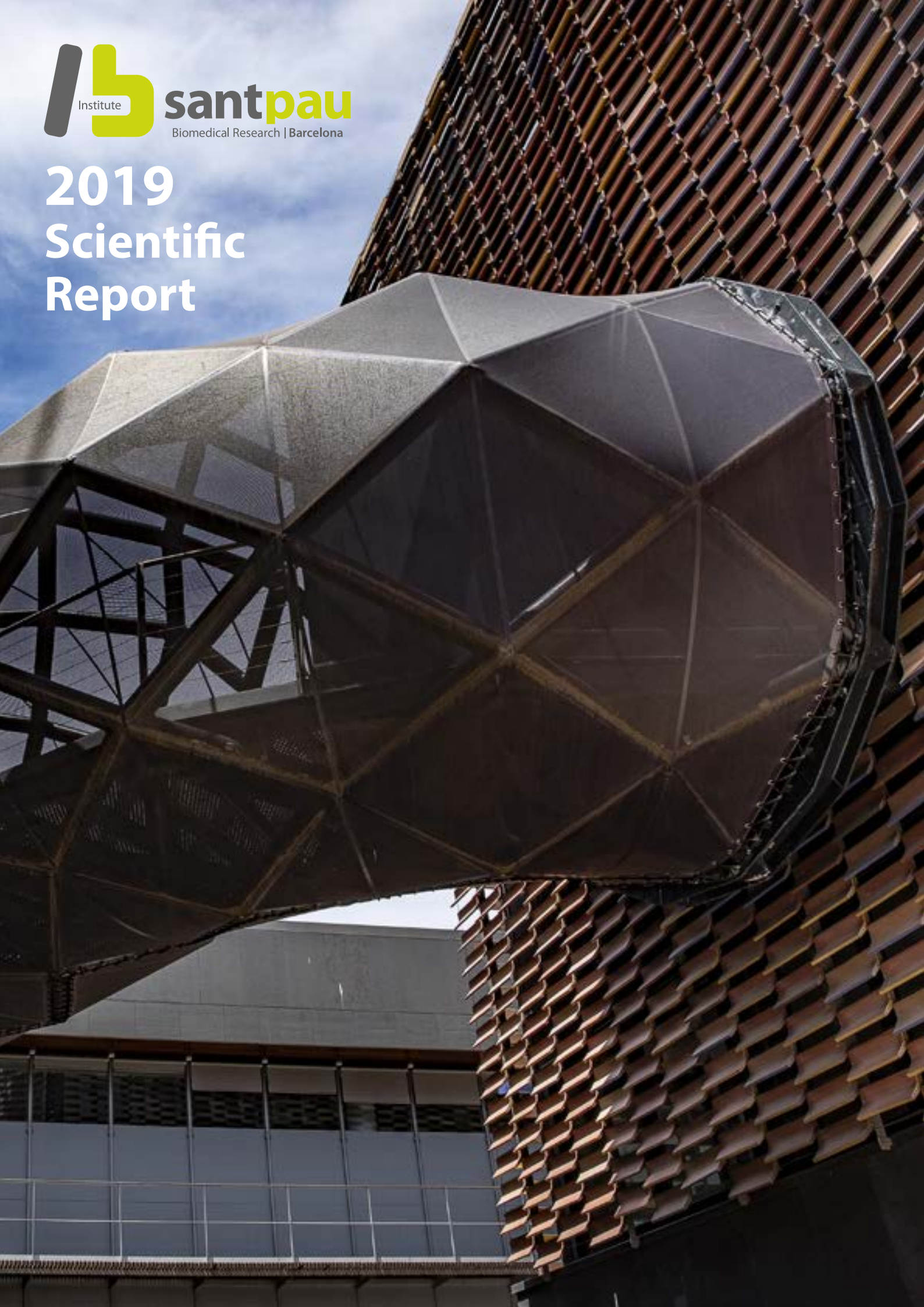


2019 Scientific Report



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Hospital de la Santa Creu i Sant Pau Research Institute

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Presentation



It gives me great pleasure and pride to present the 2019 Scientific Report as the new Scientific Director of the Sant Pau Research Institute (IR)-IIB Sant Pau. I am truly grateful for the confidence of the IR Board of Trustees and the support I have received from many Sant Pau colleagues. I would also like to thank the former Director Dr. Jaume Kulisevsky for his invaluable help in carrying out an orderly transfer of all institutional issues since my appointment in October 2019. What I have learnt in the first months on board is that I have received an excellent heritage: a research centre accredited by CERCA and Instituto de Salud Carlos III, a successful integration of the Institute of Cardiovascular Sciences of Catalonia (ICCC) into IR-IIB Sant Pau and the recent inauguration of a new research building with around 9000 m² of additional high-quality functional spaces ready to improve the research groups' integration, the feeling of belonging to the Institution, fundraising and research excellence.

You can notice in this Scientific report that, even though we had to partially stop some of our activities to move to our new facilities, IIB Sant Pau 2019 scientific activity continues to grow in all areas. We would like to highlight the quality and quantity of publications, with stabilisation of the number of publications compared to previous years (about 1100 articles) and a stunning increase of the mean impact factor up to 5.8 in 2019 compared to 5.2 in the previous year. It is worth remembering that the mean impact factor for 2015 was 4.0. Therefore, the quality of our publications using this bibliometric indicator has increased exponentially over the last five years.

Another quality indicator worth noting is that 58% of our publications are in first quartile journals and 70% are the result of international collaborations. This international network certainly makes us optimistic about the challenge of increasing income from international grants, especially European grants. At the scientific leadership level, approximately one-third of publications are led by IIB-Sant Pau researchers as first or last co-authors, including publications in top journals such as *The Lancet*, *JAMA*, *Lancet Oncology*, *The Lancet Infectious Diseases*, *European Heart Journal*, *Circulation*, *Annals of Internal Medicine*, *Trends in Biochemical Sciences*, *American Journal of Respiratory and Critical Care Medicine*, *Hepatology*, *Alzheimer's and Dementia* and *European Journal of Heart Failure*.

In the chapter on competitive funding, the IIB-Sant Pau shows outstanding results, with an increase from 238 ongoing projects in 2018 to 281 in 2019. The total funding raised for competitive grants is 9.9 million euros excluding overheads. The number of submitted grant applications has also increased exponentially from 384 in 2018 to 422 in 2019. Regarding clinical trials, 2019 has also been an excellent year, with almost 600 trials, of which 512 have been financed by the pharmaceutical industry with total revenue of more than 5.8 million euros. The most active hospital departments in this clinical research activity are, in order, Oncology, Hematology, Neurology, Internal Medicine, Cardiology, Dermatology, Digestive Diseases and Pneumology. Thus, every year we are more, our publications are better and more international and we obtain more funding from competitive grants and clinical trials.

In terms of innovation and transfer, we closed 2019 with a portfolio of 24 patents, 10 intellectual property registrations, 17 intellectual property license transfers and 4 spinoffs. The gradual increase in the number of patents applied for is due to our own research results, which indicate increasing performance of the groups in terms of transfer and innovation culture. Our Transfer and Innovation Unit will work in business development in the years to come with the aim of increasing the revenue of our intellectual property.

In 2019, the IIB Sant Pau has had good news in different areas of our activity. New innovation and transfer projects, large projects granted in many fields such as research in advanced CAR-T cell therapies for lymphatic cancer, acknowledgements and awards for our researchers, publications in very high impact-factor journals, seminars given by world-renowned scientists, communication actions and presence in social media, outreach to society and the promotion of scientific culture with many visits by citizens to the IR Sant Pau, actions for gender equality in research, micro-fundraising actions, collaboration with the Banc de Sang i Teixits for the creation of the Advanced Therapies Unit and the signature of a strategic agreement with the UAB for the creation of a Joint Unit on Genomic Medicine UAB-IR Sant Pau that will allow the construction of a new laboratory in the basement of the new IR building. I invite you to read our scientific report, in which we have highlighted some of this good news. I would like to take this opportunity to congratulate our researchers and support staff for the good work they have done.

As the new Scientific Director, I attended my first Board of Trustees meeting on 3 December 2019 with a clearly negative 2019 Annual Budget closing forecast. Therefore, I was commissioned by the Board of Trustees to carry out a new 2021-2024 viability plan that will involve a considerable effort to plan the necessary actions to increase incomes and minimize expenses. For this reason, I have asked our Trustees for time, confidence and cooperation, and I extend this request to the whole of the IIB Sant Pau community, as it will have to be a collective effort. I am completely sure that, together, we will make it.

These are times of change. We have a new, larger and more comprehensive IR after the integration of the ICC. We have a new spectacular, modern and innovative building, a new management team and a new scientific project to be implemented. Therefore, I look forward to my mandate with optimism and enthusiasm, with the conviction that we are an excellent biomedical research centre and that we have all the ingredients to become one of the best hospital research centres in the region.

Jordi Surrallés
Scientific Director IIB Sant Pau

IIB Sant Pau Entities



Hospital de la Santa Creu i Sant Pau Healthcare Management Foundation

The Hospital de la Santa Creu i Sant Pau Healthcare Management Foundation (HSCSP Healthcare Management Foundation) is a high-technology specialist care hospital performing patient care, teaching and research activities in the clinical, epidemiological and healthcare services fields. It offers accredited specialist and undergraduate health science training courses.



Hospital de la Santa Creu i Sant Pau Research Institute Foundation

The Hospital de la Santa Creu i Sant Pau Research Institute Foundation (HSCSP RI) promotes, manages and communicates biomedical research conducted in the HSCSP. It raises and manages funds and other resources for health science research in the basic, clinical, epidemiological and healthcare service fields.



Hospital de la Santa Creu i Sant Pau Private Foundation

The Hospital de la Santa Creu i Sant Pau Private Foundation (HSCSP Private Foundation), which owns the HSCSP, is responsible for building, improving and maintaining buildings and premises used for medical care and associated and complementary activities.



Autonomous University of Barcelona (UAB)

The UAB, a leading university renowned for quality and innovation in research, coordinates an influential scientific and technological centre, called Esfera UAB, responsible for promoting new business projects. The UAB also projects its productive activity in such a way as to disseminate new knowledge in society.



Fundació Puigvert

Puigvert Foundation

The Puigvert Foundation has the aim of deepening medical knowledge and perfecting medical techniques in the field of research and treatment of urinary and male reproductive system disorders and diseases. More specifically, it performs urology, nephrology and andrology research, focusing particularly on medical care, teaching, training and studies.



Iberoamerican Cochrane Centre

This independent, not-for-profit organization has as its main aim the promotion of medical practice based on the best available scientific evidence. To this end, it ensures that valid, useful, up-to-date and thoroughly reviewed information is made available for clinical and healthcare decision making.



Barcelona-Sardenya Primary Care Centre

Part of the public healthcare system, this teaching and care centre provides primary care services in its catchment area of Barcelona and has a research unit which performs clinical trials and epidemiology studies.



Consorci Sanitari de Barcelona



Agència de Salut Pública

Public Health Agency of Barcelona

This autonomous body, created by the Barcelona Health Consortium, has as its main mission to analyse and monitor the health of the population of Barcelona with a view to improving health and preventing risk. It is also responsible for epidemiological surveillance and the provision of medical care to substance abusers. It has an excellent track record in the public health and applied research fields.



Blood and Tissue Bank

The Blood and Tissue Bank is a public healthcare body which carries out patient care, teaching and research activities in the blood transfusion and tissue bank fields.

Vertical Areas of Research



Cardiovascular Diseases

The incorporation of new technologies that facilitate molecular profiling and gene regulation has led to innovative research into heart disease. The great diversity of the groups in this area gives research varied perspectives, whether in developing or testing the effectiveness of new biomarkers (as in the investigation of the metabolic and genetic bases of diseases) or improving the range of results and possible applications in short-term therapies.



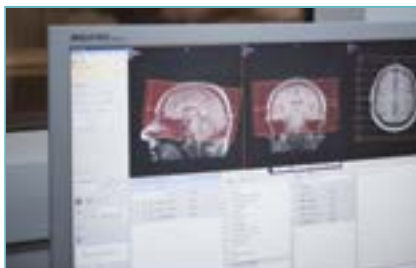
Genetic, Metabolic and Inflammatory Diseases

Identifying the genes and mutations responsible for genetic diseases is an essential component of knowledge and understanding of the physiological bases of metabolic pathways and also in the development of new forms of treatment for common diseases affecting large proportions of the population, such as diabetes and obesity, known but with a hereditary diseases, infectious diseases (AIDS, tuberculosis, etc) and rare diseases (not well know but with a devastating impact on those affected).



Haematological and Oncological Diseases

A broad range of research is conducted in this area, particularly in head-and-neck, breast, ovary, colorectal and haematological cancers, among others. Research in covers a wide range of fields, with disciplines that include nanomedicine, new anticancer agents and predictive molecular markers. Initiatives of specific relevance include the GAIT (Genetic Analysis of Idiopathic Thrombophilia) project, a world pioneer in the identification of genes influencing the risk of thromboembolic disease, and research into antitumour immunotherapy in animals and humans.



Neurological, Mental Disorders and Ageing

This area covers research in a broad range of disciplines. Besides the study of ageing and the most common neurodegenerative disorders such as Alzheimer and Parkinson, neurological research is also focused on stroke, neuroimmunology and neuromuscular diseases. Research into cognitive, affective, psychotic and personality disorders ranges from identification and evaluation of new therapeutic targets to neurogenesis and the effects of deep-brain stimulation. Research in this field has the support of the Drug Research Centre, which assesses the effectiveness of new drugs and therapies in humans.



Uronephrology and Experimental Surgery

IIB Sant Pau promotes experimental surgery in the knowledge that this area has a promising future both as an independent research line and as a complement to general surgery. This interdisciplinary approach provides valuable new insights and ensures techniques and procedures of great clinical relevance. Current areas of interest include the development of minimally invasive techniques and the application of deep-brain stimulation in different pathologies. In the fields of andrology, urology and nephrology research, the Puigvert Foundation is a leading centre in Spain.

Transversal Areas of Research



Epidemiology, Public Health and Healthcare Services

Research in these fields aims to determine the magnitude and distribution and identify the determinants of public health problems in order to evaluate the effectiveness and efficiency of public interventions and prevention practices. This area also aims to reduce patient risk and make healthcare safer by promoting evidence-based medical practice and ensuring the use of conscious, explicit and rational decision making concerning patient care.



Molecular, Genomic, Cellular and Kinetic-Dynamic Bases for Diseases and their Treatment

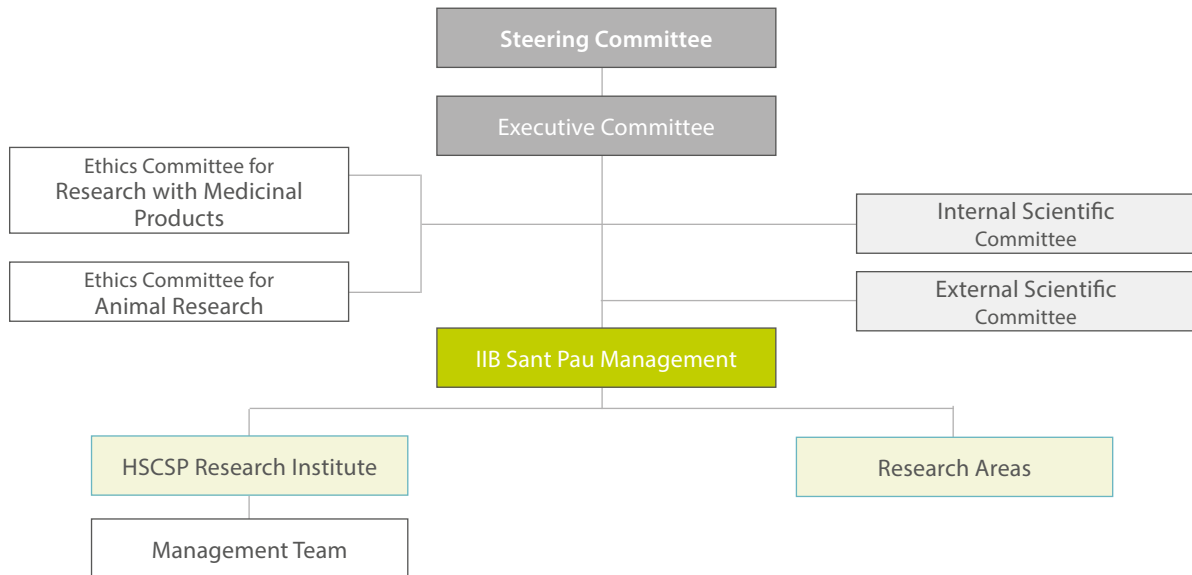
This area focuses on the structure of proteins associated with neurodegenerative diseases and inflammatory processes and on factors linked to the innate immune system. Research is also conducted in the area of osteoporosis, ageing-related macular degeneration and coagulation-cascade factors closely linked to cardiovascular disease and haemophilia. Such studies are vital to the understanding of diseases of the heart, blood and nervous systems and to advances in the fields of cancer and epidemiology.

Associated Groups



This area includes HSCSP Research Institute groups that do not form part of IIB Sant Pau because they have not, as yet, been accredited by the External Scientific Committee.

Organization Chart



Steering Committee

Chair

Dr. Gemma Craywinckel
Hospital de la Santa Creu i Sant Pau Healthcare Management Foundation

Members

Dr. Jordi Bachs
Hospital de la Santa Creu i Sant Pau Private Foundation

Dr. Armand Sánchez
Autonomous University of Barcelona

Dr. Helena Isábal
Puigvert Foundation

Dr. Joan Garcia
Blood and Tissue Bank

Dr. Xavier Bonfill
Iberoamerican Cochrane Centre

Dr. Carme Borrell
Public Health Agency of Barcelona

Mr. Jaume Sellarès
Barcelona-Sardenya Primary Care Centre

Dr. Jaume Kulisevsky / Dr. Jordi Surrallés
Hospital de la Santa Creu i Sant Pau Research Institute

Internal Scientific Committee

Chair

Dr. Jaume Kulisevsky / Dr. Jordi Surrallés
IIB Sant Pau Manager

Vice-Chair

Dr. Antonio López Pousa
Chair, Clinical Research Ethics Committee

4 members designated by the IIB Sant Pau Manager

Dra. Lina Badimon
Molecular Pathology and Therapeutic of
Ischaemic and Atherothrombotic Diseases

Dr. Alex Bayes
Molecular Physiology of the Synapse

Dr. Sílvia Mateu
Puigvert Foundation

Dr. Carlos Brotons
Barcelona-Sardenya Care Research Centre

2 members each representing IIB Sant Pau thematic areas

Cardiovascular Diseases

Dr. Juan Cinca Cuscullo
Clinical and Translational Cardiology

Dr. José Martínez
Atherosclerosis and Vascular Biology

Genetic, Metabolic, Inflammatory and Infectious Diseases

Dr. Silvia Vidal
Inflammatory Diseases

Dr. Carlos Guarner
Digestive Diseases

Haematological and Oncological Diseases

Dr. Miquel Quer
Ear, Nose and Throat Cancers

Dr. Agustí Barnadas
Clinical Oncology

Neurological, Mental Disorders and Ageing

Dr. Alberto Lleó
Neurobiology of Dementia

Dra. Maria J. Portella
Clinical Psychiatry

Urology and Experimental Surgery

Dr. Lluís Guirado
Nephrology Research

Dr. Manel Trias
General and Digestive Surgery

Epidemiology, Public Health and Healthcare Services

Dr. Carles Ariza
Evaluation of Public Health Policies and Programmes

Dr. Gerard Urrútia
Clinical Epidemiology and Healthcare Services

Molecular, Genomic, Cellular and Kinetic-Dynamic Bases for Diseases and Treatments

Dr. José Manuel Soria
Genomics and Bioinformatics for Genetically Complex Disease

Dra. Marta Valle
Pharmacokinetic/Pharmacodynamic Modelling and Simulation

External Scientific Committee

Dr. José López-Barneo
Physiology professor
Institute of Biomedicine of Seville (Spain)

Dr. Ángel María Carracedo
Genomic Medicine Group researcher
Institute of Legal Medicine
Faculty of Medicine and Dentistry
Santiago de Compostela University (Spain)

Dr. José Palacios
Head of the Pathology/Anatomy Department
Ramón y Cajal Hospital (Madrid, Spain)

Dr. Agustín Gómez de la Cámara
Clinical Epidemiology Group researcher
Doce de Octubre Teaching Hospital (Madrid, Spain)

Dr. John Louis McGregor
Director of Research-INSERM Unit 689
Cardiovascular Research Centre–Lariboisière Hospital (Paris, France)

Dr. Jordi Alonso
Health Services Research Unit
Hospital del Mar Municipal
Institute for Medical Research (Barcelona, Spain)

Mr. Guillem López Casasnovas
Faculty of Economics and Business Sciences Professor
Pompeu Fabra University (Barcelona, Spain)

Management Team

Scientific & Management Director

Dr. Jaume Kulisevsky / Dr. Jordi Surrallés

Financial Director

Esther Zamora

Deputy Director

Miriam Ors

Management Assistant

Eva Sanfeliu

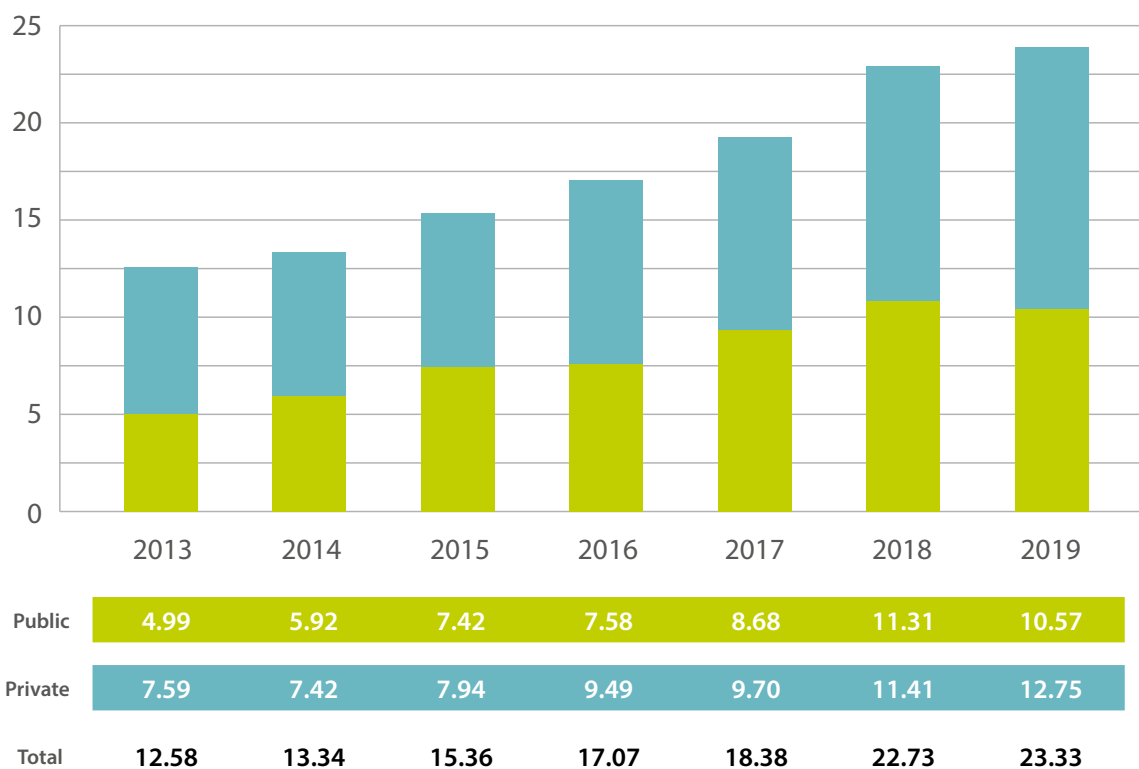
Financial Data



Below, we highlight some economic data. The first graph shows the evolution of the public and private funds collected by IIB Sant Pau between 2013 and 2019 and, on the follow page, you can see the profit and loss account for the year.

Esther Zamora
Financial Director

Public/Private Income Summary 2013-2019



In millions of euros

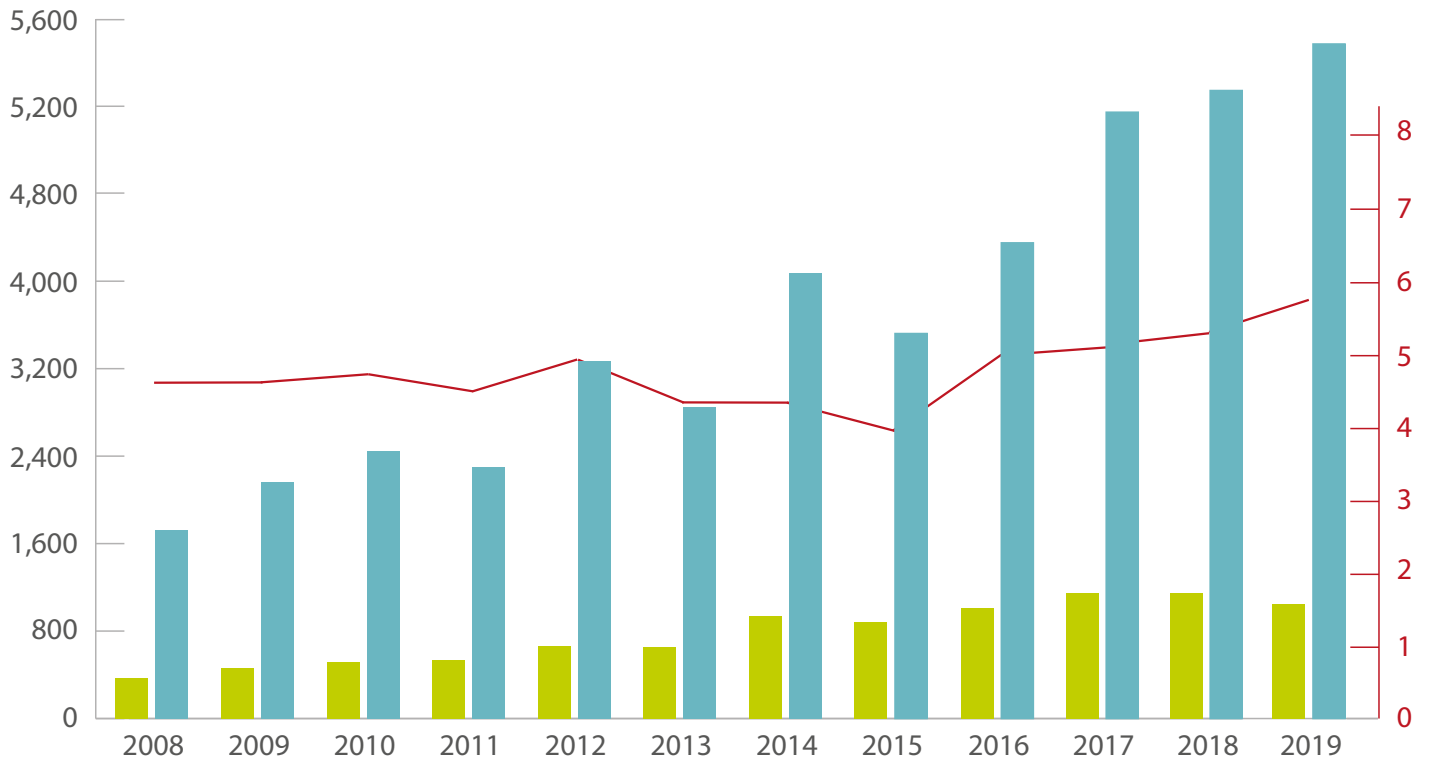
Income Statement year ending 31 December 2019

Income from activities	20,251,597.00
Services	6,867,907.00
Collaborations with partners and sponsors	2,710,481.00
Government grants	9,371,602.00
Other grants, donations and legacies	1,417,754.00
Repayment of grants, donations, etc.	-116,147.00
Stocks and supplies	-2,083,771.00
Material and equipment for activities	-2,083,771.00
Grants awarded and other expenses	145,783.00
Personnel expenditure	-11,762,950.00
Salaries	-9,215,216.00
Social security	-2,547,734.00
Other operating expenses	-8,114,560.00
External services	-7,232,520.00
Taxes	-135,774.00
Loss, deterioration and variation in provisions for operations	-355,510.00
Other operating expenses	-390,756.00
Depreciation of fixed assets	-1,520,446.00
Grants, donations and bequests transferred to results	1,029,146.00
Other gains/losses	-183,426.00
OPERATIONAL PROFIT/LOSS	-2,238,629.18
Financial income	131,358.00
Financial expenditure	-139,172.00
Exchange differences	-2,708.00
FINANCIAL PROFIT/LOSS	-10,522.00
OVERALL PROFIT/LOSS	-2,249,148.18

In euros

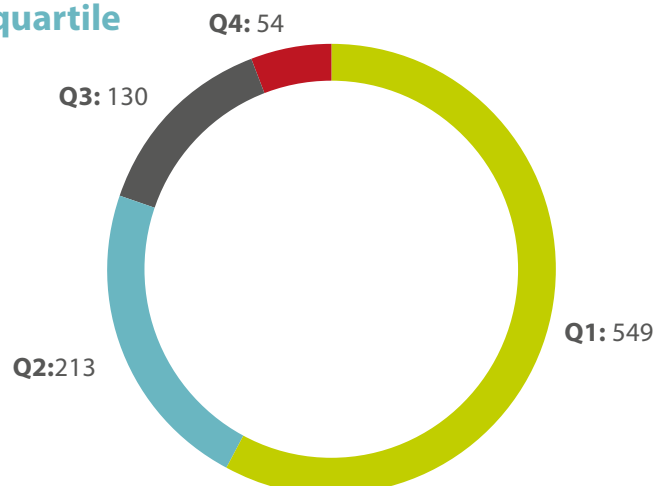
Publications with an Impact Factor and Quartile

Production status



Publications	367	461	514	534	664	654	933	804	996	1,167	1,168	1,113
Total IF	1,722.76	2,158.53	2,448.88	2,298.44	3,269.47	2,848.27	4,074.22	3,927.43	4,338.839	5,170.871	5,220.1160	5,474.2320
Mean IF	4.69	4.68	4.78	4.30	4.92	4.35	4.37	3.98	5	5.07	5.19	5.77

