Supply personal protective equipment to IIB Sant Pau staff.
- Booking of meeting rooms
- Overseeing cleaning services and treatment of waste.

07.3.5 EXECUTIVE SECRETARIAT

Coordinator:
Eva Sanfeliu
esanfeliu@santpau.cat

Staff:
Carina Mussuto
cmussuto@santpau.cat
gestioviatgesir@santpau.cat
IR_Estudiants@santpau.cat



Our team of executive secretaries provide high-level administrative support and assistance to the management team and other administrative and research staff.

In addition to managing and maintenance of executive's agendas and plan meetings, appointments, or conferences, they also act as interlocutor for any requirement from our trustees. The team proactively prepare the documentation for the Board of Trustees meetings or other meetings with relevant stakeholders, handling all arrangements that may result from their interaction (prioritizing requests, IIB Sant Pau representative signatures of agreements, clinical trials, fundraising, dealing with multiple institutional emails, etc...).

The office manages as well all IIB Sant Pau travels to congresses, meetings, etc... and handles all related with students (PhD, master, etc...) with national or international universities and/or institutions.

07.3.6 IT SYSTEMS UNIT

Coordinator:
Adrian Aceituno
aaceituno@santpau.cat

Staff:
David Sanfeliu
dsanfeliu@santpau.cat
IR_sistemesinformacio@santpau.cat



The IT Systems unit provides technical support and advice on computing and information systems management to the scientific community and the administration and research support areas.

This newly unit is aimed for designing, planning and overseeing the strategic model for the information systems management in the institute. They will also define, implement and oversee the Systems and Digital Transformation Plan at IIB Sant Pau. Due to its recent creation, they are also assessing the current systems and applications, while developing new strategies, policies, methodologies and procedures.

The IT Systems team also offers technical helpdesk support and solutions to any IT problem. They act as system administrators for the common information technology platform systems.

07.4

COMMUNICATIONS AND STAKEHOLDER RELATIONS AREA

Communications Director:
Laia Cendrós

lcendros@santpau.cat

Staff:

Media Relations and content creation
Karla Islas

Fundraising
Paola Grommes

Public Engagement
Júlia Massó

Teaching secretariat
Mònica Velasco



The Communications and Stakeholders Relations Area was created in 2021 to increase the institute's reputation and visibility as well as to strengthen and build new relations with key stakeholders.

The Communications Unit communicates and disseminates IIB Sant Pau's cutting-edge research and innovation activities at national and international level. Through a breath of activities and projects, the unit engages with the public and different stakeholders to promote public engagement and to raise awareness about biomedical and health research.

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.

The Unit is responsible for corporate image, media relations, public engagement, science education, internal communication, fundraising and teaching technical secretariat.