Indexed publications by quartile



Research Resources

Centre	Active		Granted	
	2018	2019	2018	2019
Acadèmia de Ciències Mèdiques	1	1	-	-
AECC (Asociación Española Contra el Cáncer)	4	-	-	-
AGAUR (Agència de Gestió d'Ajuts Universitaris i de Recerca)	1	28	28	1
American Grants	2	5	2	2
Associació Catalana de Diabetis	-	-	-	1
BIOCAT	1	1	-	-
Conferència Nacional de Degans d'Infermeria	-	1	-	-
Departament de Salut (PERIS)	8	13	5	-
European Commission	3	5	2	-
Fondation Jérôme Lejeune	-	2	2	1
French Muscular Dystrophy Association	-	-	-	1
Fundació Catalana de Pneumologia	3	1	-	-
Fundació Infermeria i Societat	4	3	-	-
Fundació Josep Carreras Internacional	1	1	-	-
Fundació Marató TV3	17	14	2	2
Fundació Privada Daniel Bravo-Andreu	1	1	-	-
Fundació Privada de l'Hospital de la Santa Creu i Sant Pau	-	-	9	-
Fundació Ramon Pla Armengol	1	1	-	-
Fundació Víctor Grífols i Lucas	1	1	-	-
Fundación BBVA	1	1	-	-
Fundación Española de Arteriosclerosis	-	-	-	1
Fundación Española para el Fomento de la Investigación de la Esclerosis Lateral Amiotrófica	1	-	-	1
Fundación Mutua Madrileña (FMM)	2	2	1	1
Fundación y Sociedad Española de Arteriosclerosis	1	-	-	-
GILEAD	1	-	-	2
Grupo Español de Tratamiento de Tumores Urológicos	-	1	-	-
ISCIII (Instituto de Salud Carlos III)	117	122	27	25
Ministerio de Ciencia, Innovación y Universidades	8	14	7	7
Ministerio de Sanidad, Servicios Sociales e Igualdad	3	2	-	-
Organización Nacional de Ciegos de España (ONCE)	-	1	1	-
SEPAR (Sociedad Española de Neumología y Cirugía Torácica)	1	2	1	-
Sociedad Española de Cardiología	-	1	-	1
Sociedad Española de Diabetes	-	1	1	-
Societat Catalana d'Endocrinologia i Nutrició	-	-	-	1
Societat Catalana de Cardiologia	-	1	1	-
Societat Catalana de Farmàcia Clínica	-	-	-	1
Societat Catalana de Malalties Infeccioses i Microbiologia Clínica	-	-	-	1
Societat Catalana de Medicina Intensiva i Crítica	-	1	1	-
Societat Catalana de Psiquiatria i Salut Mental	-	-	-	1
Societat Catalano-Balear d'Oncologia	-	-	-	1
	183	227	90	51

Research Training

Centre	Active		Granted	
	2018	2019	2018	2019
AECC (Asociación Española Contra el Cáncer)	2	2	-	-
AGAUR (Agència de Gestió d'Ajuts Universitaris i de Recerca)	7	6	1	1
Departament de Salut (PERIS)	4	11	10	4
FEHH (Fundación Española de Hematología y Hemoterapia)	1	3	1	-
Fundación Francisco Cobos	-	1	1	-
ISCIII (Instituto de Salud Carlos III)	34	48	23	22
MEC (Ministerio de Educación, Cultura y Deportes)	1	1	1	-
Ministerio de Ciencia, Innovación y Universidades	5	8	4	1
SEPAR (Sociedad Española de Neumología y Cirugía Torácica)	-	1	1	-
SOCAP (Societat Catalana de Pneumologia)	1	-	-	-
Sociedad Española de Cardiología	-	1	1	-
	55	82	43	28

Innovation Activity

Patents

Title	HSCSP RI author(s)	Territory	Application number	Filing date	Status	Grant number	Grant date
Scaffold proteins and therapeutic nanoconjugates based on Nidogen	Ramón Mangues, Ugutz Unzueta	Europe	EP19383201	26/12/2019	Filed	-	-
Protein nano- or microparticles as artificial inclusion bodies	Ramon Mangues	Europe	EP19382909.0	17/10/2019	Filed	-	-
Peptide for the prevention and/or treatment of aneurysm	María Galán, Miquel Navas, M. Cristina Rodríguez, José Martínez	Europe	EP19382654.2	30/07/2019	Filed	-	-
Compounds for treating McArdle Disease	Noemí de Luna, Eduard Gallardo	Europe	EP19382320.0	26/04/2019	Filed	-	-
Protein nano- or microparticles as artificial inclusion bodies	Ramon Mangues	Europe	EP19382271.5	11/04/2019	Filed	-	-
Therapeutic nanoconjugates and uses thereof	Ugutz Unzueta, Ramon Mangues, M. Virtudes Céspedes	Europe	EP19382031	17/01/2019	Filed	-	-
Antibodies specific for glycosylated ApoJ and uses thereof	Lina Badimon, Teresa Padró	-	PCT/EP2019/078855	23/10/2019	Filed	-	-
Anticuerpos específicos para ApoJ Glicosilada y usos de los mismos	Lina Badimon, Teresa Padró	Europe	EP18382752.6	23/10/2018	Filed	-	-
Therapeutic use of Afatinib in cancer	Jordi Surrallés, Jordi Minguillón	-	PCT/EP2019/069039	15/07/2019	Filed	-	-
Therapeutic use of Afatinib in cancer	Jordi Surrallés, Jordi Minguillón	Europe	EP18382527.2	16/07/2018	Filed	-	-
Uso de inhibidores de la tirosina hidroxilasa para el tratamiento del aneurisma de aorta	Cristina Rodríguez, José Martínez, Laia Cañes	-	PCT/ES2019/070434	21/06/2019	Filed	-	-
Uso de inhibidores de la tirosina hidroxilasa para el tratamiento del aneurisma de aorta	Cristina Rodríguez, José Martínez, Laia Cañes	Spain	ES201830607	21/06/2018	Filed	-	-
DNA damage repair disease therapies	Jordi Surrallés, Jordi Minguillón, M. José Ramírez	Europe	EP18382322	11/05/2018	Filed	-	-

Title	HSCSP RI author(s)	Territory	Application number	Filing date	Status	Grant number	Grant date
Markers of synaptopathy in neurodegenerative disease	Olivia Belbín, Albert Lleó, Àlex Bayés, Juan Fortea, Daniel Alcolea	-	PCT/ EP2019/056535	15/3/2019	Filed	-	-
Markers of synaptopathy in neurodegenerative disease	Olivia Belbín, Albert Lleó, Àlex Bayés, Juan Fortea, Daniel Alcolea	Europe	EP 18382175	16/03/2018	Filed	-	-
Dispositivo de contención para bebés prematuros (utility model)	Silvia Vicente	Spain	201830301	06/03/2018	Granted	ES 1209916 Y	28/06/2018
Genetic biomarker profiles for endurance sport suitability	José Manuel Soria	-	PCT/ EP2018/082592	26/11/2018	Filed	-	-
Genetic biomarker profiles for endurance sport suitability	José Manuel Soria	Europe	EP17382799.9	27/11/2017	Filed	-	-
Método para la identificación de pacientes con mayor riesgo de desarrollar miocardiopatía dilatada secundaria a mutaciones en el gen Lamina A/C	David de Gonzalo, Concepción V. Llorente	-	PCT/ ES2018/070697	25/10/2018	Filed	-	-
Marcadores para la miocardiopatía dilatada	David de Gonzalo, Concepción V. Llorente	Spain	ES201700749	25/10/2017	Filed	-	-
Therapeutic nanoconjugates and uses thereof	Ugutz Unzueta, Ramón Mangues, M. Virtudes Céspedes	-	PCT/ EP2018/069303	16/07/2018	Filed	-	-
Therapeutic nanoconjugates and uses thereof	Ugutz Unzueta, Ramón Mangues, M. Virtudes Céspedes	Europe	EP17382461.6	14/07/2017	Filed	-	-
Nanostructured proteins and uses thereof	Ugutz Unzueta, Ramón Mangues, M. Virtudes Céspedes	China	CN20188004 43792	31/12/2019	Filed	-	-
Nanostructured proteins and uses thereof	Ugutz Unzueta, Ramón Mangues, M. Virtudes Céspedes	US	US 16/611,102	05/11/2019	Filed	-	-
Nanostructured proteins and uses thereof	Ugutz Unzueta, Ramón Mangues, M. Virtudes Céspedes	Europe	EP18726744.8	04/12/2019	Filed	-	-
Nanostructured proteins and uses thereof	Ugutz Unzueta, Ramón Mangues, M. Virtudes Céspedes	-	PCT/ EP2018/061732	07/05/2018	Filed	-	-
Nanostructured proteins and uses thereof	Ugutz Unzueta, Ramón Mangues, M. Virtudes Céspedes	Europe	EP17169722.0	05/05/2017	Filed	-	-
Statin for prevention/reduction of ischemia-related damage	Lina Badimon, Gemma Vilahur	Europe	EP18715625A	29/03/2018	Filed	-	-

Title	HSCSP RI author(s)	Territory	Application number	Filing date	Status	Grant number	Grant date
Statin for prevention/reduction of ischemia-related damage	Lina Badimon, Gemma Vilahur	China	CN201880023 430A	29/03/2018	Filed	-	-
Statin for prevention/reduction of ischemia-related damage	Lina Badimon, Gemma Vilahur	Canada	CA3058250A	29/03/2018	Filed	-	-
Statin for prevention/reduction of ischemia-related damage	Lina Badimon, Gemma Vilahur	US	US201816498 813A	29/03/2018	Filed	-	-
Statin for prevention/reduction of ischemia-related damage	Lina Badimon, Gemma Vilahur	Brazil	BR11201902 0353	27/09/2019	Filed	-	-
Statin for prevention/reduction of ischemia-related damage	Lina Badimon, Gemma Vilahur	-	PCT/EP2018/05 8158	29/03/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	China	CN201780029 342.8	12/11/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	Russia	RU2018139780	12/11/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	South Korea	KR102018703 2609	09/11/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	Mexico	MX2018/ 012580	12/10/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	Australia	AU2017251355	12/10/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	Brazil	BR112018 070971.9	11/10/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	Canada	CA3020666	11/10/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	Japan	JP2018-554391	10/10/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	US	US16/092,703	10/10/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	Europe	EP17717159.2	10/10/2018	Filed	-	-

Title	HSCSP RI author(s)	Territory	Application number	Filing date	Status	Grant number	Grant date
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	Israel	IL262245	09/10/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	Singapore	SG112018088 20Q	05/10/2018	Filed	-	-
Methods and kits for the diagnosis and risk stratification of patients with ischemia	Lina Badimon, Teresa Padró	-	PCT/EP2017/058768	12/04/2016	Filed	-	-
Systems and methods to assess infarcted myocardial tissue by measuring electrical impedance during the cardiac cycle	Juan María Cinca, Gerard Amorós, Esther Jorge	Europe	EP16712341.3	30/10/2018	Filed	-	-
Systems and methods to assess infarcted myocardial tissue by measuring electrical impedance during the cardiac cycle	Juan María Cinca, Gerard Amorós, Esther Jorge	US	US16/090203	28/09/2018	Filed	-	-
Systems and methods to assess infarcted myocardial tissue by measuring electrical impedance during the cardiac cycle	Juan María Cinca, Gerard Amorós, Esther Jorge	-	PCT/EP2016/056933	30/03/2016	Filed	-	-
Prevention and/or treatment of ischemia or ischemia / reperfusion injury	Lina Badimon, Gemma Vilahur, Teresa Padró	Japan	JP2019-500003	13/09/2018	Filed	-	-
Prevention and/or treatment of ischemia or ischemia / reperfusion injury	Lina Badimon, Gemma Vilahur, Teresa Padró	Europe	EP17710542.6	10/09/2018	Filed	-	-
Prevention and/or treatment of ischemia or ischemia / reperfusion injury	Lina Badimon, Gemma Vilahur, Teresa Padró	US	US16/084521	12/09/2018	Filed	-	-
Prevention and/or treatment of ischemia or ischemia / reperfusion injury	Lina Badimon, Gemma Vilahur, Teresa Padró	-	PCT/EP2017/056027	14/03/2017	Filed	-	-
Device for simulating an endoscopic operation via natural orifice	Ramon Rovira	US	US16/061,101	11/07/2018	Filed	-	-
Device for simulating an endoscopic operation via natural orifice	Ramon Rovira	Europe	EP16810340.6	11/07/2018	Filed	-	-
Device for simulating an endoscopic operation via natural orifice	Ramon Rovira	-	PCT/EP2016/080572	12/12/2016	Filed	-	-
Procedimiento y dispositivo para el aprendizaje y entrenamiento de operaciones de cirugía laparoscópica e intervenciones similares	Ramon Rovira	Spain	P201331528	16/10/2013	Granted	ES253414 OB1	17/03/2016

Title	HSCSP RI author(s)	Territory	Application number	Filing date	Status	Grant number	Grant date
LRP1 as key receptor for the transfer of sterified cholesterol from very-low-density lipoproteins (VLDL) to ischaemic cardiac muscle	Concepción V. Llorente, Lina Badimon	Europe	12804028.4	29/06/2011	Granted	EP272800 5B1	22/08/2018
LRP1 as key receptor for the transfer of sterified cholesterol from very-low-density lipoproteins (VLDL) to ischaemic cardiac muscle	Concepción V. Llorente, Lina Badimon	US	US14129446	29/06/2011	Granted	US909667 1B2	08/04/2015
Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	Ramon Mangues, Ugutz Unzueta, Virtudes Céspedes	Israel	IL227442	11/07/2013	Filed	-	-
Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	Ramon Mangues, Ugutz Unzueta, Virtudes Céspedes	Poland	PL12704711T	13/01/2012	Granted	PL266333 6T3	31/01/2018
Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	Ramon Mangues, Ugutz Unzueta, Virtudes Céspedes	Denmark	DK12704711T	13/01/2012	Granted	DK266333 6T3	27/11/2017
Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	Ramon Mangues, Ugutz Unzueta, Virtudes Céspedes	Portugal	PT2663336T	13/01/2012	Granted	PT2663336 T	15/11/2017
Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	Ramon Mangues, Ugutz Unzueta, Virtudes Céspedes	Spain	ES2012206533	19/07/2012	Granted	ES264639 0T3	09/08/2017
Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	Ramon Mangues, Ugutz Unzueta, Virtudes Céspedes	Europe	EP12704711.6	13/01/2012	Granted	EP266333 6B1	09/08/2017
Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	Ramon Mangues, Ugutz Unzueta, Virtudes Céspedes	Australia	AU 2012206533	13/01/2012	Granted	AU2012206 533B2	31/08/2017
Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	Ramon Mangues, Ugutz Unzueta, Virtudes Céspedes	US	US 16/287583	27/02/2019	Filed	-	-
Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	Ramon Mangues, Ugutz Unzueta, Virtudes Céspedes	US	US 15/402795	10/01/2017	Granted	US1026537 1B2	23/04/2019
Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	Ramon Mangues, Ugutz Unzueta, Virtudes Céspedes	US	US 13/979560	01/11/2013	Granted	US958046 8B2	28/02/2017
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Japan	JP2011540141	13/06/2011	Granted	P1133JP00	07/01/2016

Title	HSCSP RI author(s)	Territory	Application number	Filing date	Status	Grant number	Grant date
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Canada	CA2745972	06/06/2011	Granted	CA2745972	11/04/2016
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Israel	IL213408	06/06/2011	Granted	IL213408	30/09/2017
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Cyprus	CY141100802T	03/10/2014	Granted	CY1115601T1	04/01/2017
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Croatia	HRP20140804T	25/08/2014	Granted	HRP20140804T1	07/11/2014
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Slovenia	SI200931018T	15/12/2009	Granted	SI2379114T1	28/11/2014
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Portugal	PT09768395T	15/12/2009	Granted	PT2379114E	06/10/2014
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Denmark	DK09768395T	15/12/2009	Granted	DK2379114T3	29/09/2014
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Poland	PL09768395T	15/12/2009	Granted	PL2379114T3	31/12/2014
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Turkey	P1133TREP	06/06/2011	Granted	TR201411735T4	23/02/2016
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Europe	EP20090768395	15/12/2009	Granted	EP2379114B1	09/07/2014
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	US	US13140347	15/12/2009	Granted	US9023370B2	20/12/2015
Conjugates comprising nanoparticles coated with platinum containing compounds	Òscar Gallego	Spain	E09768395	15/12/2009	Granted	ES2505890T3	10/10/2014
Blood-based assay for dysferlinopathies	Isabel Illa, Eduard Gallardo	Canada	CA2468431	26/05/2004	Granted	CA2468431C	28/06/2011
Blood-based assay for dysferlinopathies	Isabel Illa, Eduard Gallardo	US	US10/306662	27/11/2002	Granted	US7172858B2	06/02/2007
Blood-based assay for dysferlinopathies	Isabel Illa, Eduard Gallardo	Japan	JP2003547654A	27/11/2002	Granted	JP4282483B2	24/06/2009

Spin off/Start-up

Tax number	Business name	Type	Constitution date	Licensed technology
B-66970088	Nanoligent S.L.	Start-up	13/03/2017	New therapeutic product in the oncology area, especially in the treatment of metastasis.
B-67079186	Glycardial Diagnostics S.L.	Spin-off	15/09/2017	Apo J-Glyc as a novel biomarker for the diagnosis and prognosis of myocardial ischemia
B-66963257	Blumentech S.L.	Spin-off	01/03/2017	Pharmacological therapies for psychiatric and neurological patients
B-66663303	Surgitrainer S.L.	Start-up	15/03/2016	Method laparoscopic and device for learning and training operations surgery and similar procedures

Other IP

Type	Title	Author(s)	Register date
Trademark registration	Iberliferisk	Carles Brotons	27/03/2019
Trademark registration	SWADDY	Silvia Vicente	12/02/2019
Intellectual Property registration	Diseño, desarrollo, integración, implementación y contenido de una plataforma tecnológica para mejorar el soporte y monitorización de los pacientes crónicos polimeditados adaptado al paciente trasplantado cardíaco (Herramienta mHeart o Nabelia Trasplante Cardíaco)	Mar Gomis M Antonia Mangués	20/12/2018
Trademark registration	m-HEART	M. Antonia Mangués Mar Gomis	19/05/2017
Trademark registration	m-resist	Iluminada Corripio	20/04/2017
Notarial registration	DUO QUEST Clinical Scale	Antonia Campolongo	08/04/2016
Notarial registration	Memory Unit Database	Daniel Alcolea Juan Fortea	30/09/2015
Notarial registration	Parkinson Disease Cognitive Functional Rating Scale (PD-CFRS)	Jaime Kulisevsky Javier Pagonabarraga	17/07/2015
Notarial registration	Parkinson's Disease - Cognitive Rating Scale (PD-CRS)	Jaime Kulisevsky Javier Pagonabarraga	17/07/2015

Technology Transfer Agreements

Year	Title contract	Collaborator /Client	Research group
2019	m-HEART licence	Amgen	Pharmacy
2018	EDC4-KO HEK293T and control cell lines licence	Applied Biomedical Materials	Genome Instability and DNA Repair Syndromes
2018	Patent licence agreement	Adx Neuroscience	Neurobiology of dementia
2017	Patent licence agreement	Glycardial Diagnostics S.L	Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases
2017	Patent licence agreement	Nanoligent, SL	Oncogenesis and Antitumour Drugs
2017	Platform/App licence	Sociedad de Gestión de Proyectos tecnológicos, SL (Nabelia)	Pharmacy
2016	PD-CRS Scale licence	Sanofi-Aventis	Parkinson Disease and Movement Disorders
2016	DiGestEpiClin Platform licence	Fundació Institut per l'Excel·lència Clínica i Sanitària	Clinical Epidemiology and Healthcare Services
2016	Surgitrainer and Hystrainer licence	Surgitrainer SL	Reproductive Health
2015	PD-CRS Scale licence	Eli Lilly & Co.	Parkinson Disease and Movement Disorders
2015	PD-CFRS Scale licence	Bracket Global LLC	Parkinson Disease and Movement Disorders

2019 Highlights



Coordinator

M. José Bartolomé

Unit of Scientific Culture and Innovation (UCC+i - FECYT)

mbartolome@santpau.cat



In March 2019, the Sant Pau Research Institute (IR Sant Pau) was accredited as a Unit of Scientific Culture and Innovation (UCC + i) by the Spanish Foundation of Science and Technology (FECYT) of the Ministry of Science, Innovation and Universities. UCC + i act as intermediaries between the institutions that host them and citizens with the main objective of promoting scientific, technological and innovation culture through the performance of various activities (scientific communication, outreach, training, etc).

Scientific Achievements

Dr. Webb receives the Clinical Endocrinology Trust Award



Dr. Susan Webb, senior consultant at the hospital's endocrinology department and coordinator of the Pituitary Gland Disorders Research Group at IIB Sant Pau, received the Clinical Endocrinology Trust Award from the European Society of Endocrinology. This prestigious award distinguishes clinical research that addresses aspects of endocrinology on the cutting edge of clinical practice and is sponsored by the Clinical Endocrinology Trust.

22/02/2019

22/02/2019

Dr. Surrallés wins the ICREA Academy 2018 award

Dr. Surrallés, director of the hospital's genetics department and coordinator of the Research Group on Genomic Instability Syndromes and DNA Repair of the IIB Sant Pau, won the ICREA Academy 2018 Award, that was created in 2008 with the aim of promoting and rewarding excellence in research by department chairs.

26/02/2019

The IIB Sant Pau, one of the four centres in the world that study the Syngap1 gene

The Molecular Physiology of the Synapse Group of IIB Sant Pau, led by the researcher Àlex Bayés, is one of the four research groups in the

world that study the Syngap1 gene, the origin of a minority disease that causes intellectual disability and epilepsy in all of those affected, as well as autistic symptoms and motor difficulties in more than half of cases.

Researcher Gemma Gou, from the same research group, has been developing her thesis on the effects of the mutation in the Syngap1 gene, responsible for the aforementioned symptoms, for six years.

28/02/2019

The IIB Sant Pau leads the only European clinical study on Parkinson's with dementia

Dr. Jaume Kulisevsky, director of the movement disorders unit of the Sant Pau Hospital neurology department, coordinates the only European and multicentre study on Parkinson's disease with dementia, which entered phase II in 2019.

This clinical study, in which 20 hospitals from all over Spain participate, is carried out with the approval of the Spanish Agency of Medicines and Medical Devices (AEMPS), to test the effectiveness of the drug ANAVEX®2-73 in this disease.

28/02/2019

Sant Pau, pioneer in innovation for premature babies

Silvia Vicente, nurse at the neonatal intensive care unit (NICU) at Hospital de Sant Pau and member of the Nursing Care Research Group



at the IIB Sant Pau, has devised an elastic clothing device called Swaddy, which reduces stress on the baby during the weighing procedure and contributes to improved neurological development.

A multidisciplinary team from the Hospital de Sant Pau neonatology department, led by Silvia Vicente, has carried out a clinical trial that concludes that this device

significantly improves the heart and respiratory frequency and pain scale of premature babies weighing 1,500 grams or less during the procedure.

18/03/2019

Sant Pau and “la Caixa” present a unique clinical trial of immunotherapy for lymphatic cancer

The Sant Pau Research Institute and the Fundació “la Caixa” presented a collaboration agreement that will allow a clinical trial to be carried out on patients with non-Hodgkin’s lymphoma B. Thanks to this agreement, phase I of this trial will be applied to patients refractory to the treatments.

The innovative test to be carried out is based on the selection of a type of T lymphocyte called memory T lymphocytes, which are small but extremely effective cells in the body. They are generated after a primary infection and are responsible for mediating the defence of the organism in successive infections by the same pathogen, as they remember it. In addition, they have a powerful effect against tumour cells.

16/05/2019

Sant Pau, the only centre in Spain collaborating in the SYNGO database

SYNGO, a collaboration that brings together 15 laboratories from around the world, including the Molecular Physiology of the Synapse Group of IIB Sant Pau, directed by Dr. Àlex Bayés, and the Gene Ontology Consortium (GO), has published SYNGO 1.0, the first version of a knowledge base that aims to collect the current knowledge of the neuroscientific community on the genetic architecture of synapses. The launch of SYNGO 1.0 is supported by the first scientific publication of the journal *Neuron*.

Using structured frameworks called ontologies, SYNGO has published nearly 3,000 descriptions of more than 1,100 unique synaptic genes, compiling published experimental information on the location and/or function of its protein products. SYNGO is fully integrated into the GO knowledge base (<http://geneontology.org>), the world’s largest source of information on gene functions.

05/06/2019

Sant Pau develops a drug that destroys metastatic cancer cells without harming healthy cells

The Oncogenesis and Antitumor Research Group of IIB Sant Pau, led by Dr. Ramon Mangues, has developed the first nanoscale drug that is selectively antimetastatic. This new drug has been tested in animals

and the results are encouraging: it prevents metastasis and also induces the death of those cells in which metastasis is already underway.

To be able to launch the phase I study (in people), the researchers have founded the spinoff Nanoligent, a company created with technology developed in collaboration

between the Research Institute of Sant Pau Hospital-IIB Sant Pau and the Autonomous University of Barcelona, through Professor Antonio Villaverde and Dr. Esther Vázquez, with the involvement of CIBER-BBN and the ICTS Nanbiosis. They have also obtained a Challenges project from the Ministry of Economy and Business.

17/06/2019



Cholesterol and 27-hydroxycholesterol promote thyroid carcinoma aggressiveness

Researchers from the Sant Pau Research Institute (IIB Sant Pau) and CIBER, led by Eugenia Mato (Endocrinology, Diabetes and Nutrition, CIBER-BBN) and Joan Carles Escolà-Gil (Metabolic Bases of Cardiovascular Risk, CIBERDEM), have demonstrated the role of one of the major metabolites of cholesterol, 27-hydroxycholesterol (27HC), in the growth and aggressiveness of epithelial thyroid carcinoma.

The paper has been published in *Scientific Reports* (DOI: 10.1038/s41598-019-46727-2).

16/07/2019

Dr. Vilahur, awarded by the European Society of Cardiology

Dra. Gemma Vilahur, researcher at IIB Sant Pau, has been awarded at the European Society of Cardiology (ESC) Congress in Paris by the Council for Basic Cardiovascular Science (CBCS) with the Outstanding Achievement Award in recognition of her outstanding achievements during the early stages of her career.

12/09/2019

A nanoparticle can enter cancer cells by selectively eliminating them, without harming healthy cells

Researchers from the Centro de Investigación Biomédica en Red for Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN), IIB Sant Pau and the Autonomous University of Barcelona (UAB) have published an article in *Haematologica*, one of the international scientific journals with the greatest impact in the field of hemato-oncology. This article demonstrates the high selectivity of a protein-based nanomedicine, created by the researchers themselves, for the targeted

delivery of a toxin in target tumour cells to induce their selective death, producing a potent anti-tumour effect in an LDCGB animal model. This nanoparticle can be developed as a nanopharmaceutical in order to introduce a new treatment that could be used in 40% of LDCGB patients



who do not respond to current therapy, preventing the adverse effects associated with conventional treatment.

07/11/2019

The Sant Pau Research Institute and the UAB create a Joint Research Unit in Genomic Medicine

The Research Institute of the Hospital de la Santa Creu i Sant Pau and the Autonomous University of Barcelona have created the Joint Research Unit in Genomic Medicine UAB – IR Sant Pau with the aim of investigating the diagnosis, pathophysiology and therapeutics of ge-



netic diseases and tumour predisposition syndromes. The project is supported by the Hospital de la Santa Creu i Sant Pau Private Foundation.

The UAB has a strategic vision in this field and is the only university in Spain that offers a degree in genetics. Research in genomic medicine is also strategic for the IR Sant Pau and much of this research is transferred to patients at Hospital de Sant Pau through diagnostic improvements in its genetics department.

The unit's scientific director is Dr Jordi Surrallés, coordinator of the Genome Instability and DNA Repair Syndromes Research Group of IIB Sant Pau, which works in the field of human genetic diseases characterized by a high predisposition to cancer. Some of them are rare diseases (Fanconi anaemia, xeroderma pigmentosum, Bloom syndrome and ataxia telangiectasia) but others are relatively frequent among the population, such as hereditary breast or colon cancer.

15/11/2019

Scientific Outreach

During 2019 the unit has worked to consolidate and open to the general public the annual cycle of scientific seminars of IIB Sant Pau. This year, 12 speakers who are international names in their fields have participated in this cycle of scientific outreach:

- "Synaptic autoimmunity and diseases of the brain and mind", Dr. Josep Dalmau, Department of Neurology, Institut d'Investigacions Biomèdiques, August Pi i Sunyer (IDIBAPS).
- "Positive impact of 3R focused GAA rodent breeding", Dr. Jorge Sztejn, Visiting Professor at Center for Animal Resources & Development (CARD), University of Kumamoto (Japan), Assisted Reproduction and Cryopreservation Consultant at Envigo.
- "How $\alpha\beta 1$ integrin senses mechanical forces", Dra. Mercedes Costell Rosselló, Departament de Bioquímica i Biologia Molecular, Universitat de València. ERI BIOTECMED (Estructura de Recerca Interdisciplinària en Biotecnologia i Biomedicina).
- "Antimicrobial treatment of joint prostheses infection: clinical experience and experimental models", Dr. Javier Ariza Cardenal, Clinical Physician, Infectious Disease Specialist, Hospital Universitari de Bellvitge, Professor of Medicine, UB, Campus Bellvitge.
- "Advances in gene therapy for the treatment of metabolic and/or neurodegenerative disease", Dr. Fàtima Bosch, Department of Biochemistry and Molecular Biology and Animal Biotechnology and Gene Therapy Centre (CBATEG), Universitat Autònoma de Barcelona (UAB) and CIBER on Diabetes and Associated Metabolic Diseases (CIBERDEM).
- "Functionality of HDL and cardiovascular risk: role of the Mediterranean diet" Dr. Montserrat Fitó Colomer, Cardiovascular Risk and Nutrition Group (CARIN) of the Institut Hospital del Mar d'Investigacions Mèdiques (IMIM), CIBER on Pathophysiology of Obesity and Nutrition (CIBEROBN).
- "Air Pollution a major threat for health beyond the cardio-respiratory System", Prof. Jordi Sunyer, MD, PhD, Coordinator of Childhood and Environment Programme of the ISGlobal and Universitat Pompeu Fabra (UPF).
- "Cardiotoxicity due to anthracyclines and mitochondria", Dr. Borja Ibáñez MD PhD, Centro Nacional de Investigaciones Cardiovasculares, Hospital Universitario Fundación Jiménez Díaz.

- "Ventral cingulate cortex, astrocytes and major depressive disorder. Development of a preclinical model". Dr. Analia Bortolozzi, Titular Scientist of CSIC, IDIBAPS (IIBB-CSIC).
- "Charting the Molecular Landscape of Diverse Synapses In Vivo", Prof. Scott Soderling, Professor & Chair of Cell Biology, Professor of Neurobiology Scientific Director, Transgenic Shared Resource, Duke University.
- "Management of intracerebral hemorrhage what's new in 2019", Prof. Charlotte Cordonnier, MD, PhD, Prof. of Neurology at the Lille University and Head of the department of Neurology & Stroke Centre of the Lille University Hospital (France).
- "Assessing vascular and ventricular function in cardiovascular research. New tools provide new insight", Dr. Javier Bermejo, Head Noninvasive Cardiology and Cardiovascular Imaging. Department of Cardiology, Hospital Universitario Gregorio Marañón.
- "Elastin modification during vascular aging and pathophysiological consequences", Prof. Laurent Duca, University of Reims Champagne-Ardenne.

Other outreach activities in which our investigators have participated during 2019 include:

- Cycle Dilluns de ciència: CSIC Residència d'investigadors, Centres CERCA, Obra Social "La Caixa"
- Programa Nit de la Recerca 2019 (Cosmo Caixa), 27 September 2019
- 13a Festa de la Ciència, 27 October 2019
- Visits of secondary, high school and training students within the ESCOLAB program



This year, we have reached an agreement with two civic centers in the area of influence of Sant Pau Research Institute (IR Sant Pau) to launch a series of scientific talks at their facilities, entitled: "Recerca i societat" (Research and Society).

We have also launched several fundraising and micro-sponsorship campaigns to support projects, such as the project that studies the relationship between cholesterol and thyroid cancer using the FECyt PRECIPITA platform.

In 2019, we have also opened our facilities to various groups and to the public.



You can find all the news and follow our activity on the web site and social networks:

- www.recercasantpau.cat
- twitter: @iibsantpau
- linkedin: IIB Sant Pau - Fundació Institut de Recerca Hospital de Sant Pau - Centre CERCA

Clinical Guidelines

Andréu Sánchez JL, Fernández Castro M, Del Campo Fontecha PD, Corominas H, Narváez García FJ, Gómez de Salazar JR, Rua-Figueroa Í, Abad Hernández MÁ, Álvarez Rivas MN, Montes JDP, Francisco Hernández FM, Gantes Pedraza MÁ, Greco Merino MG, Hernández MV, Navarro Compán MV, Solarte JAP, Romero Bueno FI, Park HS, Sivera Mascaró F. SER recommendations on the use of biological drugs in primary Sjögren's syndrome *Reumatol Clin*. 2019 *Reumatol Clin*. 2019 Nov-Dec;15(6):315-326. doi: 10.1016/j.reuma.2018.10.014. Epub. 2019 Jan 23. Doi: 10.1016/j.reuma.2018.10.014. PMID: 30683506

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Scientific Research Support and Technical Services



Coordinator:

Rosa M. Antonijoan
rantonijoana@santpau.cat

Staff:

M. Rosa Ballester
Judith Claramunt
Susana Clos
Jimena Coimbra
Sonia Coma
M. Ángeles Funes
Consuelo García
M. Teresa Garrido
Ignasi Gich
Sandra Giménez
Ana Gomis
David Martínez
Joan Martínez
Maribel Martínez
Pura Martínez
Esteve Mercader
Pol Molina
Sara Mora
Montserrat Puntès

Centre for Drug Research (CIM Sant Pau)

Functions:

Perform clinical drug trials and/or clinical research in compliance with methodological, ethical and legal requirements in the context of international GCP guidelines.

- > Clinical trials that are not of therapeutic interest for participants (phase I, special populations, psychopathological research, biomarkers, proof of concept).
- > Clinical trials in neuropsychopharmacology.
- > Clinical trials in initial developmental phases.

Facilities:

Three separate work areas have been designated for the trials:

Healthcare:

- > Admission zone.
- > 24 beds distributed in 4 units: trials in healthy volunteers and patients.
- > 2 individual rooms for CNS studies.
- > Ambulatory zone.
- > 4 consulting rooms for complementary testing, mainly related to CNS.
- > 3 cubicles to evaluate psychomotor performance.

Logistical support:

- > Rest area for clinical trial participants with bathrooms and kitchen.
- > Areas for the preparation, centrifuging and separation of biological samples.
- > Cold room.
- > Archives.

Management, administration and data processing:

- > Offices.
- > Area for monitors.
- > IT equipment for clinical trial activities of a non-experimental nature.

**Manager:**

Rosa M. Antonijoan
rantonjoana@santpau.cat

Coordinator:

Montserrat Ruiz
MRuizB@santpau.cat

Staff:

Elisenda Brunet
M. Àngels Piera

Clinical Trial Documentation Management (AGDAC)

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.

**Coordinator:**

Rosa M. Antonijoan
rantonijoana@santpau.cat

Staff:

Claudia E. Delgado
Yaira Mathison
Enrique Peña
Edson Cedero

Clinical Research and Clinical Trials Unit (UICEC Sant Pau)

Functions:

This unit 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 ethical standards, best 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.

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), Ethics Committee for research with medicinal products (CEIm), Autonomous Communities (CCAA) and other relevant authorities.
 - Advice on project registration in public databases.
 - Identification of spin-off projects.
 - Advice on the presentation of research results.

Methodological and statistical support unit:

- > Advice on study design.
- > Data entry.
- > Data processing.
- > Development of statistical reports.
- > Electronic CRF validation and management.
- > Documentation and reports.

Documentation, archiving, monitoring and follow-up unit:

- > Support in document creation: EudraCT application form and annexes/other application forms/evaluation forms/monitoring reports.
- > Support in the processing of initial applications, clarifications and amendments: AEMPS, CEIm, other health authorities regarding clinical trials, and other post-authorization studies.
- > Comprehensive monitoring of clinical trials and observational studies.
- > Management of initial, follow-up and final reports.
- > Development and file custody promoter (Master File), file preparation investigator.
- > Other communications to CEIC, autonomous communities and competent authorities.

Unit of management and financial management:

- > Management of clinical trials contracts with participating centers.
- > Management of collaboration agreements with laboratories/companies for funding.
- > Management of clinical trial-related contracts (CRO's, E-CRDs, statistics, etc.).
- > Management of clinical trial-related client and supplier invoices.
- > Management of clinical trial insurance policies.
- > Preparation of financial reports for the submission of studies to ethics committees.
- > Management of payment of fees to the competent authorities.

**President:**

Antonio López Pousa
alopezp@santpau.cat

Vice-president:

Gerard Urrutia
GUrrutia@santpau.cat

Secretary:

Milagros Alonso
MALonsoMa@santpau.cat

Members:

Ester Amado
Josep Corbella
Francesc Jané
Xavier León
Dora Mejías
Indalecio Morán
Estela Moreno
Javier Pagonabarraga
Maria Teresa Ricart
Olegario Sotelo
Miguel A. Viciano

Ethics Committee for Research with Medicinal Products (CEIm)

The Ethics Committee for research with medicinal products (CEIm) of the HSCSP Healthcare Management Foundation is an independent body that, according to the laws that accredit it, has the mission of ensuring the protection of the rights, safety and welfare of the subjects involved in a research study

Its specific functions are:

- > Evaluate the methodological, ethical and legal aspects of:
 - Clinical trials with medicinal products and medical devices
 - Non interventional studies.
 - Pharmacogenetic and pharmacogenomic studies.
 - Studies evaluating surgical or psychological treatments.
 - Studies involving invasive procedures or the use of health data or biological samples.
- > Evaluate the relevant amendments in projects approved by the CEIm.
- > Conduct a follow-up of clinical trials with medicinal products and medical devices, as well as the other approved research studies.

and providing public assurance of that protection by reviewing the protocol, the suitability of the researchers, facilities, equipment and methods to be used in obtaining and documenting the informed consent of the subjects.

**Head of the Technical Office:**

Milagros Alonso
malonsoma@santpau.cat

Administrative Staff:

Robert Caballero
Marisol Mogollón
Albert Querol

CEIm Technical Office

The CEIm Technical Office is an independent agency whose mission is to protect the rights, safety and wellbeing of persons participating in HSCSP research projects that may entail physical or psychological harm. The CEIm Technical Office evaluates the methodological, ethical and legal aspects as well as any

Functions:

- > Receive, log and validate documentation for clinical research projects submitted to the committee for evaluation.
- > Arrange and call committee meetings, inform members of the agenda and provide them with copies of protocol summaries and patient informed consent and information sheets.
- > Prepare and submit reports to the committee containing a methodological, ethical and legal description and analysis (and any other relevant information) of the research projects listed in agendas.
- > Act as a reference point in communications with and between researchers, sponsors, medical administrators and managers and healthcare authorities regarding all aspects of the activities of the committee and of the research projects evaluated by the committee.
- > Prepare and sign the reports of the committee and communicate its decisions to the corresponding sponsors and researchers.
- > Prepare the minutes of meetings and distribute them to committee members within the established period.
- > Manage all documentation associated with the operations and activities of the committee and with the research projects evaluated by the committee.
- > Manage contracts for all clinical studies to be performed at HSCSP.
- > Certify the actions of the committee.
- > Prepare the annual report of the committee.
- > Ensure compliance with the SOPs of the committee.

other relevant information regarding all research projects listed in the minutes of the committee's meetings. It also advises researchers at HSCSP and the HSCSP Research Institute regarding the preparation and presentation of clinical research projects.

**Coordinator:**

Hilda Herrero
hherrero@santpau.cat

Staff:Management Control Unit

Lorena Bustamante, Ana Espallargas,
Soraya González, Sandra Parera,
Laura San Martín

Administrative-Financial Unit

Carles Caparrós, Núria García,
Gerard Marimón, Héctor Sánchez,
David Sanfeliu

Human Resources Unit

Rosa M. Garcia, Rafael Fernández

Research Institute Management

Functions:

- > Management of HSCSP Research Institute and IIB Sant Pau finances: 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, human resources, procurement, invoicing, control and monitoring of projects, general administration, management of services (courses, travel and continuing professional development).
- > Design, elaboration, development and maintenance of information systems for management area units, both for HSCSP Research Institute–IIB Sant Pau and research groups.

**Coordinator:**

Fabiola Fernández

Staff:

Eva José
Eva de la Vara
Meritxell Fernández
Amanda García
Marta Lorente

Research Institute Projects Unit

Functions:

- > Search of public and private funding, dissemination, assessment and review for the success of the application submission, send applications, register and monitoring until its resolution.
- > Registration of grant-funded projects, economic monitoring of both national and international projects and agreements, costs validation (concept/balance sheet), preparing annual and final reports, manage incidences, interlocutor with official entities.
- > Activity reports: scientific report, Board, Management Direction and others.
- > Internal and external audits from different financial entities.
- > Researchers: meetings for starting and managing projects.
- > Interaction with different transversal areas to implement the regulations of the calls.



Coordinator:
Montserrat Campmany
Mcampmany@santpau.cat

Staff:
Cati Pérez

Information Systems Unit

Functions:

- > Manage information of IIB Sant Pau research groups staff and some information of the clinical trials.
- > Support the IIB Sant Pau researchers in the use of the software of the IIB Sant Pau Intranet and elaborate proposals for its improvement based on the detection of new needs.
- > Work up monitoring indicators of IIB Sant Pau research for evaluation, according to specific requirements, and answer requests regarding IIB Sant Pau scientific activity.
- > Advise on bibliometrics, scientific publications and open access.



Coordinator:
Sílvia Ribas
sribas@santpau.cat

Staff:
Uxue Moreno

Legal Advice and Public Procurement Unit

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 preventive and resolute 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. Before this unit was created, both these tasks were outsourced.

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.



innovacio@santpau.cat

Coordinator:
Miriam Ors
mors@santpau.cat

Staff:
Lourdes Gaig
Natalia Ichaso
Beatriz Monsalve

Transfer and Innovation Unit

Functions:

- > Facilitate collaboration between institute's research groups and industry.
- > Support to public and private funding of technology development projects.
- > Support the submission of European projects.
- > Analysis of the business viability of technological projects.
- > Intellectual property protection.
- > Technology transfer.
- > Support the creation of spinoffs and startups.
- > Legal support for agreements with third parties.

Infrastructure, Scientific and Technical Services Platforms



Coordinator:
Jordi Virgili
jvirgili@santpau.cat

Staff:
Pau Escartín
Pescartin@santpau.cat

Functions:

- > Building management. Monitoring of maintenance and repair incidents.
- > Management of spaces and infrastructures to respond to the needs of groups and support units.
- > Evaluation of the use of spaces by research groups, platforms and support units.
- > Coordination of scientific platforms.
- > Coordination of the Quality Unit.
- > Coordination of the Biosafety Committee.



Staff:
Marta Mitjà
Mmitja@santpau.cat
Agostina Robledo
Arobledo@santpau.cat

Quality Unit

Functions:

- > Implement policies to improve quality under GLP, GCP, GMP, ISO 9001 and UNE 166002 standards.
- > Lead the quality assurance programme at CIM Sant Pau and in clinical trials where the HSCSP Research Institute acts as sponsor.
- > Oversee supplier audits.
- > Monitor non-conformity in internal and external audits.
- > Draw up own SOPs and provide support for SOPs preparation by other units.
- > Establish mechanisms to assess quality and best scientific practices in IIB Sant Pau.

Animal Experimentation Service



Animal Scientific Director and Coordinator

Laura Casaní
(Designated Veterinarian, Animal Health and Welfare Advisor)
lcasani@santpau.cat



estabulari@santpau.cat

Manager of the Animal Facility:

Sergi Florit (Animal Welfare Advisor)

Animal Technicians:

Fanny Cevallos

Ángel Juncosa

Lorena Masia

Jeanneth Saltos

The Animal Experimentation Service is the area dedicated to the housing and care of experimental animals, and to working with experimental procedures that use them.

The SEA has ISO 9001: 2015 certification and guarantees compliance with the legal and ethical laws relating 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), and 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 requires responsible use of experimental animals and the reproducibility of results. The use of animals of high genetic and health quality and their use, maintenance and wellbeing in appropriate facilities are essential to obtaining these results. The SEA provides its services to keep the animals in the right conditions and also to advise and give specialized support to the researchers in the performance and design of experimental procedures and techniques

The SEA consists of 2 separate buildings:

- > Conventional Facility, one floor area 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 rats and 2200 mice in SPF or Special Pathogen-Free conditions (individually ventilated cages in a positive-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, anesthesia equipment with sebu/isoflurane, surgery microscopes, etc. For the large animals, the SEA has multiparameter monitors, defibrillators, anesthesia equipment with sebo/isoflurane, mechanical ventilators, x-ray (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, etc.

The operating theaters can be used to teach microsurgery courses, experimental surgery, medical equipment presentations, etc.

- > The Biomodule-SPF is a barrier area of 30m² that can house up to 400 immunodeprived mice. The entrance to the installation is through an air shower for people or an SAS of peroxide for materials. Work with animals is under biosafety hood, it has a preclinical in vivo image system for fluorescence and/or bioluminescence (IVIS Spectrum) and inhalatory anesthesia equipment.



President:
Laura Casaní

Secretary:
Sergi Florit

Members:
Sandra Camino
José M. Guerra
Esther Jorge
Esther Peña
Cristina Rodríguez
Elisabet Sánchez
Gemma Vilahur

Ethics Committee for Animal Research

The Ethics Committee for Animal Research (ECAR) of HSCSP Research Institute 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 at the Animal Facilities of IRHSCSP without 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 verifying the suitability of the procedure in relation to the objectives of the study, the possibility of achieving 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 euthanasia methods are used.
- > Ensure that personnel involved in the procedure are 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.

Scientific and Technical Services Platforms



Coordinator and Biobank Scientific Director:
Elena Serrano
ESerrano@santpau.cat



Biobank

biobanc@santpau.cat

Technical Staff:

Iris Rodríguez
IRodriguezR@santpau.cat

Iván Samblas
ISamblas@santpau.cat

The Biobank is a core facility for coordinating the collection, processing, storage and transfer of human biological samples at the highest standard.

It is composed of three main sections:

- > Blood and fluids: samples of hematological neoplasias, respiratory, psychiatric and neurological diseases. Processing is performed in the biobank's BSL-2 laboratory.
- > Tumour bank: Tumoral and non-tumoral tissue samples from patients affected by a neoplasia.
- > Histopathology laboratory: tissue processing, paraffin and OCT-block preparation, block cutting (microtome and cryostat), automatic immunostaining, histological stainings, special stainings, FISH staining, tissue microarray, high-resolution slide scan.

Equipment:

- > BSL-2 II A cabinet, inverted microscope, TC automated cell counter, refrigerated centrifuge, refrigerated microfuge, computer system for managing samples and data, automated molecular extraction (Qiacube, Qiagen), controlled freezing ramp
- > Liquid nitrogen tanks, -20°C freezer, -80°C freezers with safety systems
- > Tissue processor VIP Jr (Sakura), paraffin tissue embedding console system (Sakura), microtome (Microm), cryostat (Leica), Automated Immunostaining System (DAKO AS 48), Semiautomatic tissue arrayer (Galileo), Digital slide scanner Panoramic Midi (3DHitech), microwave tissue processor (KOS), multiobserver microscope with fluorescent light illumination system (Olympus)

Grants:

- > ICO Agreement (Oncology Director Plan for members of the Catalan Network of Tumour Banks) € 15,000.

Cytomics Platform

citometria@santpau.cat

Technical Staff:

Marta Soler
msolerC@santpau.cat

> Flow Cytometry Laboratory

Equipment:

- > MACSQuant (Milteny Biotech) conventional flow cytometry.
- > FACSCalibur (BD) conventional flow cytometry.
- > FACSAria (BD) flow cytometry cell sorter.

Microscopy Platform

microscopia@santpau.cat

Technical Staff:

Joan Repullés
JRepulles@santpau.cat

Equipment:

- > Confocal multispectral Leica SP5 AOBS with high-resolution scanning system and high-speed tandem scanning, FLIM/FCS modules and time-lapse incubation system.
- > Zeiss digital time-lapse epifluorescence microscope.

Genomics and Transcriptomics Platform

sequenciacio_ir@santpau.cat
transcriptomica@santpau.cat

Technical Staff:

Sandra Camino
SCamino@santpau.cat

Equipment:

- > Affymetrix array platform (upgrade 7G).
- > 7900HT Real time quantitative PCR (Applied Biosystems)
- > Ion Torrent S5 sequencer, Ion OneTouch™ System
- > 3130xl Genetic Analyzer capillary electrophoresis sequencer
- > Bioanalyzer 2100, Nanodrop 2000

Equipment for General Use:

- > Precision weighing scales (Sartorius).
- > Infinite 200 (Tecan) microplate reader: spectrophotometer, fluorometer, luminometer.

Bioinformatics Platform

Technical Staff:

Elena Serrano
ESerrano@santpau.cat

Equipment:

- > DELL Precision T3610 workstation
- > SIE (centOS) server
- > Dell Precision T7500 (Ubuntu) server

Functions:

- > The Bioinformatics Platform provides users with services of planning high-throughput genomic and transcriptomic experiments, data processing and analysis.

Clean Room Platform

Technical Staff:

Matilde Parreño
MParreno@santpau.cat

Equipment:

- > BSL-2 cabinets, inverted microscope, TC automated cell counter, refrigerated centrifuge, microfuge, hypoxia incubators, fridge and -20 °C combi.

Functions:

- > Development of GMP drugs for patient treatment under clinical assays.

Transversal Services Platforms



Coordinator:
Javier Crespo
jcrespo@santpau.cat



Common Spaces Management

pst@santpau.cat

Technical Staff:

Margarita Domingo
mdomingog@santpau.cat

The aim of the 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 provides 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.

Functions:

- > To ensure that the equipment in common spaces is clean and in good condition (calibration/verification/maintenance).
- > Regulation of the entry and exit of equipment into and out of the IR building.
- > To authorize access to shared areas and ensure compliance with regulations in the common spaces.

Equipment:

- > The common areas of the IR are equipped with all types of material and facilities to provide researchers of the center with the best experience when performing their work.

Cell Culture Service

Serv_cultius_ir@santpau.cat

Technical Staff:

Estefania Segalés
esegales@santpau.cat

Currently, in vitro cell techniques are a fundamental tool for the research lines developed by a wide array of scientific groups. The IR Cell Culture Service offers a suitable infrastructure for the realization of cell cultures, primary cultures and cell lines at different biosafety levels (BSL2 or BSL3), as well as bacterial cultures in biosafety level I, certified to ISO 9001:2015.

Functions:

In order to ensure proper operation and attention to investigators, the service includes:

- > Quarantine for new cultures
- > Sterilization of solid and liquid material
- > Removal and management of waste
- > Detection of mycoplasma in samples
- > Control of surface contamination
- > Maintenance of water baths and incubators, supervised cleaning procedures and control of personnel access

Facilities:

The service is structured in several experimental areas that are in separate locations, with an approximate extension of 400m². There are two BSL2 areas and one BSL3 area for eukaryotic cell cultures, where we can find biosafety cabins, cabins for working with cytostatic products, CO₂ incubators, hypoxystations, thermostatic baths, inverted microscopes, fluorescence microscopes with image capture systems, a particle counter (Coulter MSIII), automatic pipettors, refrigerators and freezers. In one of the BSL2 areas there is a room with a cabin prepared for working with radioactive sources. A BSL1 room is available for bacterial cultures. There are also rooms for washing and autoclaving material within the same areas or adjacent areas.

Radioactivity Unit

pst@santpau.cat

Coordinator:

Montserrat Ribas
mribas@santpau.cat

Supervisor in charge:

Javi 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.
- > This area has been authorized by the nuclear safety authority and its staff supervise compliance with the corresponding laws, guidelines and regulations.

Facilities:

The Radioactivity Unit has the following facilities:

- > 1 room for radioactive material storage.
- > 7 equipped laboratories.
- > 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.

> 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.
- Metabolism in vitro and in vivo.

- > 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.
- > 1 chemical safety cabinet for gas extraction.
- > 2 vertical laminar air flow cabinets for cell cultures.
- > 2 CO₂ incubators for cell cultures.

Areas of Research

48



Area 1
Cardiovascular Diseases

86



Area 2
Genetic, Metabolic and
Inflammatory Diseases

134



Area 3
Haematological and
Oncological Diseases

156



Area 4
Neurological,
Mental Disorders and Ageing

204



Area 5
Uronephrology
and Experimental Surgery

228



Area T1

Epidemiology, Public Health
and Healthcare Services

254



Area T2

Molecular, Genomic, Cellular
and Kinetic-Dynamic Bases for
Diseases and their Treatment


266



Associated Groups

AREA 1

Cardiovascular Disease

- 
- 50 Clinical and Translational Cardiology
 - 58 Thrombosis and Haemostasis
 - 62 Cardiovascular Biochemistry
 - 65 Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases
 - 71 Biomarkers for Cardiovascular Disease
 - 74 Regulation of Cardiac Rhythm and Contraction
 - 76 Lipids and Cardiovascular Pathology
 - 79 Genomics of Complex Diseases
 - 83 Regulatory Mechanisms of Cardiovascular Remodelling

eases



AREA 1 · Cardiovascular Diseases

Clinical and Translational Cardiology



Coordinator

Guerra Ramos, José M. (FGS)
jguerra@santpau.cat

Members

Alonso Martín, Concepción (FGS)
Álvarez García, Jesús (FGS)
Amorós Figueras, Gerard (CIBERCV)
Anglí Ferrándiz, Laia (IR)
Arzamendi Aizpurua, Dabit (FGS)
Barros Membrilla, Antonio José (FGS)

Bos Real, Lydia (CIBERCV)
Carreras Costa, Francesc (FGS)
Casabella Ramón, Sergi (IR)
Cinca Cuscullola, Juan (UAB)
Fernández Martínez, Ana (IR)
Ferrero Gregori, Andreu (CIBERCV)
García-Moll Marimon, Xavier (FGS)
Ibáñez Carne, Yaiza (IR)
Jiménez Sábado, Verónica (CIBERCV)
Jorge Vizueté, Esther (IR)

Martínez de Lejarza Samper, Ignacio M. (CIBERCV)
Mirabet Pérez, Sonia (FGS)
Moustafa, Abdel Hakim (FGS)
Prunell Castañé, Anna (CIBERCV)
Rivas Lasarte, Mercedes (IR)
Roig Minguell, Eulàlia (FGS)
Serra Peñaranda, Antoni (FGS)
Vilades Medel, David (FGS)
Viñolas Prat, Xavier (FGS)

Main Lines of Research

- ▶ Electrophysiology and arrhythmias, clinical and experimental.
- ▶ Heart failure.
- ▶ Ischemic heart disease.
- ▶ Valvular heart disease.
- ▶ Cardiac imaging.
- ▶ Percutaneous valve repair.
- ▶ Bioengineering.

Scientific Challenges

Electrophysiology

- ▶ New experimental models of atrial fibrosis.
- ▶ Describe 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, which predict death and rehospitalization.
- ▶ Research on new biomarkers in patients with heart dilatation and heart failure (including the Spanish registry Redinscor II [RIC] [1500 patients] and Redinscor 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

Collaborations with other IIB Sant Pau Groups

- ▶ Vicenta Llorente Cortés - Lipids and Cardiovascular Pathology.
- ▶ Leif Hove Madsen - Regulation of Cardiac Rhythm and Contraction.
- ▶ Lina Badimon Maestro - Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases.
- ▶ Jordi Ordóñez Llanos - Cardiovascular Biochemistry. IP: Francisco Blanco Vaca.
- ▶ María Poca Sans - Digestive Diseases. IP: Carlos Guarner Aguilar.
- ▶ Jordi Surrallés Calonge - Genome Instability and DNA Repair Syndromes.
- ▶ Enric Álvarez Martínez- Clinical Psychiatry. IP: María Jesús Portella Moll.
- ▶ Antoni Capdevila - Radiodiagnostics HSCSP.
- ▶ Rafael Serra - Anaesthesiology HSCSP.

External Collaborations

CB16/11/00276 - CIBER Enfermedades Cardiovasculares (CIBERCV), Registro Redinscor III

- ▶ Lisardo Boscá Gomar. Instituto de Investigaciones Biomédicas Alberto Sols (Madrid)
- ▶ Juan F. Delgado Jiménez. Hospital 12 de Octubre (Madrid)
- ▶ Javier Díez Martínez. Centro de Investigación Médica Aplicada de Navarra
- ▶ José Ramón González-Juanatey. Hospital Clínico de Santiago de Compostela
- ▶ Julián Pérez Villacastín. Hospital Clínico San Carlos (Madrid)
- ▶ Luis Martínez Dolz. Hospital La Fe (Valencia)
- ▶ Antoni Bayés Genís. Hospital Germans Trias i Pujol de Badalona
- ▶ Pablo García Pavía. Hospital Puerta de Hierro (Madrid)
- ▶ Manuel Martínez Sellés. Hospital Gregorio Marañón (Madrid)
- ▶ Julio Nuñez Villota. Hospital Clínico de Valencia
- ▶ Domingo Pascual Figal. Hospital Virgen de la Arrixaca (Murcia)
- ▶ Alfredo Bardají Ruiz. Hospital Universitari Joan XXIII (Tarragona)
- ▶ Fernando Worner Diz. Hospital Universitari Arnau de Vilanova (Lleida)
- ▶ Antonio Ordoñez Fernández. Hospital Virgen del Rocío (Sevilla)
- ▶ Pedro Luis Sánchez Fernández. Hospital Universitario de Salamanca
- ▶ María Generosa Crespo Leiro. Hospital Universitario de A Coruña

ELEM Biotech

- ▶ Blanca Rodríguez. University of Oxford (United Kingdom)
- ▶ David Filgueiras Rama. Centro Nacional de Investigaciones Cardiovasculares, CNIC - ISCIII (Madrid)
- ▶ Cristóbal Langdon. Hospital Clínic i Provincial de Barcelona
- ▶ Paul Iazzo. University of Minnesota (USA)
- ▶ Òscar Camara. Universitat Pompeu Fabra, Barcelona

CompBioMed Project

- ▶ Paul Best. CBK SciCon, Somerset (United Kingdom)
- ▶ Philippe Bijlenga. Geneva University Hospitals (Switzerland)
- ▶ Mike Bodkin. EvoTec, Hamburg (Germany)
- ▶ Brendan Bouffler. Amazon AWS, Seattle (USA)
- ▶ Enrico Gianluca Caiani. Politecnico di Milano (Italy)
- ▶ David Filgueiras. Centro Nacional de Investigaciones Cardiovasculares Carlos III (CNIC)
- ▶ Malcolm Finlay. NHS and UCL, London (United Kingdom)
- ▶ Neil Chue Hong. Software Sustainability Institute, Edinburgh (United Kingdom)
- ▶ Mahmood Mirza. Neuravi Ireland
- ▶ Ana Paula Narata. Tours Hospital (France)
- ▶ Mark Palmer. Medtronic
- ▶ Frits Prinzen. Maastricht University (Netherlands)
- ▶ Brad Sherborne. MERCK, US
- ▶ Sarah Skerratt. Vertex Pharmaceuticals, Stanford University, Oxford (United Kingdom)
- ▶ Derek Sweeney. CadFem Ireland
- ▶ Kenji Takeda. Microsoft Azure

TEAM

- ▶ Eulogio García. Hospital Clínico San Carlos (Madrid)
- ▶ 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 Cardíaco

- ▶ 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
- ▶ Hospital Clínic i Provincial de Barcelona
- ▶ Hospital Universitario Virgen de la Arrixaca (Murcia)
- ▶ Hospital Universitario Miguel Servet (Zaragoza)
- ▶ Hospital Clínico Universitario de Valladolid

RETAC Group - European Network for the Treatment of Arrhythmias in Cardiology

- ▶ Philippe Lagrange. Clinique Saint Pierre, Perpignan (France)
- ▶ Benoît Guy-Moyat. Hospital Universitaire de Limoges (France)
- ▶ Franck Halimi. C.M.C. Parly II, Le Chesnay (France)
- ▶ Luc de Roy. Clinique Universitaire de Saint Godinne (Yvoir-Belgium)
- ▶ Serge Boveda. Clinique Pasteur (Toulouse-France)
- ▶ Julio Martí. Hospital del Mar (Barcelona)
- ▶ 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

Other collaborators

- ▶ Xavier Rosell. Departament d'Enginyeria Electrònica, Universitat Politècnica de Catalunya – UPC (Barcelona)
- ▶ Ana García Álvarez. Hospital Clínic i Provincial de Barcelona
- ▶ Valentí Fuster Carulla. Centro Nacional de Investigaciones Cardiovasculares Carlos III – CNIC (Madrid)
- ▶ Borja Ibáñez. Laboratorio Traslacional Imagen y Terapia Cardiovascular, CNIC - ISCIII (Madrid)
- ▶ Deborah Gil. Barcelona Supercomputing Center (Centro Nacional de Supercomputación-CVC, UAB Barcelona)
- ▶ Reda Ibrahim. Montreal Heart Institute Adult Congenital Heart Center, Montreal (Canada)
- ▶ Luca Gerardo-Giorda. Johannes Kepler University, Linz (Austria)

Active Grants

- ▶ Juan María Cinca Cuscullola. A novel myocardial impedance mapping system for ablation of post-infarction ventricular arrhythmias in humans: A translational development. MARATO 20150830. Fundació La Marató de TV3. Duration: 2016-2019. 160,000 €.
- ▶ Maria Eulàlia Roig Minguell. Adrenergic agonist Treatment in Patients with Chronic Heart Failure and Secondary Pulmonary Hypertension: a Randomized Placebo-Controlled Phase 2 Clinical Trial. MARATO 20151732. Fundació La Marató de TV3. Duration: 2016-2020. 119,500 €.
- ▶ Mercedes Rivas Lasarte. Contratos de formación en investigación "Río Hortega" 2017. CM17/00028. Instituto de Salud Carlos III. Duration: 2018-2019. 53,732 €.
- ▶ Juan María Cinca Cuscullola. Desarrollo de un modelo preclínico para la caracterización electrofisiológica y estructural del infarto de miocardio auricular. PI17/00069. Instituto de Salud Carlos III. Duration: 2018-2020. 66,000 €.
- ▶ José María Guerra Ramos. Caracterización Genética del Síndrome del QT Largo Asociado a Fármacos. PI17/00980. Instituto de Salud Carlos III. Duration: 2018-2020. 122.000 €.
- ▶ Juan María Cinca Cuscullola. Grup de Recerca Clínica i Translacional en Cardiologia - RCTCAR. 2017 SGR 984. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020. 35,185.92 €.
- ▶ Mercedes Rivas Lasarte. Estancia en la unidad de insuficiencia cardiaca avanzada y trasplante cardiaco del Montefiore Medical Center. MV18/00011. Instituto de Salud Carlos III. Duration: 2019. 14,720 €.
- ▶ David Vilades Medel. Correlació de la reserva fraccional de fluxe coronari (FFR) per TC cardíac i per cateterisme cardíac amb guia de pressió. SCC 2018. Societat Catalana de Cardiologia. Duration: 2018-2019. 9,090.91 €.
- ▶ Maria Vidal Burdeus. Impacto de los vasodilatadores endovenosos en la microcirculación sublingual durante el shock cardiogénico. SEC 2018. Sociedad Española de Cardiología. Duration: 2018-2019. 22,500 €.
- ▶ José María Guerra Ramos. Centro de Investigación Biomédica en Red de Enfermedades Cardiovasculares (CIBERCV). CB16/11/00276. Ministerio de Economía y Competitividad. Duration: 2017-2020. 211,373.89 €.
- ▶ Xavier Viñolas. Arrhythmias monitoring and comprehensive care. H2020-SCI-2016-CNET: RITMOCORE - Horizon 2020. European Commission. Agència de Qualitat i Avaluació Sanitàries (AQuAS) – Hospital de la Santa Creu i Sant Pau. Duration: 2016-2020. 903,875 €.
- ▶ Xavier Viñolas. Proyecto STOP&GO (Sustainable Technologies for Older People – Get Organised). European Commission. Duration: 2015-2020.
- ▶ Juan María Cinca Cuscullola. Biosense Webster. Collaboration Agreement. Duration: 2018-2021. 32,210 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Jesús Álvarez García. Daniel Bravo Private Foundation Grant. Sinai Heart - Advanced Heart Failure Department. Fundación Privada Daniel Bravo. Duration: 2019-2020. 3,000 €/month.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

SEC 2019, Barcelona 18th October 2019

- ▶ C. Alonso, E. Rodríguez, J. Guerra, B. Campos, F. J. Méndez, H.T. Espinosa, J. G. Maldonado, A. El Amrani, O. Alcalde y X. Viñolas. "Del mapeo de alta densidad al mapeo de baja densidad para la ablación de arritmias auriculares complejas". Premio Sección Electrofisiología y Arritmias – Best communication
- ▶ G. Loughlin, T. Datino-Romaniega, A. Arenal, R. Ruiz-Granell, JM. Sanchez-Gómez, L. Pérez, J. Martínez-Ferrer, J. Alzueta, F. Perez-Lorente, X. Viñolas, M. Fidalgo y J. Fernández de la Concha. "Impacto de la adopción de programación basada en la evidencia en la incidencia de terapias del desfibrilador automático implantable". Premio Sección Estimulación Cardíaca - Best communication

- ▶ J. C. Sánchez, A. Ariza, V. Burgos, A. Sionis, E. López, Héctor Bueno, J. L. Bernal, F. Worner, M. Martínez, V. Lorente, O. Alegre, A. Cequier, C. Fernández, J. Segovia y F. J. Elola. "Impacto del tipo de hospital tratante en el pronóstico y el manejo del shock cardiogénico en España". 1er Premio Mejores Comunicaciones Congreso Enfermedades Cardiovasculares.