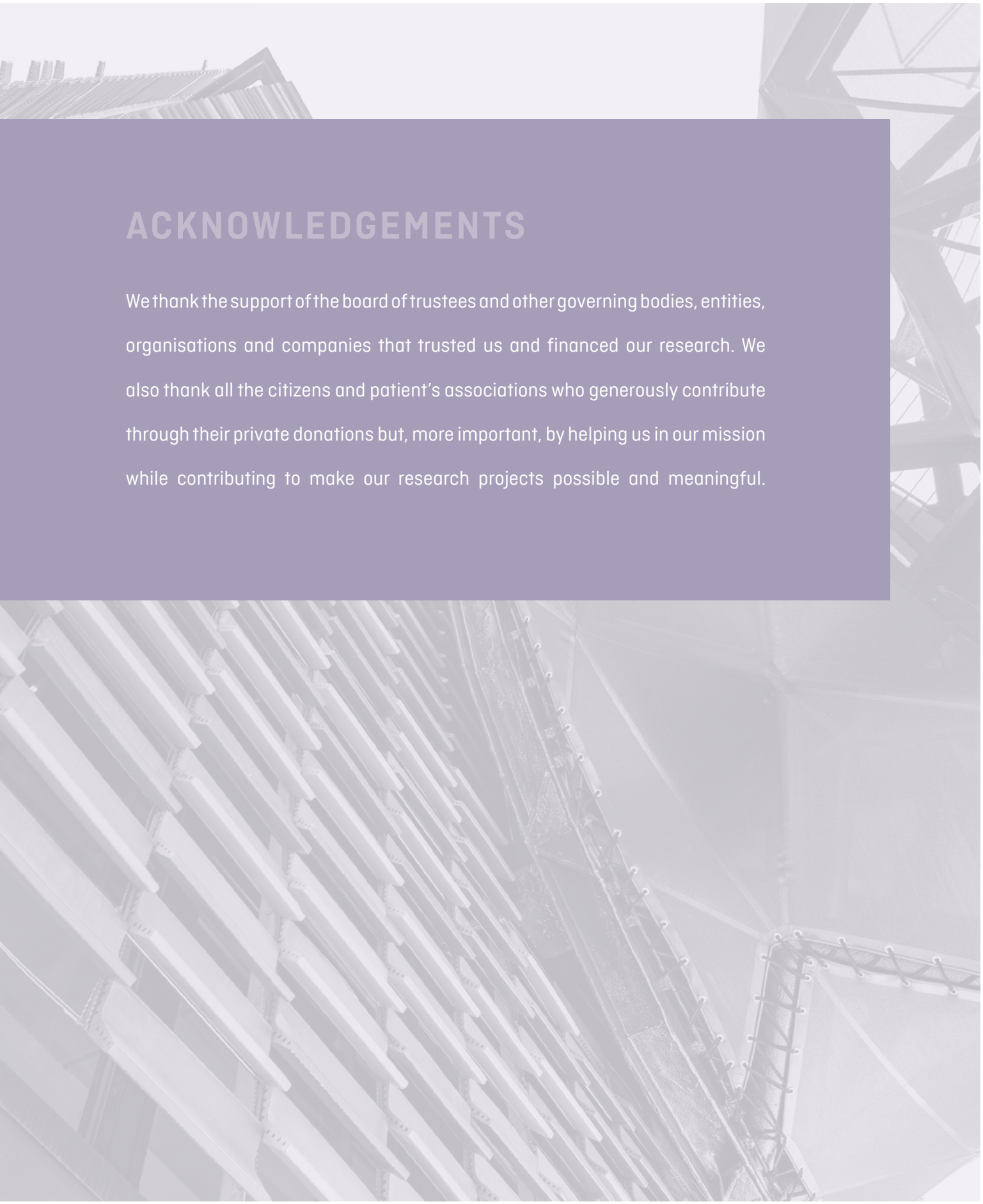
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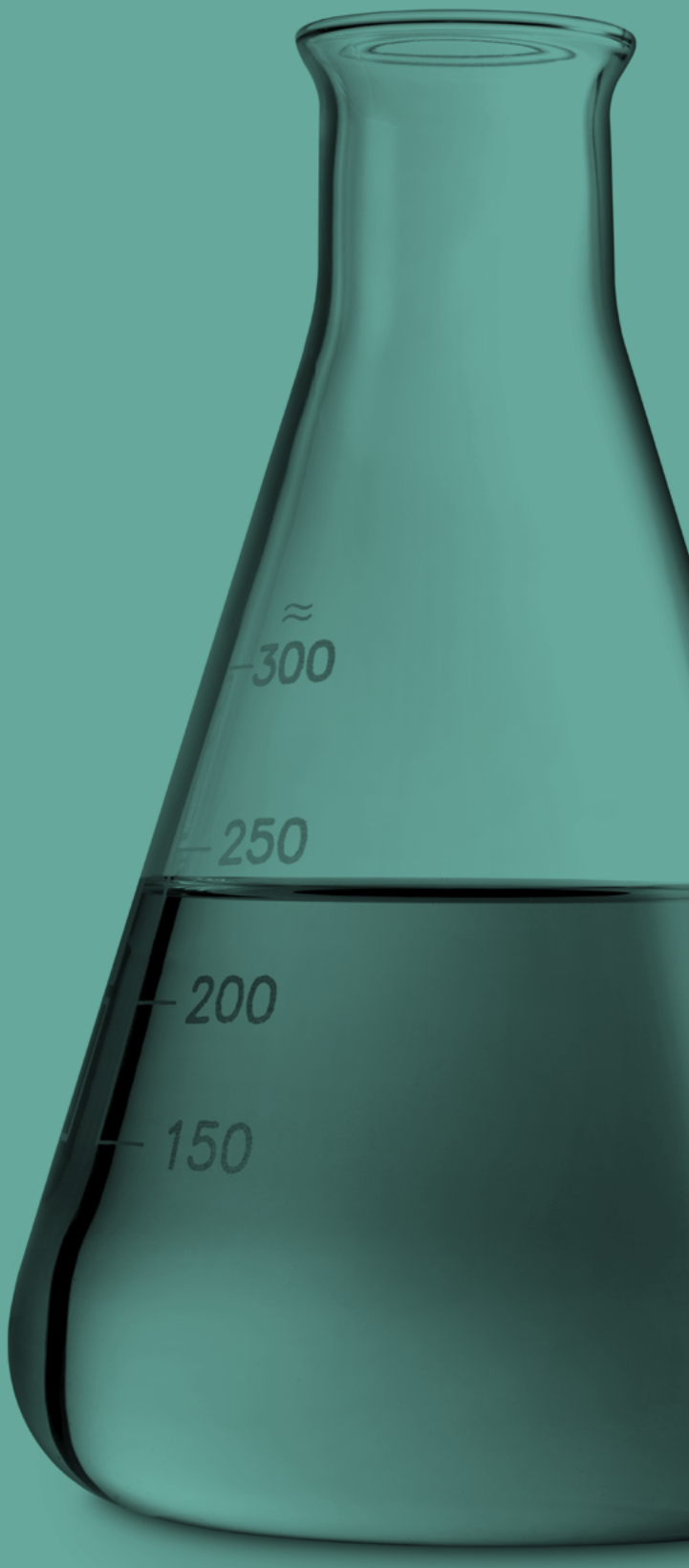
We thank the support of the board of trustees and other governing bodies, entities, organisations and companies that trusted us and financed our research. We also thank all the citizens and patient's associations who generously contribute through their private donations but, more important, by helping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



institut santpau
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