Premio Mejores Ideas Diario Médico 2019

- ▶ 3D Printing Platform. 29/11/2019.

Doctoral Theses

- ▶ Miquel Vives Borràs, Caracterización clínica, electrocardiográfica y del pronóstico del infarto agudo de miocardio secundario a oclusión de la arteria coronaria circunfleja. Universitat Autònoma de Barcelona (UAB). Director: Juan M. Cinca. Date of defense: 22/11/2019.
- ▶ Mercedes Rivas Lasarte, Aplicación de la ecografía pulmonar a la valoración clínica de los pacientes con insuficiencia cardíaca. Universitat Autònoma de Barcelona (UAB). Directors: Juan M. Cinca, Eulàlia Roig. Date of defense: 25/11/2019.

Patents

- ▶ Xavier Rosell Ferrer, Juan Cinca Cuscullola, Ramón Bragós Bardia, Gerard Amorós Figueras, Esther Jorge Vizuete; Tomás García Sánchez, Benjamín Sánchez Terrones. Universitat Politècnica de Catalunya - Institut de Recerca Hospital de la Santa Creu i Sant Pau. Systems and Methods to assess infarcted myocardial tissue by measuring electrical impedance during the cardiac cycle. PCT/EP2016/056933, National Phase: EEUU, 18/04/2019.

Transfer Products

- ▶ 3D Printing Platform. Technique - Sanitary procedure. Cardiology, Cardiac Surgery and Vascular Surgery Services. IP: José María Guerra. 2019

Scientific Production

Total Impact Factor: 585.674 · Mean Impact Factor: 7.1423

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Other Publications

▶ Delgado JF, Ferrero Gregori A, Fernández LM, Claret RB, Sepúlveda AG, Fernández-Avilés F, González-Juanatey JR, García RV, Otero MR, Segovia Cubero J, Pascual Figal D, Crespo-Leiro MG, Alvarez-García J, Cinca J, Ynsaauriaga FA. Patient-Associated Predictors of 15- and

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Diffusion Activities

Dissemination activities to society

- ▶ 3D Printing Platform, interview and press releases:
 - Forbes - 06/03/2019: "Barcelona Startup creates 3D models of disease hearts using high-performance cloud computing". Jose Guerra.
 - Redacción Médica - 31/10/2019: "El Hospital de Sant Pau empieza a imprimir corazones en 3D"; *Diario Médico* - 28/11/2019: *Mejores ideas 2019*. "Impresión en 3D para la asistencia cardíaca"; *La Razón* - 01/11/2019: "Sant Pau imprime corazones en 3D y logra abordar cirugías complejas con éxito"; *ABC.es* - 31/10/2019: "Plataforma de impresión 3D permitirá investigar y tratar problemas cardíacos".
- ▶ Apple Watch and ECG, press release. J. Guerra: *La Vanguardia* - 28/03/2019: "El Apple Watch ya puede hacer electrocardiogramas"; *El Confidencial* - 29/03/2019: "El Apple Watch ya hace electros: un placebo para hipocondríacos pero con mucho peligro"; *Redacción Médica* - 19/03/2019: "Un reloj inteligente no va a sustituir nunca a un estudio Holter".
- ▶ Press article: "Fibrilación Ventricular". *Gente Saludable*. Jose Guerra. Nov 2019.
- ▶ Seminar: Arritmias y muerte súbita en el siglo XXI - Cicle Dilluns de Ciència. Residència d'Investigadors Barcelona. Jose Guerra. 9 Dec 2019.

Scientific dissemination activities

Congresses

- ▶ ESC Congress 2019 - Paris, 31 Aug - 4 Sept 2019
 - From trials to clinical use: transcatheter interventions in secondary mitral regurgitation. Chairperson: D. Arzamedi
 - Assessment and management of patients with myocardial infarction and shock. Chairperson: A. Sionis
 - The European Exam on General Cardiology: what it is and how to prepare for it. Speaker: A. Sionis
- ▶ Heart Failure 2019 - Athens, 25-28 May 2019:
 - Lung Ultrasound Guided Treatment in Ambulatory Patients with Heart Failure: a Randomized Controlled Clinical Trial (LUS-HF study). Speaker: M. Rivas
- ▶ EHRA 2019 Congress - Lisbon, 17-19 March 2019:
 - Difficult tracings with interactive discussion. Educative session by RETAC group. Chairperson: X. Viñolas
 - Broad QRS tachycardias - Part 2. Speaker: J. Guerra

- Indications for atrial fibrillation ablation in difficult scenarios. Chairperson: J. Guerra
- ▶ EHRA Summit 2019 - European Heart Rhythm Association - Krakow, Poland, 13-14 June 2019:
 - EHRA bulk membership - Will it help increase membership & engagement in my country? Speaker: J. Guerra
- ▶ Acute Cardiovascular Care 2019 - Málaga, 1-4 March 2019:
 - Novel drugs: any light at the end of the tunnel? Speaker: A. Sionis
 - Acute mitral regurgitation (from non-reperfused MI). Speaker: A. Sionis
 - Young Investigators Award. Chairperson: A. Sionis
 - Preparatory Session of ACCA Certification Exam 2019. Chairperson: A. Sionis
 - Mechanical ventilation is better - PRO. A. Sionis
- ▶ New horizons in Heart Failure 2019 - Sevilla, 21-22 June 2019:
 - Individualizing cardiac resynchronization therapy. Chairperson: J. Guerra
- ▶ EuroElso 2019 - Barcelona, 10-13 April 2019:
 - Bedside monitoring: The clinical key parameters in VA ECMO. Speaker: A. Sionis
 - Cardiogenic shock after acute myocardial infarction. Chairperson: A. Sionis
 - ECMO for graft dysfunction after heart transplant. Speaker: A. Sionis
- ▶ CARBIOyTEC 2019 - Valencia, 6 May 2019:
 - Avances en las técnicas de ablación de la fibrilación auricular. Speaker: J. Guerra
- ▶ LAHSR 2019 - Mexico, 26-27 Sept 2019:
 - LAHSR/SOMECC/Spanish Society of Cardiology Joint Session. Identifying the patient in high-risk for SCD. Chairperson: J. Guerra
 - Risk Prediction Models in Hypertrophic Cardiomyopathy: Strengths and Weakness. Speaker: J. Guerra
- ▶ 20es Journées de Rythmologie 2019 - Avignon, 25-27 sept 2019:
 - Session EHRA - Prise en charge des arythmies en Europe: présent et avenir. In basic science networks. Speaker: J. Guerra
- ▶ RITMO 2019 - Barcelona, 6-8 March 2019:
 - Sesión Marcapasos Sin Cables - Ponencia: Selección de pacientes: ¿quienes obtendrían un mayor beneficio?. Speaker: X. Viñolas

► Congress of the SEC 2019 – Barcelona, 17-19 Oct 2019:

- Quiz: Los retos del ECG y la imagen en cardiología en nuestra práctica clínica: ¿cuánto crees que sabes? Directors: José M. Guerra Ramos; Teresa López Fernández.
- Symposium: Detección de pacientes en riesgo de muerte súbita tras un infarto de miocardio: Utilidad de los biomarcadores biológicos. Concepción Alonso Martín.
- Symposium: Decisiones difíciles en el anciano con arritmias: Anciano con indicación de marcapasos definitivo. ¿Marcapasos convencional o micra?. Xavier Viñolas Prat
- Oral communications: Del mapeo de alta densidad al mapeo de baja densidad para la ablación de arritmias auriculares complejas. Concepción Alonso Martín, Enrique Rodríguez Font, José M. Guerra Ramos, Bieito Campos García, Francisco Javier Mendez Zurita, Hildemari Trini Espinosa Viamonte, Jenson Gerardo Maldonado Chávez, Amin El Amrani, Óscar Alcalde Rodríguez and Xavier Viñolas Prat.

Posters sessions

- G Amorós-Figueras, E Roselló-Díez, D Sánchez-Quintana, S Casabella-Ramon, E Jorge, J Nevado-Medina, D Arzamendi, X Millán, C Alonso-Martín, J M Guerra, J Cinca. Electrophysiological and structural characterization of acute atrial myocardial infarction. *European Heart Journal*, Volume 40, Issue Supplement 1. ESC Congress 2019. Paris, 31 Aug - 4 Sept 2019
- J M Guerra Ramos, G Vilahur, A Bayés de Luna, L Casani, JA Cabre- ra, M Martínez-Selles, G Mendieta, A Baranchuk, L Badimon, D Sánchez-Quintana. Experimental model of interatrial block by Bachmann bundle conduction block. *European Heart Journal*, Volume 40, Issue Supplement 1. ESC Congress 2019. Paris, 31 Aug - 4 Sept 2019
- A Petras, M Echeverría Ferrero, M Leoni, J M Guerra, J Jansson, L Gerardo-Giorda. Stay on the safe side: insilico assessment of ablation protocols to prevent steam pops during radiofrequency ablation. *European Heart Journal*, Volume 40, Issue Supplement 1. ESC Congress 2019. Paris, 31 Aug - 4 Sept 2019
- V Jiménez-Sábado, T Lu, S Casabella, C Tarifa, A Herraiz-Martínez, H Colino, A Llach, A Ginel, J Cinca, L Hove-Madsen. Carvedilol treatment diminishes spontaneous calcium release and electrical activity in human atrial myocytes. *European Heart Journal*, Volume 40, Issue Supplement 1. ESC Congress 2019. Paris, 31 Aug - 4 Sept 2019
- F Méndez Zurita, I Ramírez de Diego, H Espinosa Viamonte, E Rodríguez Font, B Campos García, C Alonso Martín, J Guerra Ramos, A Elamrani Rami, J Maldonado Chávez, E Paz Jaén, A Velasco Nieves, M Grande Osorio, M Bote Collazo, X Viñolas Prat. Evaluation of remote monitoring in patients with leadless pacemakers. *European Heart Journal*, Volume 40, Issue Supplement 1. ESC Congress 2019. Paris, 31 Aug - 4 Sept 2019
- S Briongos Figuero, A Estévez, M L Pérez, J B Martínez-Ferrer, E García, X Viñolas, A Arenal, J B Alzueta, N Basterra, I Lozano, R Muñoz-Aguilera. Prognostic value of NYHA functional class in heart failure patients undergoing primary prevention implantable cardioverter defibrillator therapy. *European Heart Journal*, Volume 40, Issue Supplement 1, October 2019

Press releases

- Jorge E, Solé-González E, Amorós-Figueras G, Arzamendi D, Guerra JM, Millán X, Vives-Borrás M, Cinca J. Influence of Left Bundle Branch Block on the Electrocardiographic Changes Induced by Acute Coronary Artery Occlusion of Distinct Location and Duration. *Front Physiol*. 2019 Feb 12;10:82:
 - Web CIBERCV, 03/04/2019: "Influencia de la localización y duración de la isquemia miocárdica aguda en el ECG de pacientes con BRIHH". Juan Cinca
- Mercedes Rivas-Lasarte, Jesús Álvarez-García, Juan Fernández-Martínez, Alba Maestro, Laura López-López, Eduard Solé-González, Maria J. Pirla, Nuria Mesado, Sonia Mirabet, Paula Fluvià, Vicens Brossa, Alessandro Sionis, Eulàlia Roig and Juan Cinca Lung ultrasound-guided treatment in ambulatory patients with heart failure: a randomized controlled clinical trial (LUS-HF study). *Eur J Heart Fail*. 2019 Dec; 21(12):1605-1613:
 - Web Hospital Sant Pau, 12/12/2019: "Sant Pau publica al European Journal of Heart Failure".
 - Web CIBERCV: "La ecografía pulmonar, clave para prevenir futuras complicaciones en pacientes con insuficiencia cardíaca aguda".

Courses

- Máster en Técnicas Avanzadas de Diagnóstico por Imagen en Cardiología (9a edición). Universitat Autònoma de Barcelona - Hospital Santa Creu i Sant Pau, Barcelona Oct 2019 - Jun 2020. Coordinators: Juan Cinca - Francesc Carreras.
- RETAC 2019 - Annual Workshop. Hospital de la Santa Creu i Sant Pau, Barcelona 31 Jan – 1 Feb 2019. Coordinator: Xavier Viñolas.
- Jornada formativa ACOs 2019. Hospital de la Santa Creu i Sant Pau, Barcelona 11 April 2019. Coordinator: Xavier Viñolas.
- Avances en Cardio-Metabolismo – Workshop. Hospital de la Santa Creu i Sant Pau, Barcelona 25 Jan 2019. Coordinators: Alessandro Sionis, Francisco Blanco Vaca, Jordi Ordóñez Llanos, Antonio Pérez Pérez.
- XXXIII Jornada de Pruebas de Esfuerzo y Función Cardiorespiratoria. Hospital Santa Creu i Sant Pau, Barcelona 31 May 2019. Coord: Servicio Cardiología.
- Webinar ESC 2019 - Uncommon causes of myocardial infarction. Niza 27 May 2019. Alessandro Sionis.
- ECARDIO 2019 - Congreso Virtual de la Sociedad Española de Cardiología. Madrid 21 Feb 2019. Jose Guerra.

Thrombosis and Haemostasis



Coordinator

Souto Andrés, Joan Carles (FGS)
jsouto@santpau.cat

Members

Acosta Isaac, Francisco René (IR)
Arús Avilés, Marc (IR)
Carrasco Expósito, Marina (FGS)
Jiménez Peinado, Blanca (FGS)
Llobet Lorente, Maria Dolors (FGS)
Martínez Pérez, Víctor (IR)
Mateo Arranz, Jose (FGS)
Millon Caño, Juan Antonio (FGS)

Pujol Moix, Núria (IR-external)
Romero Román, Lidia (FGS)
Stone, William Harold (IR-external)
Tirado García, Isabel (FGS)
Vallvé Fornieles, Cristina (FGS)
Vilalta Setó, Noelia (FGS)

Main Lines of Research

- ▶ Investigation of the genetic basis of venous and arterial thrombosis. GAIT-1 and GAIT-2 projects.
- ▶ Research on the involvement of platelet adhesiveness and related phenotypes, and their genetic determinants in venous thrombosis risk. RETROVE3 Project.
- ▶ Investigation of new antithrombotic drugs: thrombin inhibitors, molecules against activated factor X, low molecular weight heparin with oral activity, among others. MACACOD Registry.
- ▶ Biomarkers of prothrombotic states in patients under 55 years with venous thromboembolic disease, acute ischemic stroke, or acute myocardial infarction. VEREMA project.
- ▶ Applied clinical development of the self-management model of oral anticoagulant treatment. ORION project. Retrospective analysis of clinical outcomes from patient self-management of anti-vitamin-K treatment at the Hospital de Sant Pau. NCT3532724.
- ▶ Mathematical models of prediction of the individual risk of thromboembolic disease in the general population (RETROVE Project) and in cancer patients (MIRTO Project).
- ▶ CITA project. Centre for Antithrombotic Therapy Management. Research into a new ambulatory management model for patients receiving any kind of antithrombotic therapy (anti-vitamin-K, new oral anticoagulants, low molecular weight heparins, antiplatelets) by incorporating new educational programmes, specialized nursing and new communication technologies.
- ▶ CARAVAGGIO Clinical trial. Apixaban for the treatment of venous thromboembolism in patients with cancer: a prospective randomized open blinded end-point (probe) study - The caravaggio study. Promotor: Fondazione FADOL (Italian Federation of Hospital Internists). Via F. Grossi Gondi, 49. Rome, Italy. PI Coordinator: Giancarlo Agnelli, University of Perugia. Perugia. Italy N° EudraCT: 2016-003093-40.
- ▶ Registry GARFIELD-VTE (Global Anticoagulant Registry in the FIELD). Promotor: The Thrombosis Research Institute, London. PI Coordinator Prof Ajay K. Kakkar. Code TRI08889. N° EudraCT: 2013-004758-55.
- ▶ Project: Masterlot 14 Calibration Study CoaguChek XS PT Study. Study number: CIM RD005175. Promotor: Roche Diagnostics / Centralised and Point of Care Solutions MSA Clinical Operations. PI and Director: C. Schneider-Thauern.
- ▶ Immunotherapy of solid cancer based on innate immunity (ITACA).

Scientific Challenges

- ▶ Study QTL detected in GAIT-1 families in relation to phenotypes of hemostasis with thrombosis risk (resistance to activated protein C, factor VIII, homocysteine, factor XII, body mass index and others).
- ▶ Replicate QTL related to thrombosis in GAIT-1 families by means of the linkage analysis using new GAIT-2 families.
- ▶ Conduct genome-wide association study (GWAS) of phenotypes involved in GAIT-1.
- ▶ GWAS of phenotypes included in GAIT-2.
- ▶ Analyze RNA expression in the GAIT-2 families.
- ▶ Investigate miRNA associated with thromboembolic disease in GAIT-2 and RETROVE. Explain the mechanisms underlying the relationship between platelet function and venous thrombosis risk.
- ▶ Complete the recruitment of the cohorts included in the MIRTO (Modelling the Individual Risk of Thrombosis in Oncology) Project, with the goal of establishing an individual risk score for venous thromboembolism (RETROVE sub-project) and for ischemic stroke (SINO subproject) in patients with cancer.
- ▶ Research plasma proteins associated with the risk of venous thromboembolism by using high affinity proteomics developed at Karolinska Institutet. VEREMA project, joint collaboration between the European case-control studies VEBIOS (Sweden), RETROVE (from our unit) and MARTHA (France).
- ▶ Investigate laboratory and clinical management of DOACs.
- ▶ Search for new universal laboratory methods for the assessment of any kind of oral anticoagulant (AVK and DOACs).
- ▶ Immunotherapy of solid cancer (ITACA Project). Neutrophils as anti-tumorals. Clinical trial on sustained neutrophilia in advanced head and neck cancer (approved trial, waiting for financial support).

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Genomics of Complex Diseases (GAIT1, GAIT2, RETROVE, VEREMA and MIRTO Project).
- ▶ Stroke Unit (HERO and MIRTO Project).
- ▶ Vascular Surgery (GAIT2, genetics of venous insufficiency).
- ▶ Medical Oncology (MIRTO Project).
- ▶ Clinical Haematology (MIRTO Project).
- ▶ Gynecologic and peritoneal oncology group (ITACA Project, on immunotherapy of solid cancer).

External Collaborations

- ▶ Karolinska Institutet, Stockholm, Sweden: GAIT2 and VEREMA.
- ▶ La Timone Hospital, Marseilles, France: GAIT2 and VEREMA.
- ▶ Pierre and Marie Curie University, INSERM, UMR-S 1166, Paris, France: GAIT2 and VEREMA.
- ▶ Université de Genève, Switzerland: GAIT2.
- ▶ Texas Research Institute (formerly Southwest Foundation for Biomedical Research), San Antonio, USA: GAIT1 and GAIT2.

- ▶ Universitat Politècnica de Catalunya, Barcelona, Spain. Centre for Biomedical Engineering Research: RETROVE and MIRTO design.
- ▶ Thrombosis Group of the Spanish Medical Oncology Society (SEOM): ONCOTHROMB and MIRTO.
- ▶ Institute of Biological Psychiatry, Mental Health Snc. Hans. Roskilde (Denmark).
- ▶ Servicio de Hematología del Hospital Sant Joan de Déu (Clinical modeling for the management of haemophilic patients and patients under self-management of VKA therapy)
- ▶ Hematopathology, Pathological Anatomy. Hospital Clinic of Barcelona, Biomedical Diagnosis Centre (CDB), Institute of Biomedical Research August Pi i Sunyer (IDIBAPS), University of Barcelona, Barcelona, Spain. RETROVE 3 Project.
- ▶ Barcelona Endothelium Team. Hospital Clinic/University of Barcelona Campus; Barcelona. RETROVE 3 Project
- ▶ Congenital coagulopathy. Blood and Tissue Bank (BST) of Catalonia. Barcelona. RETROVE 3 Project

Active Grants

- ▶ Joan Carles Souto Andrés. Implicación de la adhesividad plaquetaria y fenotipos relacionados, y sus determinantes genéticos, en el riesgo de ETV. RETROVE 3. PI18/00434. Instituto de Salud Carlos III. Duration: 2019-2021. 82,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants awarded in 2019

- ▶ Collaborative agreement With Daiichi-Sankyo to develop the MACACOD Registry (NCT 04042155). IIBSP-ACO-2018-31. Duration: 2019-2021. 468,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Noèlia Vilalta Setó, Nous fenotips intermediaris basats em el model cel·lular de la coagulació com a factors de risc de trombosi venosa. Universitat Autònoma de Barcelona. Directors: Joan Carles Souto Andrés, Jordi Fontcuberta Boj, José Mateo Arranz. Date of defense: 01/10/2019

Scientific Production

Total Impact Factor: 68.497 · Mean Impact Factor: 7.6107

Agno W, Haas S, Weitz JI, Goldhaber SZ, Turpie AGG, Goto S, Angchaisuksiri P, Nielsen JD, Kayani G, Pieper KS, Schellong S, Bounameaux H, Mantovani LG, Prandoni P, Kakkar AK and GARFIELD-VTE Investigators. Characteristics and management of patients with venous thromboembolism: The GARFIELD-VTE Registry. *Thromb Haemost* 2019;119:319-327. **IF: 4.952**

Borras N., Orriols G., Batlle J., Perez-Rodriguez A., Fidalgo T., Martinho P., Lopez-Fernandez M.F., Rodriguez-Trillo A., Loures E., Parra R., Altisent C., Cid A.R., Bonanad S., Cabrera N., Moret A., *et al.*, Unraveling the effect of silent, intronic and missense mutations on VWF splicing: Contribution of next generation sequencing in the study of mRNA (2019) *HAEMATOLOGICA*, 104 (3), 587-598. **IF: 7.5700**

Bru A., Bosch R., Cespedes M.V., Carmona-Guedes S., Pascual E., Bru I., Souto J.C., Antitumoral effect of maintained neutrophilia induced by rhG-CSF in a murine model of pancreatic cancer (2019) *SCI REP-UK*, 9 (1). **IF: 4.0110**

De Vries P.S., Sabater-Lleal M., Huffman J.E., Marten J., Song C., Pankratz N., Bartz T.M., De Haan H.G., Delgado G.E., Eicher J.D., Martinez-Perez A., Ward-Caviness C.K., Brody J.A., Chen M.-H., De Maat M.P.M., *et al.*, A genome-wide association study identifies new loci for factor VII and implicates factor VII in ischemic stroke etiology (2019) *BLOOD*, 133 (9), 967-977. **IF: 16.5620**

Haas S, Agno W, Weitz JI, Goldhaber SZ, Turpie AGG, Goto S, Angchaisuksiri P, Dalsgaard Nielsen J, Kayani G, Zaghdoun A, Farjat AE, Schellong

S, Bounameaux H, Mantovani LG, Prandoni P, Kakkar AK. and GARFIELD-VTE Investigators. Anticoagulation therapy patterns for acute thromboembolism in GARFIELD-VTE patients. *J Thromb Haemost* 2019;17:1694-1706. **IF: 4.899**

Llobet D., Vallve C., Tirado I., Vilalta N., Murillo J., Cuevas B., Roman L., Carrasco M., Oliver A., Mateo J., Fontcuberta J., Souto J.C., VAMP8 and serotonin transporter levels are associated with venous thrombosis risk in a Spanish female population. Results from the RETROVE Project (2019) *THROMB RES*, 181, 99-105. **IF: 3.2660**

Pujol-Moix N., Martinez-Perez A., Sabater-Lleal M., Llobet D., Vilalta N., Hamsten A., Souto J.C., Soria J.M., Influence of ABO locus on PFA-100 collagen-ADP closure time is not totally dependent on the von willebrand factor. Results of a GWAS on gait-2 project phenotypes (2019) *INT J MOL SCI*, 20 (13). **IF: 4.1830**

Sabater-Lleal M., Huffman J.E., de Vries P.S., Marten J., Mastrangelo M.A., Song C., Pankratz N., Ward-Caviness C.K., Yanek L.R., Trompet S., Delgado G.E., Guo X., Bartz T.M., Martinez-Perez A., Germain M., *et al.*, Genome-Wide Association Transethnic Meta-Analyses Identifies Novel Associations Regulating Coagulation Factor VIII and Von Willebrand Factor Plasma Levels (2019) *CIRCULATION*, 139 (5), 620-635. **IF: 23.0540**

Yu JK, Iorio A, Edington AN, and the WAPPS co-investigators. Using pharmacokinetics for tailoring prophylaxis in people with hemophilia switching between clotting factor products: A scoping review: *Res Pract Thromb Haemost* 2019;3:528-541. **IF: -**

Books or Chapters with ISBN

- ▶ Hemostasia y trombosis. Manual práctico. Chapter 10: Transfusión. Ediciones Aran SL. 2018. ISBN: 978-8417046-41-5.
- ▶ Marina Carrasco Expósito. Consultas frecuentes en coagulopatías. Chapter: Consultas relacionadas con la reversión de la anticoagulación. Editorial Ambos Marketing Services SL. 2020. ISBN: 978-84-121337-2-1.

Diffusion Activities

Scientific Dissemination

Comunications to National Congresses

- ▶ Mart'ín-Fernández L, García-Martínez I, Martínez-Pérez A, López S, Corrales I, Souto JC, Vidal F, Soria JM. Identificación de variantes genéticas asociadas al DNA libre en plasma como fenotipo intermediario de la enfermedad tromboembólica venosa en el proyecto GAIT-2. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019. Oral communication.
- ▶ Tirado I, Vallvé C, Romero L, Carrasco M, Souto JC, Gich I, Font M, Cuevas B, Mateo J. Variante Ser 219 Gly del receptor endotelial de la proteína C en el estudio RETROVE, Riesgo de Enfermedad Tromboembólica Venosa. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Tirado I, Vallvé C, Vilalta N, Romero L, Arús M, Carrasco M, Souto JC, Millón JA, Martínez-Sánchez E, Quero S, Mateo J. Aplicación de las técnicas de secuenciación masiva en el diagnóstico de coagulopatías congénitas. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Vallvé C, Tirado I, Vilalta N, Llobet D, Gich I, Carrasco M, Souto JC, Mateo J. Comparación de dos métodos de medición de generación de trombina: CAT y ST-GENESIA en el estudio RETROVE. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Tirado I, Souto JC, Romero L, Carrasco M, Vilalta N, Llobet D, Gich I, Font M, Cuevas B, Mateo J. Variante rs7025486 del gen dab2ip en el estudio RETROVE, riesgo de enfermedad tromboembólica venosa. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Tirado I, Carrasco M, Vilalta N, Romero L, Llobet D, Vallvé C, Souto JC, Martínez-Sánchez E, Simón M, Mateo J. Aplicación de las técnicas de secuenciación masiva en el diagnóstico de enfermedades del fibrinógeno. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Criado V, Sánchez-García J, Pariente A, Tello S, Vilalta N, Mateo J. Estudio de la interferencia de la hemólisis, la ictericia y la lipemia en los estudios de coagulación. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Ranera L, Vilalta N, Martínez-Pérez V, Mateo J. Impacto del volumen incorrecto en el estudio básico de hemostasia. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Sales X, Criado V, Guerrero L, Tello S, Cerdà N, Vilalta N, Mateo J. Alteración de las pruebas de hemostasia según el hematocrito: algoritmo para corregir el volumen de citrato según el hematocrito. Experiencia en nuestro Centro. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Corrochano M, Carrasco M, Mateo J. Monitorización de actividad anti-Xa en el tratamiento con heparinas de bajo peso molecular: ¿es necesario? LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Díaz-Suárez MF, Carrasco M, Marzo C, Vilalta N, Mateo J. Hemorragia digestiva en el paciente anticoagulado. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Arús M, Jerez-Dolz D, Carrasco M, Martínez-Pérez V, Vilalta N, Palomo M, Martín-Fernández L, Macho R, Llobet D, Vidal F, Díaz-Ricart M, Souto JC. Estudio longitudinal de los tiempos de obturación plaquetaria (PFA-100) y su relación con la enfermedad tromboembólica venosa. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Megías JE, Bonanad S, Martínez-García F, Berruero R, Mingot ME, Rodríguez-López M, Canaro M, Mateo J, Larrodé I, Haya S, Santamaría A, Mesegué M, Albo-López C, Palomero-Massanet A, Vilalta N, Calvo JM, Cid AR, Gironella M, Poveda AJL. Análisis del switch guiado por farmacocinética de factores VII de semivida estándar a factores de semivida extendida. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Mingot ME, Pardos J, Muñoz A, Lluch R, Fernández-Sánchez de la Mora MC, Bernardo A, Carrasco M, Rodríguez-Alén JA, Martín JM, Uribe M, Aguinaco R, Martínez-Badás MP, García-Candel F, Roselló E, Alonso MN, Fernández-Monsteirín N, Rodríguez-González R, Cervero C, Pérez-Sánchez M, Bastida JM, Sebrango A, Pérez-Montes R, Iglesias M, Marco Vera P, Miembros registro Español HA. Registro español de hemofilia adquirida, 5 años de actividad. LXI Congreso Nacional de la AEHH and XXXV Congreso Nacional de la SETH. Valencia, 24-26 October 2019.
- ▶ Rambla M, Gil E, Carles M. Campaña educativa para pacientes en tratamiento anticoagulante oral: 12 meses, 12 temas. Congreso Nacional "Los nuevos retos de las enfermeras en el siglo XXI". Hospital de la Santa Pau i Sant Pau. Barcelona, 6-8 November 2019. Oral communication.

Comunications to International Congresses

- ▶ Rodríguez-Rius A, López S, Martínez-Pérez A, Vilalta N, Arús M, Souto JC, Soria JM. Development and validation of a plasma micro-RNAs profile associated with venous thrombosis. XXVII Congress of the ISTH. Melbourne, 6-10 July 2019. Oral communication.
- ▶ López S, Rodríguez-Rius A, Viñuela A, Martínez-Pérez A, Brown A, Martín-Fernández L, Vilalta N, Muñoz C, Arus M, Panousis M, Buil A, Dermitzakis ET, Sabater-Lleal M, Souto JC, Soria JM. Integrated GWAS and gene expression data identifies ORM1 as potential regulator of plasma cell-free DNA levels in families of the GAIT2 Project. XXVII Congress of the ISTH. Melbourne, 6-10 July 2019.
- ▶ Iglesias MJ, Sánchez Rivera L, Germain M, Bruzelius M, Kral-Pointner J, Goumidi L, Hong MG, Ibrahim-Kosta M, Hindberg K, Smith P, Farm M, Holmström M, Brækkan S, Soria JM, Souto JC, Assinger A, Antovic J, Schwenk J, Hansen JB, Morange PE, Butler L, Tregouet DA, Odeberg J. Plasma levels of a complement factor H related protein are associated with VTE. European Congress on Thrombosis and Haemostasis (ECTH) 2019. Glasgow, 2-4 October 2019.

Conferences

- ▶ Juan Antonio Millón Caño. Monitorización de la anticoagulación en situaciones especiales. XIV Curso de formación continuada en trombosis y hemostasia. SETH. Bilbao, 15 November 2019.
- ▶ Marina Carrasco Expósito. Valoración de la hemorragia ginecológica (en hematología). IX Curso de Hematología Pediátrica. Manejo multidisciplinar en Hematología pediátrica. Hospital Sant Joan de Déu. Barcelona, 1 March 2019.
- ▶ Marina Carrasco Expósito. ¿Cómo instauraría la profilaxis en un paciente con sobrepeso? XXI Workshop en coagulopatías congénitas y adquiridas. Takeda. Madrid, 29 March 2019.
- ▶ Marina Carrasco Expósito. Round table: Medicina personalizada. Foro Mediterráneo de Hemofilia. Pfizer. Mallorca, 8 November 2019.
- ▶ Marina Carrasco Expósito. Teleconferencia: Diagnóstico y manejo del paciente con trastornos del fibrinógeno: a propósito de dos casos. Hemotalks Sobi. 27 November 2019.
- ▶ Marina Carrasco Expósito. Estudio y tratamiento de trombofilia en las enfermedades vasculares hepáticas. 102 Curso de la Escuela de Patología Digestiva: Avances en Patología Digestiva. 21-22 November 2019.

- ▶ Juan Carlos Souto. Els pacients oncològics o hemato-oncològics en tractament oncoespecífic i que tenen fibril·lació auricular amb indicació d'anticoagular. Sessió ordinària de la Societat Catalana d'Hematologia i Hemoteràpia. 2 April 2019.
- ▶ Juan Carlos Souto (moderator); Vanessa Roldán, Pere Domènech (speakers). Session: "¿Qué hay de nuevo en ACODs?". XVII Curso de Formación continuada (Puesta al día en tratamiento antitrombótico. De la evidencia científica a la práctica clínica). SETH and FETH. Castelldefels, 4-5 March 2019.
- ▶ Vanesa Pachón, Joan Carles Souto. Utilidad de las escalas de riesgo. A propósito de un caso. VI Encuentro Nacional de Tromboembolismo en Paciente Oncológico. ROVI, SEOM. Madrid, 4 October 2019.

Courses Organization

- ▶ José Mateo, Ramón Lecumberri. XVII Curso de Formación continuada (Puesta al día en tratamiento antitrombótico. De la evidencia científica a la práctica clínica). SETH and FETH. Castelldefels, 4-5 March 2019.

AREA 1 · Cardiovascular Diseases

Cardiovascular Biochemistry



Coordinator

Sánchez Quesada, José Luis (IR)
jsanchezq@santpau.cat

Members

Benítez González, Sonia (IR)
Cabrerizo Farré, Núria (FGS)
Freixa Martín, Julia (FGS)
García Osuna, Álvaro (FGS)
Grau Agramunt, Margarita (FGS)
Ordóñez Llanos, Jorge (FGS)
Pérez Calleja, Raquel (FGS)
Porcel Jabalera, Inmaculada (FGS)
Puig Grífol, Núria (IR)

Rivas Urbina, Andrea Patricia (IR)
Rives Jiménez, José (FGS)

Main Lines of Research

Atherosclerosis mechanisms

- ▶ Mechanisms leading to lipoprotein aggregation in the arterial wall.
- ▶ Use of apoJ-derived mimetic peptides as therapeutic tools.
- ▶ Involvement of LDL(-) in lipid accumulation in cardiomyocytes associated with diabetes, obesity and heart failure.
- ▶ Inflammatory mechanisms induced by LDL(-) in monocytes from patients with diabetes.
- ▶ Analysis of the secretome of adipose tissue from cardiac surgery patients.
- ▶ Abnormal lipoprotein properties in patients with Alzheimer disease and cerebral amyloid angiopathy.

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.
- ▶ Analyze the therapeutic potential of apoJ-derived mimetic peptides 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

Collaborations with other IIB Sant Pau Groups

- ▶ Metabolic Bases of Cardiovascular Risk (Dr. F. Blanco Vaca). La Marató de TV3. 2016-02.31. Lipotoxicity and microvascular disease: Contribution to myocardial damage in clinical and experimental models of diabetes (IP Josep Julve). CIBERDEM CB07/08/0016.
- ▶ Endocrinology, Diabetes and Nutrition (Dr. A. Pérez). PI16/00471. CIBERDEM CB07/08/0016.
- ▶ Cerebrovascular Diseases (Dr. J. Martí Fàbregas). La Marató de TV3. 158/U/2017. Lipoprotein-related biomarkers to assess carotid plaque inflammation in ischemic stroke (IP Elena Jiménez Xarrié).
- ▶ Clinical Psiquiatria (Dra. M.J. Portella). PERIS Project. SLT006/17177.
- ▶ Image Cardiology Unit (Dr. D. Vilades). PI16/00471.
- ▶ Angiology, Vascular Biology and Inflammation (Dr. M. Camacho). PI16/00471.
- ▶ Lipids and Cardiovascular Pathology (Dr. C. Llorente).
- ▶ Clinical and Translational Cardiology (Dr. J. Cinca).
- ▶ Intensive Care Unit. (Dr. A. Betbese).
- ▶ Research in Perinatal Health (Dr. E. Llorba).

External Collaborations

Research into atherosclerosis mechanisms

- ▶ Dr. Petri Kovanen, Wihuri Research Institute, Helsinki, Finland.
- ▶ Dr. Kati Öörni, Wihuri Research Institute, Helsinki, Finland.
- ▶ Dr. Olga Gursky, Boston University School of Medicine, Boston, USA.
- ▶ Dr. Sandra Villegas Hernández, Biochemistry and Molecular Biology Department, UAB, Barcelona, Spain.
- ▶ Dr. Ferdinando Mannello. Department of Biomolecular Sciences, Section of Clinical Biochemistry and Molecular Genetics, University "Carlo Bo", Urbino, Italy.
- ▶ Dr. Mar Hernández-Guillamon. Neurovascular Research Laboratory, Vall d'Hebron Research Institute; Universitat Autònoma de Barcelona, Spain.
- ▶ Dr. Ana Reis. Faculdade de Ciências da Universidade do Porto, Portugal.

Research into diagnosis

- ▶ Dr. Daniel Podzamczar, HIV Unit, Infectious Disease Service, Hospital Universitari de Bellvitge, Barcelona, Spain (PATHER, ATADAR, SPIRAL and BICOMBO clinical trials).
- ▶ Dr. Joan Sabater-Riera, Critical Care Department, Hospital Universitari de Bellvitge, Barcelona, Spain
- ▶ ISCIII FIS PI15-00905. Impact of acute renal failure in postoperative of cardiac surgery of a membrane with increased adsorption during extracorporeal circulation.
- ▶ Dr. Josep Maria Gatell, Dr. Esteban Martínez, Infectious Disease Service, Hospital Clinic, Barcelona, Spain
- ▶ Fundació Clínic Recerca/NEAT Study NEAT 22/SSAT 060. An open label study examining the efficacy and cardiovascular risk of immediate versus deferred switch from a boosted PI to dolutegravir (DTG) in HIV infected patients with stable virological suppression.

Formation and maintenance of a bank of samples within the Cardiovascular Research Network (formerly RIC, currently CIBERCV)

- ▶ Dr. Francisco Marín, Cardiology, Hospital Virgen de Arrixaca, Murcia, Spain.
- ▶ Dr. Mariano Valdés, Hospital Virgen de Arrixaca, Murcia, Spain.

- ▶ Dr. Laura Dos (D. Garcia-Dorado), Integrated Adult Congenital Heart Disease Unit, Hospital Universitari Vall d'Hebron, Barcelona, Spain (Evedes study).
- ▶ Dr. Domingo Pascual-Figal, Cardiology Department, Hospital Virgen de Arrixaca, Murcia, Spain.
- ▶ Dr. Rafael Vázquez, Cardiology Service, Hospital Universitario Puerta del Mar, Cádiz, Spain.
- ▶ Dr. Antoni Bayés-Genís, Cardiology Department, Hospital Universitari Germans Trias i Pujol, Barcelona, Spain.

IFCC Task Force on Clinical Applications of Cardiac Biomarkers (Dr. Jordi Ordóñez-Llanos, member)

- ▶ Dr. Fred S. Apple, Department of Laboratory Medicine and Pathology, University of Minnesota, USA.
- ▶ Dr. Paul O. Collinson, Cardiovascular and Laboratory Departments, St. George's Hospital, London, UK.
- ▶ Dr. Alan S. Jaffe, Mayo Clinic, Cardiovascular Division, Rochester, New York, USA.
- ▶ Dr. James L. Januzzi, Cardiology Division, Massachusetts General Hospital, Boston, USA.

Active Grants

- ▶ José Luis Sánchez Quesada. Relación de la grasa epicárdica, la función lipoproteica y la inflamación con el desarrollo de arteriosclerosis y miocardiopatía diabética. PI16/00471. Instituto de Salud Carlos III. Duration: 2017-2021. 131,500 €.
- ▶ Jordi Ordóñez Llanos. Combur 5 HC Lay use study. Roche Diagnostics, S.L. Duration: 2018-2020. 22,000 €.
- ▶ Jordi Ordóñez Llanos. Evaluation Agreement Combur Test strips. Roche Diagnostics, S.L. Duration: 2018-2019. 40,000 €.
- ▶ Jordi Ordóñez Llanos. ST2 turbidimetric immunoassay Evaluation. Critical Diagnostics. Duration: 2018-2019. 10,000 €.
- ▶ Jordi Ordóñez Llanos, Álvaro García Osuna. Clinical and analytical evaluation of the high-sensitive troponin assay on the Clarity instrument. Singulex Inc. Duration: 2016-2020. 120,000 €
- ▶ José Luis Sánchez-Quesada. An open label study examining the efficacy and cardiovascular risk of immediate versus deferred switch from a boosted PI to dolutegravir (DTG) in HIV infected patients with stable virological suppression. NEAT Study NEAT 22/SSAT 060/Fundació Clínic Recerca. Duration: 2018-2019. 21,000 €
- ▶ Jordi Ordóñez Llanos, Álvaro García Osuna. Analytical Performance Evaluation of Combur Test Strips (visual and Urisys 1100) REACH and software update, ref. CIM RD003541. Roche Diagnostics. Duration: 2019. 25,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Sonia Benítez González, Lipoproteínas modificadas y marcadores inflamatorios asociados con vulnerabilidad de placa carotídea e ictus isquémico. PI19/00421, Instituto de Salud Carlos III. Duration: 2020-2022. 108,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 64.7390 · Mean Impact Factor: 4.6242

Alquézar-Arbé A, Ordóñez-Llanos J, S Jaffe A. Fourth Universal Definition of Myocardial Infarction: Will it change how we practice emergency medicine? *Emergencias*. 2019 Feb;31(1):55-57. PMID: 30656875. **IF: 3.350**

Apple FS, Daniels LB, Januzzi J, Omland T, Ordóñez-Llanos J, Jaffe A. Role of BNP vs NT-proBNP Testing in the Age of New Drug Therapies: Sacubitril-Valsartan. *Clin Chem*. 2019 Sep;65(9):1076-1083. doi: 10.1373/clinchem.2018.289371. Epub 2019 Jul 18. PMID: 31320381. **IF: 6.891**

Benitez-Amaro A., Pallara C., Nasarre L., Rivas-Urbina A., Benitez S., Vea A., Bornachea O., de Gonzalo-Calvo D., Serra-Mir G., Villegas S., Prades R., Sanchez-Quesada J.L., Chiva C., Sabido E., Tarrago T., Llorente-Cortes V., Molecular basis for the protective effects of low-density lipoprotein receptor-related protein 1 (LRP1)-derived peptides against LDL aggregation (2019) *BBA-BIOMEMBRANES*, 1861 (7), 1302-1316, **IF: 3.7900**

Ceasu A., Rodriguez-Gallego E., Peraire J., Lopez-Dupla M., Domingo P., Vilades C., Vidal-Gonzalez J., Peraire M., Perpignan C., Pacheco Y.M., Veloso S., Alba V., Vargas M., Castellano A.J., Ruiz-Mateos E., Mallolas J., Vidal F,

Rull A., IL-7/IL-7R gene variants impact circulating IL-7/IL-7R homeostasis and ART-associated immune recovery status (2019) *SCI REP-UK*, 9 (1), **IF: 4.0110**

Cuartero M., Betbese A.J., Nunez K., Baldira J., Ordóñez-Llanos J., Does whole-blood neutrophil gelatinase-associated lipocalin stratify acute kidney injury in critically ill patients? (2019) *DIS MARKERS*, 2019, 8480925, **IF: 2.7610**

De Retana S.F., Marazuela P., Sole M., Colell G., Bonaterra A., Sanchez-Quesada J.L., Montaner J., MasPOCH D., Cano-Sarabia M., Hernandez-Guillamon M., Peripheral administration of human recombinant ApoJ/clusterin modulates brain beta-amyloid levels in APP23 mice (2019) *ALZHEIMERS RES THER*, 11 (1), **IF: 6.1420**

Dias I.H.K., Ferreira R., Gruber F., Vitorino R., Rivas-Urbina A., Sanchez-Quesada J.L., Vieira Silva J., Fardilha M., de Freitas V., Reis A., Sulfate-based lipids: Analysis of healthy human fluids and cell extracts (2019) *CHEM PHYS LIPIDS*, 221, 53-64, **IF: 2.5360**

Jayaraman S., Baveghems C., Chavez O.R., Rivas-Urbina A., Sanchez-Quesada J.L., Gursky O., Effects of triacylglycerol on the structural remodeling of human plasma very low- and low-density lipoproteins (2019) *BBA-MOL CELL BIOL L*, 1864 (7), 1061-1071, **IF: 4.4020**

Kavsak P.A., Lam C.S.P., Saenger A.K., Jaffe A.S., Collinson P., Pulkki K., Omland T., Lefevre G., Body R., Ordonez-Llanos J., Apple F.S., Educational recommendations on selected analytical and clinical aspects of natriuretic peptides with a focus on heart failure: A report from the IFCC committee on clinical applications of cardiac bio-markers (2019) *CLIN CHEM*, 65 (10), 1221-1227, **IF: 6.8910**

Mendez-Lara K.A., Farre N., Santos D., Rivas-Urbina A., Metso J., Sanchez-Quesada J.L., Llorente-Cortes V., Errico T.L., Lerma E., Jauhainen M., Martin-Campos J.M., Alonso N., Escola-Gil J.C., Blanco-Vaca F., Julve J., Human ApoA-I overexpression enhances macrophage-specific reverse cholesterol transport but fails to prevent inherited diabetes in mice (2019) *INT J MOL SCI*, 20 (3), **IF: 4.1830**

Peiro O.M., Garcia-Osuna A., Ordonez-Llanos J., Cediell G., Bonet G., Rojas S., Quintern V., Bardaji A., Long-term prognostic value of growth differentiation factor-15 in acute coronary syndromes (2019) *CLIN BIOCHEM*, 73, 62-69, **IF: 2.4300**

Puig N., Estruch M., Jin L., Sanchez-quesada J.L., Benitez S., The role of distinctive sphingolipids in the inflammatory and apoptotic effects of electronegative LDL on monocytes (2019) *BIOMOLECULES*, 9 (8), **IF: 4.6940**

Rivas-Urbina A., Rull A., Ordonez-Llanos J., Sanchez-Quesada J.L., Electronegative LDL: An active player in atherogenesis or a by-product of atherosclerosis? (2019) *CURR MED CHEM*, 26 (9), 1665-1679, **IF: 3.8940**

Saenger A.K., Jaffe A.S., Body R., Collinson P.O., Kavsak P.A., Lam C.S.P., Lefevre G., Omland T., Ordonez-Llanos J., Pulkki K., Apple F.S., Cardiac troponin and natriuretic peptide analytical interferences from hemolysis and biotin: Educational aids from the IFCC Committee on Cardiac Biomarkers (IFCC C-CB) (2019) *CLIN CHEM LAB MED*, 57 (5), 633-640, **IF: 3.6380**

Sanchis J., Alquezar-Arbe A., Ordonez-Llanos J., Bardaji A., High-sensitivity Cardiac Troponin for the Evaluation of Patients With Suspected ACS: A True or a False Friend? La troponina cardiaca de alta sensibilidad en la evaluación del paciente con sospecha de SCA: ¿verdadera o falsa amiga? (2019) *REV ESP CARDIOL*, 72 (6), 445-448, **IF: 5.1260**

Diffusion Activities

Conferences

- ▶ José Luis Sánchez Quesada. Papel de las lipoproteínas modificadas en el desarrollo de la enfermedad cardiovascular. X Minicongreso de Bioquímica y Microbiología. Universidad del Valle de Guatemala. 6-9 September 2019.

Congress presentations

- ▶ N. Puig, S. Benítez, I. Miñambres, A. Rivas, M. Grau, J.L. Sánchez, A. Pérez. Effect of lipid-lowering treatment in composition and functionality of lipoproteins in patients with familial combined hyperlipidemia. 87th EAS Congress, Maastricht, The Netherlands, 26-29 May 2019.
- ▶ Andrea Rivas-Urbina, Anna Rull, Sandra Villegas, Joan Carles Escolà, Jordi Ordóñez-Llanos, José Luis Sánchez-Quesada. Apolipoprotein J mimetic peptide D-[113–122]apoJ retard atherosclerosis in LDLR-KO mice under atherogenic diet by improving HDL function and decreasing LDL aggregability. 87th EAS Congress, Maastricht, The Netherlands, 26-29 May 2019.
- ▶ D. De Gonzalo-Calvo, D. Vilades, P. Martínez-Camblor, A. Veá, L. Nasarre, R. Toro, J. Sanchez Vega, R. Leta, N. Puig-Grifol, S. Benitez, J.L. Sanchez-Quesada, F. Carreras, V. Llorente-Cortes. MicroRNAs as circulating biomarkers of epicardial fat volume: a multidetector computed tomography study. 87th EAS Congress, Maastricht, The Netherlands, 26-29 May 2019.

- ▶ Aleyda Benitez Amaro, Chiara Pallara, Sonia Benitez, Roger Prades, Jose Luis Sanchez Quesada, Cristina Chiva, Eduard Sabidó, Teresa Tarragó, Vicenta Llorente Cortés. Bases moleculares del efecto protector de los peptidos derivados de LRP1 frente a la agregación de la LDL. Implicaciones en arteriosclerosis. XXXII Congreso Nacional Sociedad Española de Arteriosclerosis. Valencia 2019.
- ▶ Ana Reis, Sara Rocha, Jose Luis Sánchez-Quesada, Victor de Freitas. Interaction of dietary polyphenols with the epithelium: when nutrimentalomics meets biophysics. XXV Encontro Galego-Portugues de Química. 20-22 November 2019.

Outreach activities

- ▶ Sonia Benítez. Colesterol i Salut Cardiovascular. Biblioteca Can Mariner de Horta. Barcelona, 23 April 2019.
- ▶ José Luis Sánchez Quesada. Moderator: Avenços en mecanismes fisiopatològics i dianes moleculars. Avenços en cardiometabolisme: noves dianes moleculars, nous biomarcadors, nous tractaments. Hospital de la Santa Creu i Sant Pau, Institut de Recerca del Hospital de la Santa Creu i Sant Pau. Barcelona, 25 January 2019.

AREA 1 · Cardiovascular Diseases

Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases



Coordinator

Badimon Maestro, Lina (IR)
lbadimon@santpau.cat

Members

Aledo Zamora, Rosa (CIBERCV)
Arderiu Marquès, Gemma (IR)
Ben Aïcha González,
Soumaya (IR)
Borrell Pagès, Maria (IR)
Cánovas Noé, María Ángeles (IR)
Catalina García, Pablo (IR)
Chiva Blanch, Gemma (IR)

De Santiesteban Vilaplana,
Victoria M. (IR)
Escate Chávez, Óscar Rafael
(CIBERCV)
Gallinat O'Callaghan,
Alexandre (IR)
García García, Olaya (IR)
Gerbolés Freixas, Esther (IR)
Huertas Segarra, Sònia (IR)
Juan Babot, Josep Oriol (IR)
Lambert Goitia, Carmen (IR)
López Bernal, Sergio (IR)
Luquero Gómez, Aureli (IR)

Morató Simó, Sílvia (IR)
Moreno Gómez, Josep (IR)
Nasarre Miarnau, Laura Rosa (IR)
Nguyen, Phijong Hue (IR)
Pescador Romero, Mònica (IR)
Rodríguez, Gaspar (IR)
Schoch, Leonie (IR)
Serra Bibiloni, Tomeu (IR)
Sutelman, Pablo (IR)
Traver Tejero, Susanna (IR)
Velasco Murcia, María
Ángeles (IR)
Vilahrur García, Gemma (IR)

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 ischaemia and angiogenesis in heart disease. Cell therapy.
- ▶ Research into new targets to inhibit the transformation of silent atherosclerosis into ischemic syndromes: tissue-factor mediated angiogenic switch.

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 current 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

Collaborations with other IIB Sant Pau Groups

- ▶ Acute and Intensive Cardiac Care Unit (Sionis A, Sans-Roselló J, Sánchez-Martínez M, Vila-Perales M, Duran-Cambra A)
- ▶ Radiology Unit (Capdevila A, Hidalgo A)
- ▶ Cardiology Unit (Carreras F)
- ▶ Biomarkers for Cardiovascular Disease (Padro T)
- ▶ Pharmacological Research in Humans (Antonijuan RM)

External Collaborations

National Collaborations

- ▶ Department of Internal Medicine, Hospital Clínic, Barcelona (Ramón Estruch).
- ▶ Department of Cardiology, Thorax Institute, Hospital Clínic, Universitat de Barcelona (Salvatore Brugaletta, Victoria Martín-Yuste, Clarissa Cola, Manel Sabaté, Guiomar Mendieta).
- ▶ Fundación Hipercolesterolemia Familiar. Madrid (Pedro Mata, Rodrigo Alonso, Leopoldo Perez-Isla).
- ▶ Department of Cardiology, Hospital Universitario de San Juan, Alicante, Spain (V. Bertomeu-Martínez).
- ▶ Hospital General Universitario Gregorio Marañón, Instituto de Investigación Sanitaria Gregorio Marañón, Universidad Complutense, Madrid, Spain (F. Fernandez-Avilés, A.M. Climent).

- ▶ Centro Nacional de Investigaciones Cardiovasculares Carlos III (CNIC), Madrid, Spain (V. Fuster, B. Ibáñez).
- ▶ Clínica Teknon, Barcelona, Spain (Fabrizio Moscatiello).
- ▶ Lipid and Vascular Risk Unit, Department of Medicine, Hospital del Mar, Barcelona, Spain (Juan Pedro-Botet)
- ▶ Lipid and Atherosclerosis Unit, Department of Internal Medicine/IMBIC/Hospital Universitario Reina Sofía /Universidad de Córdoba, Córdoba, Spain (Jose López-Miranda)
- ▶ Lipid Unit, Hospital Universitario Miguel Servet, IIS Aragón, Universidad de Zaragoza, Zaragoza, Spain. (Fernando Civeira)
- ▶ Internal Medicine Unit, Fundación Hospital Universitario de Alcorcón, Rey Juan Carlos University, Madrid, Spain (Carlos Guijarro)
- ▶ Lipid Unit, Department of Internal Medicine, Hospital Universitario General Gregorio Marañón, Universidad Complutense, Madrid, Spain (Jesús Millán)
- ▶ Internal Medicine Service, Hospital Carlos III, Madrid, Spain (Jose M Mostaza)
- ▶ Lipids and Vascular Risk Unit, Internal Medicine, Hospital Universitario de Bellvitge, Hospitalet de Llobregat, Barcelona, Spain (Xavier Pintó)
- ▶ Department of Medicine and Dermatology, Lipids and Atherosclerosis Laboratory, CIMES, Universidad de Málaga, Hospital Universitario Virgen de La Victoria, IBIMA, Málaga, Spain (Pedro Valdivielso)

- ▶ Vascular Medicine and Metabolism Unit, Hospital Universitari Sant Joan, Universitat Rovira i Virgili, IISPV, CIBERDEM, Reus, Spain (Luis Masana)
- ▶ 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)
- ▶ School of Healthcare Science, John Dalton Building, Manchester Metropolitan University, UK (Mark Slevin)
- ▶ Atherothrombosis Research Unit, Zena and Michael A. Wiener Cardiovascular Institute, Mount Sinai School of Medicine, New York, USA (Juan José Badimon)
- ▶ Department of Clinical Biochemistry and Immunohematology, Faculty of Health Sciences, University of Talca, Chile (Ivan Palomo)
- ▶ Centre for Clinical Heart Research, Department of Cardiology, Oslo University Hospital Ullevål, Oslo, Norway (Ingebjørg Seljeflot)
- ▶ Department of Food and Nutrition, Universidade Federal de Santa Maria, Palmeira das Missões, Brazil; Program of Postgraduate in Gerontology, Universidade Federal de Santa Maria, Santa Maria, Brazil. (Patricia Chagas)
- ▶ 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)
- ▶ Cardiovascular and Metabolic Diseases, Innovative Medicines and Early Development Biotech Unit, AstraZeneca, Mölndal, Sweden (Leif Carlsson)
- ▶ Cardiology Unit, Department of Medicine, Solna, Karolinska Institute and Karolinska University Hospital, Stockholm, Sweden (Francesco Cosentino, Rosa Suades)
- ▶ Institute of Cardiovascular Sciences, University of Birmingham, Birmingham, United Kingdom (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)
- ▶ 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

- ▶ Lina Badimon Maestro. Validación de un nuevo y original biomarcador, ApoJ-glyc, para el diagnóstico y la estratificación del riesgo en pacientes con isquemia miocárdica. DTS16/00194. Instituto de Salud Carlos III. Duration: 2017-2019. 70,500 €.
- ▶ Lina Badimon Maestro. Red de Terapia Celular (TerCel). RD16/0011/0018. Instituto de Salud Carlos III. Duration: 2017-2021. 166,255 €.
- ▶ Sonia Huertas Segarra. Participació de la via de senyalització Wnt en l'hemostàsia i la funcionalitat de les plaquetes. SLT006/17/00089. Departament de Salut. Duration: 2018-2020. 65,709.06 €.
- ▶ Gemma Vilahur Garcia. L'administració intravenosa d'un inhibidor modificat de l'HMG-COA-reductasa: una prometedora estratègia cardioprotectora en la malaltia isquèmica del cor, desentranyant beneficis i mecanismes d'acció. MARATO 20154310. Fundació La Marató de TV3. Duration: 2016-2019. 154,150 €.
- ▶ Maria Montserrat Borrell Pagès. Aterotrombosis y su inhibición: LRP5/WNT en la respuesta aguda a la lesión vascular. PI16/02014. Instituto de Salud Carlos III. Duration: 2017-2021. 53,500 €.
- ▶ Gemma Arderiu Marquès. Enfermedad arterial periférica: potenciar la capacidad angiogénica de las células madre mesenquimales. PI17/01321. Instituto de Salud Carlos III. Duration: 2018-2020. 74,000 €.
- ▶ Carmen Lambert Goitia. Associated with the project SAF2013-42962 LB. BES2014-068269. Ministerio de Economía y Competitividad. Duration: 2015-2019. 83,900 €.
- ▶ Lina Badimon Maestro. Factor tisular no-coagulante y angiogenesis terapéutica para reparar el tejido isquémico. SAF2016-76819-R. Ministerio de Economía y Competitividad. Duration: 2016-2020. 320,000 €.
- ▶ Lina Badimon Maestro. Validation of APO J-GLYC as a biomarker of ischemic damage. 2016 PROD 00043. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2019. 99,500 €.
- ▶ Gemma Chiva Blanch. Patologia molecular i terapèutica de les malalties aterotrombòtiques i isquèmiques. IJCI-2015-26358. Ministerio de Economía y Competitividad. Duration: 2017-2019. 64,000 €.
- ▶ Lina Badimon Maestro. Investigación y desarrollo clínico de una nueva molécula para el control de peso y prevención de la obesidad. RTC-2016-5317-1. Ministerio de Economía y Competitividad. Duration: 2016-2019. 201,669 €.
- ▶ Gemma Vilahur Garcia. Remodelado estructural y funcional de las partículas HDL y su implicación en la salud cardiovascular: identificación de moduladores con potencial terapéutico. SAF2015-71653-R. Ministerio de Economía y Competitividad. Duration: 2016-2019. 90,000 €.
- ▶ Lina Badimon Maestro. TRANSBIOLINE. 821283 H2020. European Union. Duration: 2019-2024. 146,080 €.
- ▶ Lina Badimon Maestro. Patologia Molecular i Terapèutica de les malalties aterotrombòtiques. 2017 SGR 1480. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020. 61,192 €.
- ▶ Alexandre Gallinat O'Callaghan. Factor tisular no-coagulante y angiogenesis terapéutica para reparar el tejido isquémico. BES2017-081378. Ministerio de Economía y Competitividad. Duration: 2018-2022. 88,250 €.
- ▶ Lina Badimon Maestro. Apo J-Glyc en la isquemia cardiovascular (AGLIC). RTC-2017-6710-1. Ministerio de Economía y Competitividad. Duration: 2018-2020. 251,381 €.
- ▶ Lina Badimon Maestro. Moderate beer intake effects on the inflammatory pathway and TLR-mediated immunomodulation in humans. EA 1659. European Foundation for Alcohol Research. Duration: 2017-2020. 65,000 €.
- ▶ Lina Badimon Maestro. Centro de Investigación Biomédica en Red de Enfermedades Cardiovasculares (CIBERCV). CB16/11/00411. Ministerio de Economía y Competitividad. Duration: 2017-2020. 188,361.25 €.
- ▶ Maria Montserrat Borrell Pagès. Modulación de la inflamación por la vía canónica WNT en los infartos agudos de miocardio. SEC 2015. Sociedad Española de Cardiología. Duration: 2015-2019. 20,000 €.
- ▶ Lina Badimon Maestro/Gemma Vilahur Garcia. Administration of APT-102 on top of ticagrelor provides additional cardioprotective benefits to that of ticagrelor alone. Astra Zeneca. Duration: 2017-2019. 411,630 €.
- ▶ Lina Badimon Maestro/Gemma Vilahur Garcia. Reconstitución de las HDL: bioingeniería para restaurar la función perdida por hipercolesterolemia. Glycardial Diagnostics. Duration: 2019. 12,000 €.
- ▶ Lina Badimon Maestro/Gemma Vilahur Garcia. CMR assessment in a pig model of myocardial infarction. Glycardial Diagnostics. Duration: 2018 - 2019. 112,003.65 €.
- ▶ Lina Badimon Maestro/Gemma Vilahur Garcia. Study of the effects of Apo J-Glyc administration in a mouse model of myocardial infarction. Glycardial Diagnostics. Duration: 2018-2019. 34,848 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Gemma Vilahur García. 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. Duration: 2019-2021. 150,000 €.
- ▶ Lina Badimon Maestro. Compuesto para su uso en la prevención y/o reducción del daño por isquemia. DTS19/00131. Instituto de Salud Carlos III. Duration: 2020-2021. 66,000 €.
- ▶ Maria Montserrat Borrell Pagès. PCSK9 como cofactor de miembros de la superfamilia de los LDLR y su interacción con las distintas estirpes celulares presentes en las lesiones ateroscleróticas. SEC 2019, Sociedad Española de Cardiología. Duration: 2019-2020. 15,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Chair of the Advocacy Committee and Board Member of the European Society of Cardiology (ESC) (2018-2020) (L. Badimon)
- ▶ Vice-Chair of the of the Working Group of Thrombosis of the European Society of Cardiology (2018-2020) (G. Vilahur)
- ▶ Board Member of the Council on Basic Cardiovascular Science of the European Society of Cardiology (2018-2020) (G. Vilahur)
- ▶ Member of the Scientific Advisory Board of the Ludwig Boltzmann Institute for Cardiovascular Research, Wien, Austria (L.Badimon)
- ▶ Member of the Scientific Advisory Board of the Berlin Institute of Health, Berlin, Germany (L. Badimon)
- ▶ Expert Reviewer – Biology and Psychobiology Area of the National Agency for Quality Assessment and Accreditation (L.Badimon)
- ▶ Outstanding Achievement Award of the European Society of Cardiology (G. Vilahur)
- ▶ Young Investigation Award in Thrombosis (S.Ben-Aicha)
- ▶ First Research Prize of the Radiological Society of North America (RSNA) (G. Vilahur)
- ▶ Top Reviewer Recognition of the Cardiovascular Research (G. Vilahur)

Doctoral Theses

- ▶ Carmen Lambert Goitia. Intervenciones nutricionales en la prevención cardiovascular y efectos de los factores de riesgo en el tejido adiposo. Universitat de Barcelona. Director: Lina Badimon Maestro. Date of defense: 12/12/2019
- ▶ Manuel Gutiérrez Gimeno. Analysis of new cardioprotective strategies aimed at modulating cardiac left ventricle remodelling post-myocardial infarction. Preclinical studies and non-invasive CMR analysis. Universitat Autònoma de Barcelona. Directors: Lina Badimón Maestro, Gemma Vilahur García, Alberto Hidalgo Pérez. Date of defense: 22/11/2019

Patents

- ▶ Lina Badimon Maestro; Judit Cubedo Ràfols; Gemma Vilahur García. Methods and compositions for the prevention and/or treatment of ischemia and of ischemia/reperfusion injury. 18382897.9-1112. European. 28/01/2019.
- ▶ Lina Badimon Maestro; Gemma Vilahur García. Statin for prevention/reduction of ischemia-related damage, WO/2018/178275. European. 04/10/2018.
- ▶ Lina Badimon Maestro; Judit Cubedo Ràfols; Teresa Padró Capmany. Methods and kits for the diagnosis and risk stratification of patients with ischemia, WO2017/178521. International. 19/10/2017.
- ▶ Lina Badimon Maestro; Judit Cubedo Ràfols; Gemma Vilahur; Teresa Padró Capmany. Prevention and/or treatment of ischemia or ischemia/reperfusion injury, WO/2017/157958. International. 23/01/2019.
- ▶ Lina Badimon Maestro; Gemma Vilahur García. Prevention and/or treatment of ischemia/reperfusion injury, 14382190.8-1464. International. 18/07/2014.

Transfer Products

- ▶ Co-founder of the spin-off Glycardial Diagnostics SL. September 2017

Scientific Production

Total Impact Factor: 230.7670 · Mean Impact Factor: 8.8757

Andreadou I., Schulz R., Badimon L., Adameova A., Kleinbongard P., Lecour S., Nikolaou P.-E., Falcao-Pires I., Vilahur G., Woudberg N., Heusch G., Ferdinandy P., Hyperlipidaemia and cardioprotection: Animal models for translational studies (2019) BRIT J PHARMACOL. **IF: 6.5830**

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Rossello X., Rodriguez-Sinovas A., Vilahur G., Crisostomo V., Jorge I., Zaragoza C., Zamorano J.L., Bermejo J., Ordonez A., Bosca L., Vazquez J., Badimon L., Sanchez-Margallo F.M., Fernandez-Aviles F., Garcia-Dorado D., Ibanez B., CIBER-CLAP (CIBERCV Cardioprotection Large Animal Platform): A multicenter preclinical network for testing reproducibility in cardiovascular interventions (2019) SCI REP-UK, 9 (1). **IF: 4.0110**

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Tunon J., Badimon L., Bochaton-Piallat M.-L., Cariou B., Daemen M.J., Egido J., Evans P.C., Hoefler I.E., Ketelhuth D.F.J., Lutgens E., Matter C.M., Monaco C., Steffens S., Stroes E., Vindis C., Weber C., Back M., Identifying the anti-inflammatory response to lipid lowering therapy: a position paper from the working group on atherosclerosis and vascular biology of the European Society of Cardiology (2019) CARDIOVASC RES, 115 (1), 10-19. **IF: 7.0140**

Vilahur G., Ben-Aicha S., Diaz-Riera E., Badimon L., Padro T., Phytosterols and inflammation (2019) CURR MED CHEM, 26 (37), 6724-6734. **IF: 3.8940**

Books or Chapters with ISBN

- ▶ Fuster V, Israel D, Badimon L, Chesebro JH. Coronary Artery Disease: Role of Antithrombotic Therapy (Chapter 11). In: Clinical Thrombosis. Edit. Hau C. Kwaan, Meyer Samama. Ed. CRC Press is an imprint of Taylor & Francis Group, pp 151-180; 2019 Reissued. eBook ISBN 9780429261879

Diffusion Activities

Abstracts

- ▶ Mendieta G, Ben-Aicha S, Casani L, Badimon L, Sabaté M, Vilahur G. Treating ischemic injury to reduce infarct size and achieve cardiac protection. Acute Cardiovascular Care 2019.
- ▶ Peña E, Padro T, Vilahur G, Vilahur G, Badimon L. The role of profilin 1 in thrombosis. 26th Anniversary International Congress on Thrombosis (EMLTD) 2019.
- ▶ Arderiu G, Peña E, Badimon L. Tissue factor-released endothelial microvesicles from ischemic muscle are involved in monocyte polarization and posts ischemic collateral vessel formation. 26th Anniversary International Congress on Thrombosis (EMLTD) 2019.
- ▶ Vilella-Figuerola A, Padro T, Mirabet S, Fluvia P, Álvarez J, Roig E, Badimon L. Patterns of circulating platelet and tissue factor-carrying microvesicles in heart failure. 26th Anniversary International Congress on Thrombosis (EMLTD) 2019.
- ▶ Diaz-Riera E, Garcia-Arguinzonis M, López L, García-Moll X, Badimon L, Padró T. Antithrombin III turnover is exacerbated in patients with acute decompensated heart failure and renal dysfunction. 26th Anniversary International Congress on Thrombosis (EMLTD) 2019.
- ▶ Guerra Ramos M, Vilahur G, Bayés de Luna A, Casani L, Cabrera JA, Martínez-Selles M, Mendieta G, Baranchuk A, Badimon L, Sanchez-Quintana D. Experimental model of interatrial block by Bachmann bundle conduction block. ESC Congress 2019. European Heart Journal.
- ▶ Chiva-Blanch G, Crespo J, Estruch R, Badimon L. One year of Mediterranean diet decreases microvesicle release from activated platelets and leukocytes in asymptomatic high cardiovascular risk patients. ESC Congress 2019. European Heart Journal.
- ▶ Borrell-Pagès M, Crespo J, Badimon L. LRP5 and PCSK9 in inflammatory cells immunomodulation. ESC Congress 2019. European Heart Journal.
- ▶ Vilahur Garcia G, Ben-Aicha S, Gutierrez M, Arzanauskaitė M, Mendieta Badimon LG, Arderiu G, Casani L, Badimon L. Intravenous administration of atorvastatin early after cardiac ischemia attenuates adverse left ventricular remodeling, ameliorates cardiac function and limits the deleterious effects of reinfarction. ESC Congress 2019. European Heart Journal.
- ▶ Kenko E, Van Der Schaar M, Yoon J, Vasiljevic Z, Kedev S, Vavlukis M, Bergami M, Scarpone M, Milicic D, Manfrini O, Badimon L, Bugiardini

ni R. Machine learning in critical care: the role of diabetes and age in acute coronary syndromes. ESC Congress 2019. European Heart Journal.

- ▶ Esteve Pastor MA, Rivera-Caravaca JM, Roldan V, Roldan Rabadan I, Muniz J, Cequier A, Bertomeu-Martinez V, Badimon L, Rana-Miguez P, Ruiz-Ortiz M, Anguita M, Lip GYH, Marin F. Estimated effect of NOACs compared to Vitamin K Antagonists in real-world atrial fibrillation patients: Data from FANTASIA Registry. ESC Congress 2019. European Heart Journal.
- ▶ Gallinat O'Callaghan A, Vilahur García G, Badimón Maestro L. Caracterización de la lesión isquémica miocárdica: DJ-1 en células endoteliales isquémicas. SEC2019. Revista Española de Cardiología.
- ▶ Vilella-Figuerola A, Muñoz Grijalvo O, Padró Capmany T, Mata López P, Badimon L. Efecto de PCSK9-I en la activación plaquetaria: Biopsia líquida de microvesículas circulantes. SEC2019. Revista Española de Cardiología.
- ▶ Diaz-Riera E, García-Arguinzonis M, Lopez L, García-Moll X, Badimon L, Padro T. Biomarcadores tempranos de disfunción renal en pacientes con insuficiencia cardiaca descompensada: Estudio proteómico. SEC2019. Revista Española de Cardiología.
- ▶ Mendieta Badimón LG, Ben-Aicha S, Casani L, Sabaté Tenas M, Badimon L, Vilahur García G. Inmunomodulación de la respuesta inflamatoria tras infarto agudo de miocardio mediante administración intravenosa de atorvastatina. SEC2019. Revista Española de Cardiología.
- ▶ Vilahur G, Ben-Aicha S, Gutiérrez M, Arzanauskaite M, Mendieta Badimón LG, Arderiu G, Casani L, Badimon L. La administración intravenosa de atorvastatina durante el primer infarto limita el remodelado adverso postinfarto y la lesión cardiaca en el re-infarto. Estudio experimental con resonancia magnética. SEC2019. Revista Española de Cardiología.
- ▶ Sutelman P, Vilahur G, Ben-Aicha S, Mendieta Badimón LG, Casani L, Badimon L. Regulación de lipotoxicidad cardíaca y niveles plasmáticos de triglicéridos con Silybum marianum. SEC2019. Revista Española de Cardiología.
- ▶ Ben-Aicha S, Casani L, Arzanauskaite M, Gutierrez M, Mendieta Badimón LG, Badimon L, Vilahur G. Las HDL formadas en presencia de hipercolesterolemia inducen progresión de la placa aterosclerótica medida por resonancia magnética: estudio en un modelo experimental. SEC2019. Revista Española de Cardiología.

Conferences

- ▶ Symposium de Hipercolestemia Familiar. Madrid, February 2019:
 - Discussion table: Valoración del riesgo CV en la HF: de la genética a los predictores biológicos y clínicos (L. Badimon).
 - Lecture: Biopsias líquidas de microvesículas extracelulares y eventos isquémicos en la HF (L. Badimon).
- ▶ CARDIO ATHENA 2019. Athens, Grece, March, 2019:
 - Lecture: State of the art lecturer: Coronary Atherothrombosis: from lipids to inflammation (L. Badimon).
- ▶ ALPIC 2019, Advanced Learning on Platelets and Thrombosis International Course. Metsoko, Grece, March 2019:
 - Chair: State of the Art lectures (L. Badimon)
 - Lecture: Tissue Factor Signaling: Beyond Coagulation in the Cardiovascular System (L. Badimon)
- ▶ Uniwersytet Jagiellonian Centre for Experimental Therapeutics (JCET). Krakovia, Poland, April, 2019:
 - Lecture: Coronary atherothrombosis: from lipid to inflammation (L. Badimon)
- ▶ 16th International Symposium on Cardiovascular Regeneration and Repair. Madrid, May 2019:
 - Lecture: Emerging and classical products for cardiovascular repair (L. Badimon)
- ▶ Scientific Panel for Health. Brussels, Belgium, May 2019:
 - Lecture: Academic societies addressing health inequalities through research (L. Badimon)
- ▶ Annual Scientific Meeting of ESCI. Coimbra, Portugal, May 2019:
 - Lecture: Ageing and Cardiovascular Diseases (L. Badimon)
- ▶ XXXII Congreso de la SEA. Valencia, June 2019:
 - Closing Conference: Medicina de predicción: Fenotipado molecular en la enfermedad cardiovascular (L. Badimon)
- ▶ 26th Anniversary International Congress on Thrombosis – EMLTD. Athens, Grece, June 2019:
 - Opening Conference: 50 years of EMLTD (L. Badimon)
 - Co-Chairman “State of the Art Session”: Advances in Platelet Functionality and Implication in Disease States (L. Badimon)
 - Plenary Session Lecturer: “Platelets and Thrombosis: New Hits and Leads”: ER Stress and UPR related effects in platelets and thrombosis (L. Badimon)
- ▶ IAF Scientific Conference 2019. Rome, Italy, June 2019:
 - Lecture “Session Combining antiplatelet and anticoagulant strategies in high-risk patients”: The role of platelet activation and blood coagulation in atherothrombosis (L. Badimon)
- ▶ ESC Congress, August 2019, Paris, France
 - Chairman: Novel pharmacological targets in vascular disease (L. Badimon)
 - Chairman: Cardiovascular disease and women: global threat or macro-opportunity (L. Badimon)
 - Lecture: “On Her Majesty’s Secret Service”: What is the role of young communities from the point of view of the council of basic cardiovascular sciences? (L. Badimon)
 - Co-chairman: Beyond lipid lowering: can atherosclerosis be reversed? (L. Badimon)
 - Co-Chairman: New EU Regulations for medical devices: impacting all clinical practice from May 2020 (L. Badimon)
- ▶ 17th Annual CHF Symposium Heart Research. Oslo, Norway, September 2019:
 - Lecture: Coronary Artery Disease, Ischemia and Myocardial Damage: The continuum to heart failure (L. Badimon)
- ▶ 26 Congreso da Sociedade Galega de Hipertensión. Sanxenxo, Pontevedra, Spain, September 2019:
 - Keynote Lecture: HDL ¿colesterol bueno? (L. Badimon)
 - Lecture: Consumo moderado de bebidas fermentas y su efecto en a salud cardiovascular (L. Badimon)
- ▶ 2nd Cardiology Congress 2019. Moscow, Russia, October 2019:
 - Chairman: Plenary session - Cardiology 2019 (L. Badimon)
 - Chairman: Plenary session - Infection and atherosclerosis (L. Badimon)
 - Chairman: Satellite Seminar - New opportunities in the prevention atherothrombotic events in stable CAD among T2D patients (L. Badimon)
 - Lecture: Why do T2D patients need more potent antithrombotic therapy? (L. Badimon)
 - Chairman: Molecular factors of CAD progression (L. Badimon)
- ▶ Congreso de las Enfermedades Cardiovasculares de la SEC. Barcelona, Spain, October 2019:
 - Co-Chairman: Simposio ATIC I. Terapias Avanzadas en Cardiología: Regeneración (L. Badimon)
 - Lecture: El consumo moderado de bebidas fermentadas y su efecto en la salud cardiovascular (L. Badimon)
 - Lecture: Puesta al día en tratamiento antitrombótico en el intervencionismo coronario y estructural - Futuro de la investigación en antitrombóticos: ¿hay opciones de mejora? (G. Vilahur)
 - Lecture: Regulación postranscripcional de las células madre y de sus productos de liberación: Terapias pro-angiogénicas y formación de vasos colaterales (G. Arderiu)
- ▶ Jornada de Investigación de Diabetes. Madrid, Spain, October 2019:
 - Lecture: Sesión con el experto: Enfermedad aterosclerótica y diabetes (L. Badimon)

- ▶ SEMMELWEIS Symposium 2019. Budapest, Hungary, November 2019:
 - Lecture: Novel targets and therapeutic strategies that bring new hopes in cardioprotection (G. Vilahur)
- ▶ Jornada Conectad@s. Barcelona, Spain, November 2019:
 - Inaugural conference (L. Badimon)
- ▶ Miradas desde el Liderazgo Femenino: Mujeres Que Inspiran. Barcelona, Spain, November 2019:
 - Round table: "Trayectorias inspiradoras" (L. Badimon)
- ▶ Sesiones Clínicas de Invitados. Hospital Universitario Virgen de la Macarena. Sevilla, Spain, November 2019:
 - Lecture: Investigación en Cardiología: un aspecto clave de los profesionales de la salud (L. Badimon)
- ▶ Reunión Anual CIBERCV. Madrid, Spain, November 2019:
 - Discussion panel: La complicidad social: importancia y claves de la comunicación científica (L. Badimon)
- ▶ American Heart Association - Scientific Sessions. Philadelphia, USA, November 2019:
 - Lecture: Metabolic control of ischaemia reperfusion injury (G. Vilahur)
- ▶ XIV Cuso de Formación Continuada Thrombosis y Hemostasia. Bilbao, Spain, November 2019:
 - Lecture: Búsqueda de nuevos tratamientos antiplaquetarios en la enfermedad arterial coronaria (G. Vilahur)
- ▶ 14 Congresso Nazionale ATVB. Ravenna, Italia, November 2019:
 - Lecture: Present and future in antithrombotic research. There is still room for improvement. (G. Vilahur)
- ▶ 32 Jornades Catalanes sobre Hipertensió Arterial. Barcelona, Spain, December 2019:
 - Lecture: El consumo moderado de bebidas fermentadas y su efecto en la salud cardiovascular (L. Badimon)
- ▶ FB-F54 Gest Lecture. Vienna, Austria, December 2019:
 - Lecture: From lipids to thrombosis: translational research targeting HDL and platelet function (G. Vilahur)
- ▶ National Conference of Albanian Society of Cardiology. Tirana, Albania, December 2019:
 - Topic conference: Heart and Diabetes (L. Badimon)
 - Co-chairman: Diabetes, pre-diabetes and cardiovascular risk (L. Badimon)
 - Lecture: Atherothrombosis in diabetics (L. Badimon)

Biomarkers for Cardiovascular Disease



Coordinator

Padró Capmany, Teresa (IR)
tpadro@santpau.cat

Members

Baldellou Sebastián, Maria Isabel (IR)
Díaz Riera, Elisa (IR)
García Arguinzonis, Maisa Inés (IR)
Gómez-Pardo Arellano, Montserrat (IR)
Muñoz García, Natalia (IR)
Peña Sendra, Esther (IR)
Vilella Figuerola, Alba (IR)

Main Lines of Research

- ▶ The main line of research involves the 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. In general, the research activities focus on cardiovascular disease, vascular remodeling and atherosclerosis, thrombosis, risk factors, and ischemic and heart disease, covering studies at cellular, pre-clinical and clinical level. Moreover, current experimental studies focus on postinfarction myocardial remodelling and its association with scar evolution following ischemic events.

Scientific Challenges

- ▶ Advance research aiming to identify and characterize new biomarkers of tissue remodelling, vascular injury, atherothrombotic disease and/or ischemic, coronary and cerebrovascular syndromes using postgenomic techniques.
- ▶ Generate new information on extracellular vesicles (microvesicles/exosomes) due to their specific feature as carriers of RNA (miRNA, lncRNA and mRNA) and proteins derived from the parental cells providing precise bioprints of defined pathophysiological scenarios and consequently being ideal biomarker candidates of disease evolution.
- ▶ Identification of cardiovascular-disease associated soluble (serum, plasma, urine) and microvesicles or lipoprotein carried molecular biomarker by proteomic technologies based on liquid chromatography / bidimensional electrophoresis and mass spectrometry, lipidomic approaches by mass spectrometry coupled to ultra-performance liquid chromatography and, transcriptomic (mRNA, miRNA) studies based on array systems and real-time PCR.
- ▶ Validate biomarkers identified in the diagnosis and prognosis of cardiovascular and/or cerebrovascular disease using specific quantitative techniques (confocal microscope, ELISA, multiplex assays, etc).
- ▶ Characterize molecular and functional mechanisms for selected biomarkers in cardiovascular pathology and myocardial remodeling (biology of systems).

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Molecular Pathology and Therapeutic of Ischemic and Atherothrombotic Diseases (PI: Lina Badimon; Gemma Vilahur)
- ▶ Pharmacological Research in Humans (PI: Rosa M Antonijóan)
- ▶ Clinical and Translational Cardiology (Xavier Garcia-Moll, Alessandro Sionis; Laura Lopez)
- ▶ Molecular Basis Cardiovascular Risk (PI: Francisco Blanco Vaca; Joan Carles Escolà)

External Collaborations

National Collaborations

- ▶ Fundación Hipercolesterolemia Familiar. Madrid (Pedro Mata, Rodrigo Alonso, Leopoldo Pérez-Isla and other members of SAFEHEART).
- ▶ Department of Rheumatology, Consorci Sanitari de Terrassa (CST). Terrassa, Bacerlona (Carmen García-Gomez).
- ▶ Internal Medicine Department Lipids and Vascular Risk Units, University Hospital of Bellvitge, Hospitalet de Llobregat, Barcelona (Xavier Pinto).
- ▶ UCERV-UCAMI, Hospital Virgen del Rocío, Sevilla (Ovidio Muñoz).

- ▶ Department of Internal Medicine, Hospital Abente y Lago, A Coruña (José Luis Diaz-Diaz).
- ▶ Department of Internal Medicine. Hospital Clinic. Barcelona (Ramon Estruch).
- ▶ Lipids Clinic, Department of Endocrinology, Hospital Clinic (Daniel Zambon).
- ▶ Internal Medicine Department, University Hospital of Bellvitge, Hospitalet de Llobregat, Barcelona (Francesc Formiga).
- ▶ Department of Cardiology, Thorax Institute, Hospital Clínic, Universitat de Barcelona, Spain (Salvatore Brugaletta, Victoria Martín-Yuste, Clarissa Cola, Manel Sabaté).

International Collaborations

- ▶ Platelet Research Center, Faculty of Health Sciences, University of Talca, Chile (Ivan Palomo, Eduardo Fuentes).
- ▶ Department of Pathophysiology, Nicolaus Copernicus University in Toruń (Artur Slomka).
- ▶ TransBioLine consortium.
- ▶ School of Healthcare Science, Manchester Metropolitan University, Manchester, United Kingdom (Mark Slevin).

Active Grants

- ▶ Maria Teresa Padró Capmany. Diagnòstic precoç d'insuficiència renal durant insuficiència cardíaca aguda (EDRIAHF). MARATO 20153110. Fundació La Marató de TV3. Duration: 2016-2019. 155,700 €.
- ▶ Maria Teresa Padró Capmany. Remodelado miocárdico post-infarto: regulación por la matriz extracelular y el sistema-C3 del complemento. PI16/01915. Instituto de Salud Carlos III. Duration: 2017-2019. 141,500 €.
- ▶ Teresa Padró, Lina Badimon. Investigación y desarrollo clínico de una nueva molécula para el control de peso y prevención de la obesidad. RTC-2016-5317-1. Ministerio de Economía y Competitividad. Duration: 2016-2019. 200,303 €.
- ▶ Lina Badimon, Teresa Padró. Translational Safety Biomarker Pipeline Project (TRansBioLine). IMI2-2017-13-11EU-Commission. IMI-JU. Duration: 2019. 182,600 €.
- ▶ Esther Peña. Estudio comparativo de cánulas de aplicación de adhesivos de fibrina por microscopia confocal. Grifols. Duration: 2018-2019. 57,393 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Maria Teresa Padró Capmany. 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. Duration: 2020-2022. 147,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ A. Vilella-Figueroa (co-authors: Padró T, Mirabet S, Fluvíà P, Álvarez J, Roig E, Badimon L.) Poster Award 2019. 526th Anniversary International Congress on Thrombosis (EMLTD).

Patents

- ▶ Lina Badimon Maestro; Judit Cubedo Ràfols; Teresa Padró Capmany. Methods and kits for the diagnosis and risk stratification of patients with ischemia. WO2017/178521. International. 19/10/2017.
- ▶ Lina Badimon Maestro; Judit Cubedo Ràfols; Gemma Vilahur; Teresa Padró Capmany, Prevention and/or treatment of ischemia or ischemia/reperfusion injury. WO/2017/157958. International. 23/01/2019.
- ▶ Lina Badimon; Judit Cubedo; Teresa Padró. Apolipoprotein J isoforms as biomarkers of organ damage, EP16382167.1. National. 12/04/2016.

Transfer Products

- ▶ Co-founder of the spinoff Glycardial Diagnostics SL. September 2017.

Scientific Production

Total Impact Factor: 51.283 · Mean Impact Factor: 6.4103

Arderiu G., Pena E., Aledo R., Juan-Babot O., Crespo J., Vilahur G., Onate B., Moscatiello F., Badimon L., MicroRNA-145 regulates the differentiation of adipose stem cells toward microvascular endothelial cells and promotes angiogenesis (2019) CIRC RES, 125 (1), 74-89. **IF: 15.8620**

Badimon L., Suades R., Vilella-Figueroa A., Crespo J., Vilahur G., Escate R., Padro T., Chiva-Blanch G. Liquid Biopsies: Microvesicles in Cardiovascular Disease. Antioxid Redox Signal. 2019 Dec 17. Online ahead of print. **IF: 5.828**

Chiva-Blanch G., Padro T., Alonso R., Crespo J., Perez de Isla L., Mata P., Badimon L., Liquid Biopsy of Extracellular Microvesicles Maps Coronary Calcification and Atherosclerotic Plaque in Asymptomatic Patients with Familial Hypercholesterolemia: A Computed Tomographic Angiography Imaging Study (2019) ARTERIOSCL THROM VAS, 39 (5), 945-955. **IF: 6.6180**

Lambert C., Arderiu G., Bejar M.T., Crespo J., Baldellou M., Juan-Babot O., Badimon L., Stem cells from human cardiac adipose tissue depots show different gene expression and functional capacities (2019) STEM CELL RES THER, 10 (1), 361-. **IF: 4.6270**

Miramontes-Gonzalez J.P., Usategui-Martin R., Perez de Isla L., Alonso R., Muniz-Grijalvo O., Diaz-Diaz J.L., Zambon D., Jimenez F.F., Martin-Vallejo J., Rodriguez Gude A.E., Jimenez D.L., Padro T., Sarmiento R.G., Mata P., VEGFR2 and OPG genes modify the risk of subclinical coronary atherosclerosis in patients with familial hypercholesterolemia (2019) ATHEROSCLEROSIS, 285, 17-22. **IF: 4.2550**

Perez de Isla L., Arroyo-Olivares R., Muniz-Grijalvo O., Diaz-Diaz J.L., Zambon D., Fuentes F., Sanchez Munoz-Torrero J.F., Mediavilla J.D., Gonzalez-Estrada A., Miramontes-Gonzalez J.P., de Andres R., Mauri M., *et al.*, Long-term effect of 2 intensive statin regimens on treatment and incidence of cardiovascular events in familial hypercholesterolemia: The SAFEHEART study (2019) J CLIN LIPIDOL, 13 (6), 989-996. **IF: 3.5810**

Suades R., Padro T., Crespo J., Sionis A., Alonso R., Mata P., Badimon L., Liquid Biopsy of Extracellular Microvesicles Predicts Future Major Ischemic Events in Genetically Characterized Familial Hypercholesterolemia Patients (2019) ARTERIOSCL THROM VAS, 39 (6), 1172-1181. **IF: 6.6180**

Vilahur G., Ben-Aicha S., Diaz-Riera E., Badimon L., Padro T., Phytosterols and inflammation (2019) CURR MED CHEM, 26 (37), 6724-6734. **IF: 3.8940**

Diffusion Activities

Invited Presentations: International / Spanish Conferences

- ▶ Teresa Padró. Extracellular matrix-smooth muscle cell interactome: relevance for plaque vulnerability. Workshop: generation of patient endothelial cell lines; study of cellular metabolism and mitochondria consortium network meeting. Barcelona, 13-14 January 2019.
- ▶ Teresa Padró. "Consumo moderado bebidas Fermentadas y Salud Cardiovascular". 11 Jornadas Nacionales Cardiovasculares de Semergen. Cuenca, 11-13 April 2019.
- ▶ Teresa Padró. Salud cardiovascular y el efecto del consumo moderado de bebidas fermentadas - 1r Encuentro Mediterráneo sobre RCV. Murcia, 24-25 May 2019.
- ▶ Teresa Padró. Efectos beneficiosos de la dieta en el riesgo cardiovascular. 20 Congreso SEMERGEN. Galicia, 15 June 2019.
- ▶ Teresa Padró. Arterial Thrombosis: The risk of being a woman. 26th International Congress on Thrombosis. 20-22 June 2019.
- ▶ Teresa Padró. Do microparticles play an active role in vascular disease? 1a Jornada Internacional de Centros de Investigación en Trombosis. Talca, Chile, 10-11 October 2019.

Communications to Congresses

- ▶ Díaz-Riera E, Garcia-Arguinzonis M, López L, García-Moll X, Badimon L, Padró T. Antithrombin III turnover is exacerbated in patients with acute decompensated heart failure and renal dysfunction. 26th Anniversary International Congress on Thrombosis (EMLTD) 2019.

- ▶ Vilella-Figuerola A, Padró T, Mirabet S, Fluvia P, Álvarez J, Roig E, Badimon L. Patterns of circulating platelet and tissue factor-carrying microvesicles in heart failure. 26th Anniversary International Congress on Thrombosis (EMLTD) 2019. Oral presentation.
- ▶ Peña E, Padró T, Vilahur G, Badimon L. The role of profilin 1 in thrombosis. 26th Anniversary International Congress on Thrombosis (EMLTD) 2019. E-poster.
- ▶ Arderiu G, Peña E, Badimon L. Tissue factor-released endothelial microvesicles from ischemic muscle are involved in monocyte polarization and postischemic collateral vessel formation. 26th Anniversary International Congress on Thrombosis (EMLTD) 2019. Oral presentation.
- ▶ Garcia-Arguinzonis, M, Vilahur, G, Juan-Babot O, Díaz-Riera, E, Badimon, L, Padró, T. Myocardial extracellular matrix during post-infarction remodeling: The role of C3-complement System. Congreso Sociedad Europea Cardiología Paris 2019; (Poster) Publicado en European Heart Journal, Volume 40, Issue Supplement_1, October 2019.
- ▶ Vilella-Figuerola A, Muñiz O, Padró T, Mata P, Badimon L. Efecto de PCSK9-I en la activación plaquetaria: Biopsia líquida de microvesículas circulantes. Congreso Enfermedades Cardiovasculares. 17-19 October 2019. Oral Presentation.
- ▶ Elisa Díaz-Riera, Maisa García-Arguinzonis, Laura López, Xavier García-Moll, Lina Badimon, Teresa Padró. Biomarcadores tempranos de disfunción renal en pacientes con insuficiencia cardiaca descompensada: Estudio proteómico. Congreso Enfermedades Cardiovasculares. 17-19 Octubre 2019. Oral Presentation.

AREA 1 · Cardiovascular Diseases

Regulation of Cardiac Rhythm and Contraction



Coordinator

Hove-Madsen, Leif (CSIC)
lmadsen@santpau.cat

Members

Casabella Ramón, Sergi (CSIC)
Colino Lage, Hildegard (CSIC)
Izquierdo Castro, Paloma (CSIC)
Jiménez Sábado, Verónica (CIBERCV)
Llach Martínez, Ana (IR)
Tarifa Lora, Carmen (CSIC)

Main Lines of Research

- ▶ Receptor-mediated changes in intracellular calcium homeostasis in atrial fibrillation.
- ▶ Contribution of genetic variants to electrical remodelling and cardiac arrhythmogenesis.
- ▶ Effects of development and ageing on calcium handling in cardiac myocytes.
- ▶ Mathematical modeling of calcium homeostasis and electrical activity in cardiac myocytes.

Scientific Challenges

The goal is to consolidate the group as a benchmark in research on calcium handling in atrial fibrillation and to establish it within other lines of research by including emerging technology and fields of research. Specifically, we aim to:

- ▶ Develop computational tools and models to improve the analysis and understanding of intracellular calcium handling in cardiac myocytes.
- ▶ Incorporate emerging technology such as stretching and measurements of force development in single cardiomyocytes.
- ▶ Consolidate current national and international collaborations and establish new strategic collaborations within emerging fields of research, such as the use of super-resolution fluorescence imaging (STORM, STED-techniques) and the detection and role of reactive oxygen species in diseased cardiomyocytes.
- ▶ Obtain international funding for incorporation of scientific expertise and participation in multidisciplinary international research projects.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Clinical and Translational Cardiology (PI: Juan Cinca)
- ▶ Lipids and Cardiovascular Pathology (PI: Vicenta Lorente)
- ▶ Atherosclerosis and Vascular Biology (PI: José Martínez)

External Collaborations

National Collaborations

- ▶ Diego Franco, Amelia Aranega. Departamento de Biología Experimental, Universidad de Jaén.
- ▶ Francisco Ciruela, Departament de Patologia i Terapèutica Experimental, Institut d'Investigació Biomèdica de Bellvitge (IDIBELL), Universitat de Barcelona.
- ▶ Blas Echebarria. Departament de Física Aplicada, Universitat Politècnica de Catalunya.
- ▶ Raul Benitez. Enginyeria de Sistemes, Automàtica i Informàtica Industrial, Universitat Politècnica de Catalunya.

- ▶ Vicente Andrés. Fisiopatología Cardiovascular Molecular y Genética, CNIC.
- ▶ Research Collaborator at the Spanish National Cardiovascular Research Network CIBERCV.

International Collaborations

- ▶ SR Wayne Chen. Department of Physiology and Pharmacology, University of Calgary, Canada.
- ▶ Glen F Tibbits. Department of Biomedical Physiology and Kinesiology, Simon Fraser University, Burnaby & Child and Family Research Institute, Vancouver, Canada.
- ▶ Edwin Moore. Cardiovascular Research Group, University of British Columbia, Vancouver, Canada.
- ▶ Kathleen MacLeod. Faculty of Pharmaceutical Sciences. University of British Columbia, Vancouver, Canada.

Active Grants

- ▶ Ana Llach Martínez. Receptors de rianodina com a nova diana per al tractament de la fibril·lació auricular. SLT002/16/00074. Departament de Salut. Duration: 2017-2020. 103,907.80 €.
- ▶ Leif Hove-Madsen. Adenosine receptors as new targets for the treatment of atrial fibrillation: Biomarker, Risk-Stratification and Therapy (coordinated research project). Marató TV3 2015-2030. Duration: 2016-2019. 299,322.78 €.
- ▶ Leif Hove-Madsen. Filling the translational gap: Single nucleotide polymorphisms as biomarkers and targets for personalized treat-

ment of electrophysiological defects in atrial fibrillation (coordinated research project). SAF2017-88019-C3-1-R. Duration: 2018-2020. 121,000 €.

- ▶ Leif Hove-Madsen. Pre Consolidated Reserach Group on "Analysis and Control of Cardiac Rhythm. SGR-2017-1769 GRpreC. Duration: 2018-2020. 15,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 25.1250 · Mean Impact Factor: 6.2812

Herraiz-Martinez A., Llach A., Tarifa C., Gandia J., Jimenez-Sabado V., Lozano-Velasco E., Serra S.A., Vallmitjana A., Vazquez Ruiz de Castroviejo E., Benitez R., Aranega A., Munoz-Guijosa C., Franco D., Cinca J., Hove-Madsen L., The 4q25 variant rs13143308T links risk of atrial fibrillation to defective calcium homeostasis (2019) *CARDIOVASC RES*, 115 (3), 578-589. **IF: 7.0140**

Llach A, Mazevet M, Mateo P, Villejouvert O, Ridoux A, Rucker-Martin C, Ribeiro M, Fischmeister R, Crozatier B, Benitah JP, Morel E, Gómez AM. Progression of excitation-contraction coupling defects in doxorubicin cardiotoxicity. *J Mol Cell Cardiol*. 2019 Jan;126:129-139. Epub 2018 Nov 28. **IF: 5.06**

Shafaattalab S, Li AY, Lin E, Stevens CM, Dewar LJ, Lynn FC, Sanatani S, Laksman Z, Morin RD, van Petegem F, Hove-Madsen L, Tieleman DP, Davis JP, Tibbits GF. In vitro analyses of suspected arrhythmogenic thin filament variants as a cause of sudden cardiac death in infants. *Proc Natl Acad Sci U S A*. 2019 Apr 2;116(14):6969-6974. Epub 2019 Mar 18. **IF: 9.58**

Soliman H., Nyamandi V., Garcia-Patino M., Zhang P.-C., Lin E., Jia Z.P., Tibbits G.F., Hove-Madsen L., MacLeod K.M., ROCK2 promotes ryanodine receptor phosphorylation and arrhythmic calcium release in diabetic cardiomyocytes (2019) *INT J CARDIOL*, 281, 90-98. **IF: 3.4710**

Diffusion Activities

- ▶ Leif Hove-Madsen. Importance of Calcium Release vs. Calcium Uptake in Calcium Refractoriness and Calcium Alternans Determinations. Session: CA.CVS.115 - Calcium Release Refractoriness and Calcium Alternans: Emerging Views. American Heart Association Scientific Sessions. Philadelphia, 18/11/2019.
- ▶ Carmen Tarifa, Adela Herraiz, Anna Llach, Veronica Jimenez-Sabado, Hildegard Colino, Estefania Lozano-Velasco, Diego Franco, Elena Rosello, Enrique Rodriguez-Font, Juan Cinca, Leif Hove-Madsen. Differential effects of five risk variants for atrial fibrillation at the 4q25 region on L-type calcium current and transient inward currents in human atrial myocytes. Congress of the European Society of Cardiol-

ogy (ESC) / World Congress of Cardiology. Paris, France, 31 Aug-4 Sep, 2019. Best poster competition. *EUROPEAN HEART JOURNAL*; 40(Sup 1): 689-689.

- ▶ Jiménez-Sábado V, Lu T, Casabella S, Tarifa C, Herraiz-Martínez A, Colino H, Llach A, Ginel A, Cinca J, Hove-Madsen L. Carvedilol treatment diminishes spontaneous calcium release and electrical activity in human atrial myocytes. Congress of the European Society of Cardiology (ESC) / World Congress of Cardiology. Paris, France, 31 Aug-4 Sep, 2019. Best poster competition. *EUROPEAN HEART JOURNAL*; 40(Sup. 1):2418-2418.

AREA 1 · Cardiovascular Diseases

Lipids and Cardiovascular Pathology



Coordinator

Llorente Cortés, Concepción Vicenta (CSIC)
cllorente@santpau.cat

Members

Benítez Amaro, Aleyda (CSIC)
De Gonzalo Calvo, David (CSIC)
García Rodríguez, Jesús Eduardo (CSIC)
Nasarre Miarnau, Laura Rosa (IR)

Main Lines of Research

- ▶ Molecular mechanisms involved in the modulation of LRP1 by cardiovascular risk factors.
- ▶ Impact of LRP1 on vascular and myocardial cholesterol accumulation.
- ▶ Impact of lipoproteins on LRP1-Intracellular signal pathways under normoxic and hypoxic conditions.
- ▶ Alterations in LRP1 expression and LRP1-intracellular signal pathways in hypoxia/ischemia in in vitro and in vivo models.
- ▶ Lipids and diabetic cardiomyopathy.
- ▶ Lipids and breast cancer.
- ▶ LRP1 and inflammation.
- ▶ Circulating non-coding RNA as a source of biomarkers of cardiovascular disease.
- ▶ Role of non-coding RNA in vascular lipid accumulation.
- ▶ Role of non-coding RNA in myocardial lipid accumulation.

Scientific Challenges

- ▶ Integrate genomic and functional in vivo studies to validate LRP1 as a new therapeutic target and potential biomarker in cardiometabolic diseases.
- ▶ Identify and validate circulating non-coding RNA as a potential source of biomarkers in cardiovascular disease.
- ▶ Maintain and amplify the relationship with IIB Sant Pau groups regarding translation in cardiometabolism.
- ▶ Maintain and strengthen national and international collaborations to set up future applications for European funding.
- ▶ Establish collaborations with companies with the aim of developing new products useful for prognosis, diagnosis and treatment of cardiometabolic diseases.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Cardiovascular Biochemistry (PI: José Luis Sánchez-Quesada)
- ▶ Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases (PI: Lina Badimon)
- ▶ Clinical and Translational Cardiology (PI: Juan Cinca)
- ▶ Metabolic Bases of Cardiovascular Risk (PI: Francisco Blanco)
- ▶ Molecular Bases of Disease (PI: Pablo Fuentes)
- ▶ Clinical Oncology (PI: Agustí Barnadas)
- ▶ Enrique Lerma (researcher of Molecular Pathology of Gineacologic Cancer)
- ▶ Inflammatory Diseases (PI: Candido Juarez)

External Collaborations

National Collaborations

- ▶ Dr. Bayés-Genís. Grupo ICREC (Insuficiencia Cardíaca y Regeneración Cardíaca). Hospital Germans Trias i Pujol. Badalona.
- ▶ Eduardo Iglesias Gutiérrez. Grupo ITS (Intervenciones Traslacionales para la Salud). Universidad de Oviedo.

- ▶ Rocío Toro. Departamento de Medicina. Facultad de Medicina, Universidad de Cádiz. In the context of this collaboration, during 2019 Thalia Belmonte, a doctoral student, carried out a research stay in our laboratory from 11 March to 12 July 2019.
- ▶ Antonio Zorzano. (IR)B Barcelona
- ▶ Dolors Serra. Facultat de Farmàcia. Universitat de Barcelona
- ▶ Joan Carles Laguna. Facultat de Farmàcia. Universitat de Barcelona
- ▶ Eduard Sabidó. Centre de Regulació Genòmica. Barcelona

International Collaborations

- ▶ Colette Lacabanne, Valerie Samouillan. Group Physique des Polymères, Institut Carnot, CIRIMAT, Université Paul Sabatier. Toulouse, France.
- ▶ Gustavo Alberto Chiabrand. CIBICI-CONICET/FCQ-Universidad Nacional de Córdoba, Argentina.
- ▶ Claudia Huesca Gómez. Departamento de Biomedicina Cardiovascular. Instituto Nacional de Cardiología "Ignacio Chávez". México D.F. In the context of this collaboration, during 2019 Yazmin Estela Torres Paz, a doctoral student, carried out a research stay in our laboratory from 25 March to 27 July 2019.

- ▶ Laurent Duca. Université de Reims Champagne-Ardenne, Reims, France.
- ▶ Muriel Laffargue. Institut National de la Santé et de la Recherche Médicale (INSERM), UMR 1048, Institute of Metabolic and Cardiovascular Diseases, Toulouse, France.
- ▶ Yvan Devaux. Cardiovascular Research Unit, Luxembourg Institute of Health, Luxembourg.

- ▶ Thomas Thum; Institute of Molecular and Translational Therapeutic Strategies (IMTTS), IFB-Tx, Hannover Medical School, Hannover, Germany.

Other Collaborations

- ▶ Teresa Tarragó. Iproteos S.L. Parc Científic. Barcelona. Spain.

Active Grants

- ▶ Concepción Vicenta Llorente Cortés. Seguiment de la cohort poblacional de l'estudi REGICOR: tendències en la incidència de malaltia cardiovascular, en la prevalença de factors de risc, identificació de nous mecanismes i biomarcadors predictius, i avaluació d'estratègies de prevenció. SLT002/16/00088. Departament de Salut. Duration: 2017-2019. 106,212 €.
- ▶ Vicenta Llorente Cortés. Enfermedades Metabólicas y Cáncer. RED2018-102799-T (REDEMyC). MINECO. Duration: 2019-2021. 30,000 €.
- ▶ Vicenta Llorente Cortés. LRP1 as a source of therapeutic, diagnostic and prognostic tools in cardiovascular disease. Reference: 201521_10. Fundació Marató TV3 (201521_10). Duration: 2016-2019. 199,511.25 €.
- ▶ Vicenta Llorente Cortés. Development of an innovative therapy for the treatment of atherosclerosis through the inhibition of the vascular ac-

cumulation of cholesterol. RTC-2016-5078-1. Ministerio de Economía, Industria y Competitividad. Duration: 2017-2019. 787,372.4 €.

- ▶ Vicenta Llorente Cortés. The link between myocardial LRP1 and circulating levels of natriuretic peptide ANP as a source of new diagnostic and therapeutic options in type 2 diabetes. PI18/01584. Instituto de Salud Carlos III. Duration: 2019-2022. 168,795 €.
- ▶ Rocío Toro. Application of transcriptomics on the diagnostic-therapeutic approach of familial dilated cardiomyopathy: Approximation to the cardiovascular personalized medicine. PI-0048-2017. Subvenciones para la financiación de la I+D+I biomédica y en ciencias de la salud en la provincia de Cádiz. Duration: 2018-2020.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Aleyda Benitez Amaro. Bases moleculares del efecto protector de los peptidos derivados de LRP1 frente a la agregación de la LDL. Implicaciones en arteriosclerosis. XXXII Congreso Nacional SEA. Valencia 2019. Special Mention Awards to oral communications.
- ▶ David De Gonzalo-Calvo. El RNA circular SMARCA5: Un nuevo biomarcador de enfermedad coronaria estable. XXXII Congreso Nacional SEA. Valencia 2019. Special Mention Awards to oral communications.

Scientific Production

Total Impact Factor: 74.657 · Mean Impact Factor: 6.2214

Bär C, Thum T, de Gonzalo-Calvo D. Circulating miRNAs as mediators in cell-to-cell communication. *EPIGENOMICS*. 2019;11(2):111-113. **IF: 4.979**

Benitez-Amaro A., Pallara C., Nasarre L., Rivas-Urbina A., Benitez S., Vea A., Bornachea O., de Gonzalo-Calvo D., Serra-Mir G., Villegas S., Prades R., Sanchez-Quesada J.L., Chiva C., Sabido E., Tarrago T., Llorente-Cortes V., Molecular basis for the protective effects of low-density lipoprotein receptor-related protein 1 (LRP1)-derived peptides against LDL aggregation (2019) *BBA-BIOMEMBRANES*, 1861 (7), 1302-1316. **IF: 3.7900**

Gomes CPC, Ágg B, Andova A, *et al.* Catalyzing Transcriptomics Research in Cardiovascular Disease: The CardioRNA COST Action CA17129. *NON-CODING RNA*. 2019;5(2):31. **IF: -**

de Gonzalo-Calvo D, Colom C, Vilades D, Rivas-Urbina A, Moustafa A-H, Pérez-Cuellar M, Sánchez-Quesada JL, Pérez A, Llorente-Cortes V. Publisher correction: Soluble LRP1 is an independent biomarker of epicardial fat volume in patients with type 1 diabetes mellitus. *SCI REP*. 2019 Nov 8;9(1):16715. **IF: 4.525**

de Gonzalo-Calvo D., Vea A., Bar C., Fiedler J., Couch L.S., Brotons C., Llorente-Cortes V., Thum T., Circulating non-coding RNAs in biomarker-guided cardiovascular therapy: A novel tool for personalized medicine? (2019) *EUR HEART J*, 40 (20), 1643-1650. **IF: 23.2390**

de Gonzalo-Calvo D., Vilades D., Martínez-Cambor P., Vea A., Nasarre L., Sanchez Vega J., Leta R., Carreras F., Llorente-Cortes V., Circulating miRNAs in suspected stable coronary artery disease: A coronary computed tomography angiography study (2019) *J INTERN MED*, 286 (3), 341-355. **IF: 6.0510**

de Gonzalo-Calvo D., Elosua R., Vea A., Subirana I., Sayols-Baixeras S., Marrugat J., Llorente-Cortes V., Soluble low-density lipoprotein receptor-related protein 1 as a biomarker of coronary risk: Predictive capacity and association with clinical events (2019) *ATHEROSCLEROSIS*, 287, 93-99. **IF: 4.2550**

de Gonzalo-Calvo D, Vilades D, Martínez-Cambor P, Vea A, Ferrero-Gregori A, Nasarre L, Bornachea O, Sanchez Vega J, Leta R, Puig N, Benitez S, Sanchez-Quesada JL, Carreras F, Llorente-Cortés V. Plasma microRNA Profiling Reveals Novel Biomarkers of Epicardial Adipose Tissue: A Multidetector Computed Tomography Study. *J CLIN MED*. 2019;8(6):780. 2019 Jun 1. **IF: 5.583**

Méndez-Lara KA, Farré N, Santos D, Rivas-Urbina A, Metso J, Sánchez-Quesada JL, Llorente-Cortes V, Errico TL, Lerma E, Jauhainen M, Martín-Campos JM, Alonso N, Escolà-Gil JC, Blanco-Vaca F, Julve J. Human ApoA-I Overexpression Enhances Macrophage-Specific Reverse Cholesterol Transport but Fails to Prevent Inherited Diabetes in Mice. *INT J MOL SCI*. 2019;20(3):655. **IF: 4.183**

Meneses-Salas E, García-Melero A, Kanerva K, Blanco-Muñoz P, Morales-Paytuyi F, Bonjoch J, Casas F, Egert A, Beevi SS, Jose J, Llorente-Cortés V, Rye K-A, Heeren J, Lu A, Pol A, Tebar F, Ikonen E, Grewal T, Enrich C, Rentero C. Annexin A6 modulates TBC1D15/Rab7/StARD3 axis to control endosomal cholesterol export in NPC1 cells [published online ahead of print, 2019 Oct 29]. *CELL MOL LIFE SCI*. 2019;10.1007/s00018-019-03330-y. **IF: 7.014**

Rodríguez-Calvo R., Girona J., Rodríguez M., Samino S., Barroso E., de Gonzalo-Calvo D., Guaita-Esteruelas S., Heras M., van der Meer R.W., Lamb H.J., Yanes O., Correig X., Llorente-Cortes V., Vazquez-Carrera M., Masana L., Fatty acid binding protein 4 (FABP4) as a potential biomarker reflecting myocardial lipid storage in type 2 diabetes (2019) *METABOLISM*, 96, 12-21. **IF: 6.5130**

Sonnenschein K, Wilczek AL, de Gonzalo-Calvo D, Pfanne A, Derda AA, Zwadlo C, Bavendiek U, Bauersachs J, Fiedler J, Thum T. Serum circular RNAs act as blood-based biomarkers for hypertrophic obstructive cardiomyopathy. *SCI REP*. 2019;9(1):20350. 2019 Dec 30. **IF: 4.525**

Other Publications

- ▶ Gustafson KPJ, Görbe T, de Gonzalo-Calvo G, Yuan N, Schreiber CL, Shchukarev A, Tai C-W, Persson I, Zou X, Bäckvall J-E. Chemoenzymatic Dynamic Kinetic Resolution of Primary Benzylic Amines using Pd⁰-CalB CLEA as a Biohybrid Catalyst. *Chemistry*. 2019;25(39):9174-9179.

Diffusion Activities

Seminars and Organizational Conferences

- ▶ Vicenta Llorente-Cortés, David de Gonzalo Calvo. Jornada Epidemiología Cardiovascular del CIBERCV. Jornada Inter-CIBER. Barcelona, 6 November 2019.
- ▶ Vicenta Llorente Cortés (expert). International Committee to select a candidate for a Group Leader position at INSERM Institute of Metabolic and Cardiovascular Diseases. I2MC, Toulouse, France.
- ▶ Vicenta Llorente Cortés. Member of the Editorial Board of Scientific Reports.
- ▶ Vicenta Llorente Cortés. Regular Reviewer of Magazines: Scientific Reports, Atherosclerosis, eMetabolism, ATVB
- ▶ Vicenta Llorente Cortés. Regular Reviewer of projects of ANEP, SEC and SEA

Congress Communications

- ▶ David de Gonzalo-Calvo. Micrnas as circulating biomarkers of epicardial fat volume: a multidetector computed tomography study. 87th EAS Congress, Maastricht, The Netherlands, May 26-29, 2019.
- ▶ Aleyda Benítez Amaro. Bases moleculares del efecto protector de los péptidos derivados de LRP1 frente a la agregación de la LDL. Implicaciones en arteriosclerosis. XXXII Congreso Nacional SEA. Valencia 2019.
- ▶ David De Gonzalo-Calvo. El RNA circular SMARCA5: Un nuevo biomarcador de enfermedad coronaria estable. Presenter author: XXXII Congreso Nacional SEA. Valencia 2019.
- ▶ Roberto Elosua Llanos. El receptor LRP1 circulante como biomarcador de riesgo coronario: capacidad predictiva y asociación con eventos clínicos. 40 Congreso Nacional de la SEC. Barcelona 2019.
- ▶ Aleyda Benítez Amaro. Los péptidos derivados de LRP1 como estrategia terapéutica en aterosclerosis. Estudios bioquímicos, *in vitro* e *in vivo*. Presenter author: 40 Congreso Nacional de la SEC. Barcelona 2019.

Group Articles Disclosure

- ▶ <https://www.cibercv.es/noticias/los-peptidos-derivados-de-lrp1-potenciales-herramientas-clinicas-en-la-prevencion-de-la-aterosclerosis>
- ▶ <http://www.recercasantpau.cat/actualitat/sant-pau-publica-a-biochimica-et-biophysica-acta-biomembranes/>
- ▶ <https://www.cibercv.es/noticias/slrp1-predice-con-mucha-antelacion-el-riesgo-de-enfermedad-cardiovascular-en-personas-que-no-presentan-ningun-sintoma>

Genomics of Complex Diseases



Coordinator

Soria Fernández, José Manuel (IR)
jsoria@santpau.cat

Members

Alcolea Ruiz, Sonia (IR)
Aloy Ortiz, Carme (external entity)
Camacho Pérez de Madrid, María Mercedes (IR)
Cardenas Yebra, Antonio (IR)

Dilme Muñoz, Jaume Fèlix (FGS)
Escudero Rodríguez, José Roman (FGS)
Fité Matamoros, Joan (FGS)
Llonga Tejedor, Natalia (IR)
Lloret Cano, María Dolores (external entity)
López Moreno, Sonia (IR)
Martín Fernández, Laura (external entity)

Martínez Pérez, Ángel (IR)
Múñoz Lozano, Concepción (IR)
Paüls Verges, Ferran (IR)
Peypoch Pérez, Olga (FGS)
Rodríguez Rius, Alba (IR)
Romero Carro, Josep Maria (FGS)
Sabater Lleal, Maria (IR)
Soto Carricas, Begoña (FGS)

Main Lines of Research

Angiology and Vascular Biology

- ▶ TAGA Project: Genomic basis of Abdominal Aortic Aneurysm.

Venous Thrombosis and Thrombosis and Cancer

- ▶ GAIT Project: Genetic Analysis of Idiopathic Thrombophilia.
- ▶ RETROVE Project: Risk of Venous Thromboembolic Disease.
- ▶ OncoThromb Project: New biomarkers associated with Thrombosis and Cancer.
- ▶ AIRTOP and MIRTO Projects: Assessment of the Individual Risk of Thrombosis in Oncology Patients.

Genomics in Sport Medicine

- ▶ SUMMIT Project (Health in sport and its limits): Marathons and Ultra-trail races.

- ▶ Biological, genetic and clinical impact.
- ▶ SHERPA_Everest Project. Exposition to extreme environmental hypoxia and its effect on the inflammatory and cardiopulmonary response: Biological, genetic and clinical impact.
- ▶ Xtreme-Genetics K2 project. Expedition to K2 peak. Biological, genetic and clinical impact.
- ▶ ALPE project: Altitude Performance in Elite Athletes.

Transversal Research Areas

- ▶ Bioinformatics Epigenetics.
- ▶ Translational Research and Personalized Medicine.

Scientific Challenges

- ▶ Analysis of omics data (genomics, transcriptomics, epigenomics) in the field of complex diseases with 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 diseases.
- ▶ Development of predictive algorithms that integrate patients' genetic, biological and clinical information (Personalized Medicine).

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Thrombosis and Haemostasis, Dr. J.C. Souto. GAIT, MIRTO, RETROVE Projects.
- ▶ Neurology, Dr. J. Marti: MIRTO Project. Elena Jiménez: Lipoproteic biomarkers. ICTUS.
- ▶ 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. Rodríguez and Dra. Maria Galán.
- ▶ Participation in CIBERCV, CIBER de Enfermedades Cardiovasculares. Dr. J González.
- ▶ General and Digestive Surgery. Dra C. Balaguer.
- ▶ Clinical Pharmacology, Dra. M.A. Mangues, Mar Gomis. AIRTOP Project.
- ▶ Neumology, Dr. O. Sibila. SUMMIT, SHERPA Projects.

External Collaborations

- ▶ Clinical Oncology Department, Hospital Gregorio Marañón, Madrid. Dr. A. Muñoz: ONCOTHROMB, AIRTOP Projects.
- ▶ Clinical Department of Hematology and Hemostasis. University of Wien, Austria. Dra. Ingrid Pabinger. ONCOTHROMB, MIRTO Projects.
- ▶ Jochen Schwenk, SciLifeLab, Sweden: GAIT Project.
- ▶ Department of Genetics, University of Genève, Switzerland, Dr. M. Dermizakis and Dr. Ana Viñuela: GAIT Project.
- ▶ Institute of Biological Psychiatry, Sankt Hans Hospital. Roskilde, Denmark, Dr. A. Buil: Bioinformatics of Complex Diseases, GAIT Project.
- ▶ INSERM UMR_S1219 - Bordeaux Public Health Center. Bordeaux, France. Dr. DA. Tregouet: GAIT, VEREMA Projects.
- ▶ Laboratory Haematology, Hospital Timone Marseille, France, Dr. P. Morange: GAIT, VEREMA Projects.

- ▶ Haematology Department, Karolinska Hospital, Sweden, Dr. J. Odeberg: VEREMA Project.
- ▶ Centro Nacional de Investigaciones Cardiovasculares (CNIC), Madrid. Dr. J.M. Redondo.
- ▶ Hospital Clínic de Barcelona, Otorhinolaryngology Service.
- ▶ Prediction of response to head and neck cancer. Dr. FX Avilés-Jurado.
- ▶ Hospital Vall d'Hebron. Barcelona. Vascular Surgery Service. Dr. S. Bellmunt.
- ▶ Banc de Sang i Teixits (BST). Dr. F Vidal.
- ▶ Centre de Recerca en Enginyeria Biomèdica, Universitat Politècnica de Catalunya, Barcelona, Dr. A. Perera: SUMMIT Project.
- ▶ CAR, Centre d'Alt Rendiment, Sant Cugat. Dr. Francheck Drobnic: Sport Medicine Projects.
- ▶ CHARGE, international network consortium. Hemostatic factors studies.
- ▶ GIANT, international network consortium. Anthropometric factors studies.
- ▶ GLGC, international network consortium. Lipidic factors research.
- ▶ Leo-Pharma Company. Prediction of thrombosis risk in cancer patients.
- ▶ GenIncode Company. Development of genetic diagnostics in thrombosis.

Active Grants

- ▶ Alba Rodríguez Rius. Identificación de Mecanismos de Regulación de la Expresión Génica (microRNAs) en la Enfermedad Tromboembólica Venosa. 2017 FI_B 00673. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020. 68,913.59 €.
- ▶ José Manuel Soria Fernández. Validación del Proyecto MIRTO (Modeling the Individual Risk of Thrombosis in Oncology). PI17/00059. Instituto de Salud Carlos III. Duration: 2018-2020. 112,000 €.
- ▶ Maria Sabater Lleal. Identification of novel biomarkers and genetic pathways involved in Abdominal Aortic Aneurysm. CP17/00142(P). Instituto de Salud Carlos III. Duration: 2018-2020. 99,000 €.
- ▶ Maria Sabater Lleal. Contractes d'Investigadors "Miguel Servet tipo I" 2017. CP17/00142. Instituto de Salud Carlos III. Duration: 2018-2023. 202,500 €.
- ▶ María Mercedes Camacho Pérez de Madrid. Laboratorio de Angiología, Biología Vascular e Inflamación. 2017 SGR 01243. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ José Manuel Soria Fernández. Unitat de Genòmica de Malalties Complexes. 2017 SGR 01736. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Josep Maria Romero Carro. Bases genéticas de la insuficiencia venosa crónica y su implicación en la enfermedad tromboembólica. FMM 2018. Fundació Mutua Madrileña. Duration: 2018-2020. 57,142.86 €.
- ▶ Maria Sabater Lleal. Population genomic variation, functional biology and the risk of venous thrombosis. HL134894. National Institute of Health (NIH). Duration: 2018-2021. 56,503.06 €.
- ▶ Concepción Muñoz Lozano. Predisposición genética a la trombosis en pacientes oncológicos (ONCOTROMB). SLT002/16/00113. Departament de Salut. Duration: 2017-2019. 63,311.05 €.
- ▶ Laura Martín. Identificación de variantes genéticas por Next Generation Sequencing (NGS) asociadas a la formación de Neutrophil Extracellular Traps (NETs) y Enfermedad Tromboembólica Venosa (ETV) en el Proyecto GAIT-2. Beca Proyecto de Investigación de la Sociedad Española de Trombosis y Hemostasia (SETH 2017). Duration: 2018-2019. 40,000€.
- ▶ José Manuel Soria Fernández. Validación del Proyecto MIRTO (Modeling the Individual Risk of Thrombosis in Oncology). Convocatoria de Proyectos López Borrascas 2018. Sociedad Española de Trombosis y Hemostasia (SETH). Duration: 2018-2019. 15,000 €.
- ▶ Mercedes Camacho. Nuevas estrategias terapéuticas en el manejo de la enfermedad arterial periférica y el aneurisma de aorta abdominal. FIS PI18/00919. Duration: 2019-2021. 183,920 €.
- ▶ José Manuel Soria Fernández. Desenvolupament d'un algoritme de predicció de risc de trombosi en pacients oncològics. NUCLIS RD16-1-0034. Generalitat de Catalunya. Duration: 2018-2019. 50,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ First Prize for the best start-up or Initiative in business innovation. Premis Creativ 2019. Tecnocampus, Mataró. Project: Health_Xcode.
- ▶ Diario Médico Best Ideas Award 2019: Espacio médico vascular para la I+D y la impresión 3D en el proceso asistencial cardiovascular.

Doctoral Theses

- ▶ Soto Carricas, Begoña. Identificación de biomarcadores para el diagnóstico del aneurisma de aorta abdominal y la evaluación del riesgo de rotura. Universitat Autònoma de Barcelona. Departament de Cirurgia. Directors: Mercedes Camacho Pérez de Madrid, Sergi Bellmunt Montoya. Date of defense: 19/12/2019.

Transfer Products

- ▶ ARN_Genomax Project. Innovation Programme The Collider. Mobile World Capital Barcelona Foundation.

Scientific Production

Total Impact Factor: 106.679 · Mean Impact Factor: 9.6980

Bolibar I., Gich I., Angles A., Romero J.M., Escudero J.R., Variability of revascularization techniques among Catalan hospitals and impact on leg salvage in patients with peripheral arterial disease (2019) *INT ANGIOL*, 38 (1), 54-61. **IF: 1.2790**

Bonfill X., Quintana M.J., Bellmunt S., Suclupe S., Gomez E., Fernandez de Valderrama I., Castejon B., Miralles M., Perez E., Escudero J.R., Descriptive and follow-up study of patients treated surgically for abdominal aortic aneurysm at tertiary hospitals in Spain (2019) *INT ANGIOL*, 38 (5), 402-409. **IF: 1.2790**

Clark D.W., Okada Y., Moore K.H.S., Mason D., Pirastu N., Gandin I., Mattsson H., Barnes C.L.K., Lin K., Zhao J.H., Deelen P., Rohde R., Schurmann C., Guo X., Giulianini F., Zhang W., Medina-Gomez C., *et al.*, Associations of autozygosity with a broad range of human phenotypes (2019) *NAT COMMUN*, 10 (1). **IF: 11.8780**

De Vries P.S., Sabater-Lleal M., Huffman J.E., Marten J., Song C., Pankratz N., Bartz T.M., De Haan H.G., Delgado G.E., Eicher J.D., Martinez-Perez A., Ward-Caviness C.K., Brody J.A., Chen M-H., *et al.*, A genome-wide association study identifies new loci for factor VII and implicates factor VII in ischemic stroke etiology (2019) *BLOOD*, 133 (9), 967-977. **IF: 16.5620**

Esteban C., Rodriguez P., Escudero J.R., Clara A., Fernandez A., Fernandez S., Agundez I., Anaemia in patients who underwent vascular surgery: a significant predictor of amputation and death Anemia en pacientes sometidos a cirugía vascular, factor predictor de amputación y muerte (2019) *MED CLIN-BARCELONA*, 152 (1), 6-12. **IF: 1.2770**

Garrido E., Soria JM, Salisbury R. Breathless and dying on Mount Everest. *THE LANCET RESPIRATORY MEDICINE*. 2019 Nov;7(11):e36. PMID: 31645281. **IF: 22.992**

Lindstrom S., Wang L., Smith E.N., Gordon W., van Hylckama Vlieg A., de Andrade M., Brody J.A., Pattee J.W., Haessler J., Brumpton B.M., Chasman D.I., Suchon P., Chen M.-H., Turman C., Germain M., *et al.*, Genomic and transcriptome association studies identify 16 novel susceptibility loci for venous thromboembolism (2019) *BLOOD*, 134 (19), 1645-1657. **IF: 16.5620**

Navas-Madronal M., Rodriguez C., Kassan M., Fite J., Escudero J.R., Canes L., Martinez-Gonzalez J., Camacho M., Galan M., Enhanced endoplasmic reticulum and mitochondrial stress in abdominal aortic aneurysm (2019) *CLIN SCI*, 133 (13), 1421-1438. **IF: 5.2370**

Posso M., Quintana M.J., Bellmunt S., Garcia L.M., Escudero J.R., Viteri-Garcia A., Valli C., Bonfill X., GRADE-Based Recommendations for Surgical Repair of Nonruptured Abdominal Aortic Aneurysm (2019) *ANGIOLOGY*, 70 (8), 701-710. **IF: 2.3760**

Pujol-Moix N., Martinez-Perez A., Sabater-Lleal M., Llobet D., Vilalta N., Hamsten A., Souto J.C., Soria J.M., Influence of ABO locus on PFA-100 collagen-ADP closure time is not totally dependent on the von willebrand factor. Results of a GWAS on gait-2 project phenotypes (2019) *INT J MOL SCI*, 20 (13). **IF: 4.1830**

Sabater-Lleal M., Huffman J.E., de Vries P.S., Marten J., Mastrangelo M.A., Song C., Pankratz N., Ward-Caviness C.K., Yanek L.R., Trompet S., Delgado G.E., Guo X., Bartz T.M., Martinez-Perez A., Germain M., *et al.*, Genome-Wide Association Transethnic Meta-Analyses Identifies Novel Associations Regulating Coagulation Factor VIII and Von Willebrand Factor Plasma Levels (2019) *CIRCULATION*, 139 (5), 620-635. **IF: 23.0540**

Other Publications

- ▶ Quintana MJ, Gich I, Librero J, Bellmunt-Montoya S, Escudero JR, Bonfill X. Variation in the choice of elective surgical procedure for abdominal aortic aneurysm in Spain. *Vascular Health and Risk Management* 2019 Apr 8;15:69-79. doi: 10.2147/VHRM.S191451. ECollection 2019.

Diffusion Activities

Congresses, Lectures and Conferences

- ▶ Martín-Fernández L, García-Martínez I, Martínez-Pérez A, López S, Corrales I, Souto JC, Vidal F, Soria JM. Identificación de variantes genéticas asociadas al DNA libre en plasma como fenotipo intermediario de la enfermedad tromboembólica venosa en el proyecto GAIT-2. XXXV Congreso de la SETH. Valencia 2019. Oral Communication.
- ▶ Andrew Brown, Ana Viñuela, Ángel Martínez-Perez, Nikolaos I Panousis, Andrey Ziyatdinov, Maria Sabater-Lleal, Anders Hamsten, Juan C Souto, Alfonso Buil, Jose M Soria, Emmanouil T Dermitzakis. Non-additive genetic effects on gene expression modulated by cell heterogeneity in whole blood. ASHG, Houston, 15-19 Oct 2019.
- ▶ Rodríguez-Rius A, López S, Martínez-Pérez A, Soria JM. Development and validation of a plasma micro-RNAs profile associated to venous thrombosis. International Society of Thrombosis and Hemostasis (ISTH) Congress 2019. Melbourne 2019. Oral Communication.
- ▶ Muñoz A, Ay C, Grilz E, López S, Font C, Pachón V, Castellón V, Martínez-Marín V, Salgado M, Martínez E, Calzas J, Rupérez A, Salas E, Pabinger I, Soria JM. A clinical-genetic risk score to predict cancer-associated venous thromboembolism: a development and validation study in two independent prospective cohorts. International Society of Thrombosis and Hemostasis (ISTH) Congress 2019. Melbourne 2019. Oral Communication.
- ▶ Bastos Oreiro M, Ortiz J, Pradillo V, Martínez Laperche C, Salas E, Buño I, Díez JL, Soria JM, Pascual Izquierdo C. A validation, with new clinical applicability, of a clinical-genetic risk model that predicts thrombosis with high sensitivity in patients with lymphoma. International Society of Thrombosis and Hemostasis (ISTH) Congress 2019. Melbourne 2019. Oral Comunicación.
- ▶ López S, Rodríguez-Rius A, Viñuela A, Martínez-Pérez A, Brown A, Martín-Fernández L, Vilalta N, Muñoz C, Arus M, Panousis N, Buil A, Dermitzakis ET, Sabater-Lleal M, Souto JC, Soria JM. Integrated GWAS and gene expression data identifies ORM1 as potential regulator of plasma cell-free DNA levels in families of the GAIT2 project. International Society of Thrombosis and Hemostasis (ISTH) Congress 2019. Melbourne 2019. Poster.
- ▶ JM Soria (lecturer). Modelizando el riesgo de trombosis en pacientes oncológicos. TIC-ONCO. II Edición Avanzando juntos en ETEV. ¿Usted qué haría? Labs. Rovi. 2019, Barcelona.
- ▶ Maria Sabater Lleal (lecturer). La genètica per estudiar malalties complexes. Matí de la Recerca 2019. ISGlobal and ACCC. Institut Isaac Albéniz. Badalona, 2019.
- ▶ Maria Sabater Lleal (invited lecturer). Master programme 2019, Karolinska Institutet, Sweden.
- ▶ José María Romero Carro. Below the Knee Endovascular treatment and angiosomes. Concepts, Bibliographic review. Focus Group Meeting 2019. Zurich, 5-8 March 2019.
- ▶ José María Romero Carro. Distal interconnections at the distal level of lower extremities. Focus Group Meeting 2019. Zurich, 5-8 March 2019.
- ▶ Dilmé, J. Thoraco-abdominal hemodialysis. Actualización en Cirugía Endovascular. Hospital Vall d'Hebron, Barcelona, 14-15 February 2019. Oral communication.
- ▶ Dilmé J. ¿Qué puede ofrecer el cirujano vascular? Acceso vascular: equipo multidisciplinar. Curso Hemodiálisis Crónica, VI Edición. F. Puigvert, 6 March 2019. Oral communication.
- ▶ Fité Matamoros, Joan. Round table moderator: Block 4 – Aortic aneurysms. XVI Update Course in Angiology and Vascular Surgery. Madrid, 10-12 April 2019.
- ▶ Joan Fité Matamoros, Laia Sánchez García, Olga Peypoch Pérez, Domingo Ruiz Hidalgo, Esther Francia Santamaría, José Román

- Escudero Rodríguez. Geriatric preoperative assessment in aortic pathology indication for surgery: results after 2 years' implementation. Congreso Internacional SCACVE. Sitges, 2019. Oral communication.
- ▶ José Román Escudero. Conference "Mitos y realidades en insuficiencia venosa crónica". Col·legi Oficial de Farmacèutics de Barcelona, 2019.
 - ▶ José Román Escudero. Lecture: "The biosynthetic alternative for vascular grafting. My experience". Omniflow 11. Roma, 2019. Oral communication.
 - ▶ Tiñena E, Dilmé J, Barros JA, Soto B, Peypoch O, Escudero JR. Management of non-traumatic, type B acute aortic syndrome focussed on intramural hematomas and penetrating aortic ulcers, in a tertiary hospital under a multidisciplinary functional unit of aortic pathology. International Congress Societat Catalana d'Angiologia, Cirurgia Vasculat Endovascular. Sitges, 10-11 May 2019. Oral communication.
 - ▶ Brítez E, Dilmé JF, Medrano R, Rovira R, Sánchez L, Escudero JR. Results of the different therapeutic options in the management of prosthetic infections of the aorto-iliac territory. International Congress Societat Catalana d'Angiologia, Cirurgia Vasculat Endovascular. Sitges, 2019. Oral communication.
 - ▶ Sánchez L, Dilmé JF, Soto B, Brítez E, Fite J, Escudero JR. Evaluation of short and midterm outcomes of custom-made aortic complex thoracoabdominal endografts in a tertiary vascular institution. International Congress Societat Catalana d'Angiologia, Cirurgia Vasculat Endovascular. Sitges, 2019. Oral communication.
 - ▶ Rovira R, Dilmé JF, Villalba J, Guerrero R, Brítez E, Escudero JR. Aorto-iliac obstructive disease treatment using AFX-Vela Endologix® stent graft: our centre experience. International Congress Societat Catalana d'Angiologia, Cirurgia Vasculat Endovascular. Sitges, 2019. Oral communication.
 - ▶ J Fité, L Sánchez, O Peypoch, D. Ruiz, E Francia, JR Escudero. La valoración geriátrica preoperatoria en la decisión de la indicación quirúrgica en patología aórtica: resultados tras dos años de aplicación. 65 Congreso SEACV. Gran Canaria 2019. Oral communication.
 - ▶ Enric Tiñena Molina, Antonio Barros Membrilla, Jaime Félix Dilmé Muñoz, Josep Maria Romero Carro, Laia Sánchez García, José Román Escudero Rodríguez. Flow Redirection as a Therapeutic Option for Remodelling Chronic Type B Dissections. National Congress Societat Catalana d'Angiologia, Cirurgia Vasculat i Endovascular. Sitges, 2019. Oral communication.
 - ▶ Laia Sánchez García, Joan Fité Matamoros, Jorge Moreno Molina, Olga Peypoch Pérez, José Román Escudero Rodríguez. Results after implementation of a systematic vascular access assessment protocol for TAVI implantation Congreso Internacional SCACVE. Sitges 2019. Oral communication.
 - ▶ José Román Escudero (round table moderator). El pie diabético. Algoritmo de tratamiento. Un abordaje multidisciplinario. Granada Peripheral Summit. Granada, 2019.
 - ▶ Raquel Gayarre, Ana Belén Escobar, Anna Gené, Joan Fité, Sergi Bellmunt. Estudio de concordancia en la medición ecográfica de diámetro de aorta abdominal realizada por médicos de familia y cirujanos vasculares. Congreso Nacional SEMFYC Málaga, 2019. Oral communication.
 - ▶ T. Puig, S. Bellmunt, R. Gayarre, J. Solà, A. Guarch, M. Gonzalez-Moreno, M. Lowak, J. Fité, C. Requeijo. Programa piloto de cribado poblacional de aneurisma de aorta abdominal mediante ecografía realizada en atención primaria. Reunión Anual de la SEE. Oviedo, 2019. Oral communication.
 - ▶ Begoña Soto. Què fer quan l'anatomia no ens és favorable per utilitzar un branch? Sessió ordinària SCACVE. Barcelona, 2019. Oral communication.
 - ▶ Jaume Dilmé Muñoz (round table moderator). Maneig de la hipogàstrica en la cirurgia endovascular aneurismàtica. Ordinary session SCACVE, Barcelona, 2019.
 - ▶ Jaume Dilmé Muñoz. Opciones de tratamiento de cuellos angulados y cortos: Expansión de la indicación EVAR con la nueva generación de endoprótesis para AAA GORE® EXCLUDER® Conformable. Simposio Avanzado en Patología Aórtica 3.0. Medical Mastery Series Gore Real Academia de Bellas Artes de San Fernando-Madrid, 2019. Oral communication.
 - ▶ S. Pérez García, S. Italiano, R. Anaya Camacho, J. Dilmé, M.V. Moral García. Uso combinado de bloqueo continuo de pared abdominal y troncular como alternativa a la técnica epidural en cirugía vascular mayor. XXXIV Congreso Nacional de la Sociedad Española de Anestesiología, Reanimación y Terapéutica del Dolor. Las Palmas de Gran Canaria, 2019. Poster.
 - ▶ A.B. Bueno Izquierdo, M. Rivilla Lizano, M. Martín Huerta, J. Dilmé, R. Guerrero, V. Moral García. Isquemia medular de aparición tardía tras reparación endovascular de aneurisma de aorta toraco-abdominal. I Jornadas de Anestesia, Reanimación y Cirugía Vasculat. Zaragoza, 2019. Poster.
 - ▶ Raquel Rovira Safont, Jaime Félix Dilmé Muñoz, Jordi Villalba Auñón, Rubén Guerrero Vara, Eduardo Daniel Brítez Altamirano, José Román Escudero Rodríguez. Trombectomía ilíaca mecánica percutánea en isquemias subagudas con dispositivo Rotarex® de ejes ilíacos tratados endovascularmente: experiencia en nuestro centro. Gran Canaria-Mas Palomas, 65 Congreso Nacional de la Sociedad Española de Angiología y Cirugía Vasculat. Gran Canaria-Mas Palomas, 2019. Poster.
 - ▶ Enric Tiñena Molina, Jaime Félix Dilmé Muñoz, Antonio José Barros Membrilla, Begoña Soto Carricas, Olga Peypoch Pérez, José Román Escudero Rodríguez. Manejo del síndrome aórtico agudo no traumático tipo B, centrado en los hematomas intramurales y las úlceras aórticas penetrantes, en un hospital terciario referente con Unidad Funcional de Patología Aórtica Multidisciplinar. 65 Congreso Nacional de la Sociedad Española de Angiología y Cirugía Vasculat. Gran Canaria-Mas Palomas, 2019. Poster.
 - ▶ Raquel Rovira Safont, Jaime Félix Dilmé Muñoz, Jordi Villalba Auñón, Rubén Guerrero Vara, Eduardo Daniel Brítez Altamirano, Jose Román Escudero. Aorto-Iliac Obstructive Disease Treatment Using AFX-VELA ENDOLOGIX Stent Graft: Our Centre Experience. International Congress SCACVE. Sitges. Poster.
 - ▶ Raquel Rovira Safont, Jaime Félix Dilmé Muñoz, Jordi Villalba Auñón, Rubén Guerrero Vara, Eduardo Daniel Brítez Altamirano, Jose Román Escudero Rodríguez. Implantación de endoprótesis AFX-VELA Endologix® en pacientes con patología aorto-iliaca isquémica: experiencia en nuestro centro. 65 Congreso Nacional de la Sociedad Española de Angiología y Cirugía Vasculat. Gran Canaria-Mas Palomas, 2019. Poster.

Press News 2019

- ▶ El Mundo Deportivo: <https://www.mundodeportivo.com/bizkaia/20190326/461274225433/txikon-alex-k2-invernal-expedicion-imq-examen-medico-reconocimiento.html>
- ▶ La Vanguardia: <https://www.lavanguardia.com/economia/innovacion/20191115/471623452417/nit-empredoria-premis-creatic-analisis-arn.html>
- ▶ Capgrós (Diari Digital de Mataró): https://www.capgros.com/mataro/premi-creatic-2010-un-analisi-de-l-arn-combinat-amb-intel-ligencia-artificial_721824_102.html
- ▶ Tot Mataró: <http://www.totmataro.cat/ciutat/empenta/item/46296-health-xcode-es-el-projecte-guanyador-dels-premis-creatic-2019>
- ▶ Mataró Al Dia (TV): <http://mataroaudiovisual.alacarta.cat/mataro-al-dia-continguts/capitol/entrevista-health-xcode>

AREA 1 · Cardiovascular Diseases

Regulatory Mechanisms of Cardiovascular Remodelling



Coordinator

Rodríguez Sinovas, María
Cristina (IR)
crodriguez@santpau.cat

Members

Aguiló Núñez, Silvia (IR)
Alonso Nieto, Judith (CIBERCV)
Ballester Servera, Carme (IR)
Cañes Esteve, Laia (CSIC)
Galán Arroyo, Maria (IR)
Martínez González, José (CSIC)
Navas Madroñal, Miquel (IR)
Varona Álvarez, Saray (CIBERCV)

Main Lines of Research

- ▶ Extracellular matrix remodeling in cardiovascular disease.
- ▶ Nuclear receptors in atherosclerosis and vascular biology.
- ▶ Novel therapeutic targets in hypertensive heart disease.

Scientific Challenges

- ▶ Analysis of the molecular basis of abdominal aortic aneurysm: Identification of new therapeutic targets.
- ▶ Pathophysiological 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 pharmacologic tools in cardiovascular disease.
- ▶ Development and characterization of new animal models in cardiovascular disease.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Dr. Dídac Maurici: Coordinator of the Endocrinology, Diabetes and Nutrition group.
- ▶ Dr. Juan Antonio Arroyo Díaz: Group of Multiorganism Damage.
- ▶ Dra. Mercedes Camacho: Group of Genomics of Complex Diseases.
- ▶ Dr. Leif Hove-Madsen: Coordinator of the Regulation of Cardiac Rhythm and Contraction group.

External Collaborations

- ▶ Dra. Roxana Carare (University of Southampton).
- ▶ Dr. Modar Kassan (University of Iowa, USA).
- ▶ Dr. Ziad Mallat, MD, PhD (University of Cambridge).
- ▶ Dr. Vicente Andrés (Centro Nacional de Investigaciones Cardiovasculares, CNIC, Madrid).
- ▶ Dra. Meritxell Nus (University of Cambridge).
- ▶ Dr. Pablo García de Frutos (Instituto de Investigaciones Biomédicas de Barcelona, CSIC).
- ▶ Dra. Anna Planas (Instituto de Investigaciones Biomédicas de Barcelona, CSIC).

- ▶ Dr. José Antonio Páramo/Dr. José Antonio Rodríguez (Centro de Investigación Médica Aplicada, CIMA).
- ▶ Dr. García Dorado- Dr A. Rodríguez-Sinovas (Hospital Vall d'Hebron).
- ▶ Dra. Mercedes Salas-Dra Ana Briones (Universidad Autónoma de Madrid, UAM).
- ▶ Dra. Victoria Cachafeiro (Universidad Complutense de Madrid, UCM).
- ▶ Dra. Alicia Arroyo (Centro Nacional de Investigaciones Cardiovasculares, CNIC, Madrid).
- ▶ Dr. Lisardo Boscà (Director of Instituto de Investigaciones Biomédicas Alberto Sols, CSIC, Madrid)
- ▶ Dr. Francisco Sánchez Madrid (Director of Instituto de Investigación Sanitaria Hospital Universitario de La Princesa, Madrid).
- ▶ Dr. Sánchez-Infantes (Institut de Recerca Germans Trias i Pujol, Badalona).
- ▶ Dra. Gema Ruiz Hurtado (Hospital 12 de Octubre, Madrid).
- ▶ Dr. Gustavo Egea (Universitat de Barcelona, UB).
- ▶ Dr. Francisco Nistal (Hospital Universitario Marqués de Valdecilla, Santander),

Active Grants

- ▶ Maria Galán Arroyo. Contratos Miguel Servet I 2015. MS15/00126. Instituto de Salud Carlos III. Duration: 2016-2021, 202,500 €.
- ▶ Maria Galán Arroyo. Novel therapeutic strategies to limit the progression of abdominal aortic aneurysm: targeting endoplasmic reticulum and mitochondrial stress. CP15/00126. Instituto de Salud Carlos III. Duration: 2016-2019. 121,500 €.
- ▶ Maria Galán Arroyo. Nuevas dianas terapéuticas para el tratamiento del AAA y de la cardiopatía hipertensiva: proteínas implicadas en el estrés del retículo y en la disfunción mitocondrial. PI17/01837. Instituto de Salud Carlos III. Duration: 2018-2020. 102,000 €.
- ▶ María Cristina Rodríguez Sinovas. Nuevas estrategias terapéuticas en el manejo de la enfermedad arterial periférica y el aneurisma de aorta abdominal. PI18/00919. Instituto de Salud Carlos III. Duration: 2019-2021. 152,000 €.
- ▶ Maria Galán Arroyo. Implicación del estrés del retículo endoplasmático en la respuesta inmunológica que ocurre durante el desarrollo del aneurisma de aorta abdominal (AAA). MV18/00013. Instituto de Salud Carlos III. Duration: 2019-2019. 14,720 €.
- ▶ José Martínez González. Mecanismos que involucran a los receptores NR4A y a LOX en la calcificación vascular. RTI2018-094724-B-100. Duration: 2019-2021. 145,200 €.
- ▶ Roxana Carare. Lysyl oxidase (LOX) as facilitator of intramural periarterial drainage of the brain. IES\R2\181107. 14,134 €.
- ▶ José Martínez González. Immunoregulatory molecules and miRNAs as targets in coronary heart disease and acute coronary syndrome. 20152330 31. Fundació Marató de TV3. 41,250 € (anual).
- ▶ Laia Cañes Esteve. Ajuts per la contractació de personal investigador novell (Programa FI). 2017FI_B_0017521. Duration: 2017-2019. 146,88 € (anual).
- ▶ José Martínez González. CIBER de Enfermedades Cardiovasculares Instituto de Salud Carlos III. CB16/11/00257. Duration: from 2017. 53,257 € (anual).
- ▶ José Martínez González. Grups de Recerca Reconeguts i Finançats per la Generalitat de Catalunya. 2017 SGR 00333 (AGAUR). Duration: 2018-2020. Amount: 20,000 €.
- ▶ José Martínez González. El receptor nuclear NOR-1 en el remodelado cardiaco: análisis de mecanismos fisiopatológicos y validación de un modelo animal de utilidad preclínica. Proyecto de investigación básica en cardiología de la Fundación Española del Corazón (FEC)-Sociedad Española de Cardiología (SEC) 2018. 15,000 €.
- ▶ José Martínez González. El receptor nuclear NOR-1 en el remodelado vascular asociado a la aterosclerosis y al aneurisma de aorta abdominal. Proyecto/Beca FEA 2019 para Investigación Básica en Arteriosclerosis. 12,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Lidia Puertas Umbert. Contractes PFIS: Contractes Predoctorals de Formació en Recerca en Salut 2019. FI19/00331. Instituto de Salud Carlos III. Duration: 2020-2023. 82,400 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Laia Cañes Esteve, Íngrid Martí Pàmies, Judith Alonso, Carme Ballester, Cristina Rodríguez, José Martínez González. Nuevo modelo animal de utilidad pre-clínica en el ensayo de potenciales terapias para el aneurisma de aorta abdominal". XXXII Congreso Nacional SEA. Valencia, 2019. Special Moention Award.

Doctoral Theses

- ▶ Miquel Navas Madroñal. Nuevas estrategias terapéuticas para limitar el desarrollo del aneurisma de aorta abdominal: inhibición del estrés del retículo endoplasmático y mitocondrial. Universitat Autònoma de Barcelona. Director: María Galán Arroyo. Date of defense: 20/09/2019.

Patents

- ▶ Galán Arroyo M, Rodríguez C, Navas-Madroñal M, Martínez-González J. SS-31 for the prevention and/or treatment of aneurysm. EP19382654.2. European. 30/07/2019.
- ▶ Martínez-González J, Cañes L, Rodríguez C. Uso de inhibidores de la tirosina hidroxilasa para el tratamiento del aneurisma de aorta. PCT/ES2019/070434. Internacional. 21/06/2019.

Transfer Products

- ▶ González-Ramos S, *et al.* Nuevo modelo animal resistente al desarrollo de aterosclerosis inducida por dieta rica en grasas: Ratones deficientes en NOD1 y ApoE como modelo resistente al desarrollo de aterosclerosis FASEB J. 2019;33:3912-3921.
- ▶ Vals-Lacalle, *et al.* Nuevo modelo para el estudio de los mecanismos implicados en la fibrosis cardiaca: Fibroblastos cardiacos deficientes en conexina 43. Cells 2019;8(10). pii: E1299.
- ▶ María Galán, Miquel Navas, Cristina Rodríguez, José Martínez. Nuevas estrategias farmacológicas para el tratamiento del aneurisma de aorta abdominal. SS-31 for the prevention and/or treatment of aneurysm. EP19382654.2.
- ▶ Tsilingiri K, *et al.* Nuevo modelo de aterosclerosis: ratones y células deficientes en el receptor LDL y en CD69 como modelo de aterosclerosis. Circulation 2019;139:243-255.
- ▶ Siegert, *et al.* Nuevo modelo celular en síndrome de Marfan: Células musculares lisas vasculares (VSMC) con una mutación en el extremo 3'UTR del gen de la FBLN1 implicada en la patología. BBA - Molecular Basis of Disease 2019;1865:107-114.
- ▶ M. Consegal Pérez, M. Navas-Madroñal, J. Martínez-González, C. Rodríguez, M. Galán. Nuevas estrategias terapéuticas para limitar el desarrollo del aneurisma de aorta abdominal: inhibición del estrés del retículo endoplasmático y mitocondrial (Abstract)
- ▶ Marín-Royo G, *et al.* Nuevo tratamiento para limitar las alteraciones metabólicas en la obesidad. Uso de antioxidantes dirigidos contra la mitocondria en el tratamiento de la obesidad. FASEB J. 2019;33:12060-12072.

Scientific Production

Total Impact Factor: 59.407 · Mean Impact Factor: 7.4258

Gonzalez-Ramos S., Paz-García M., Rius C., del Monte-Monge A., Rodríguez C., Fernandez-García V., Andres V., Martínez-González J., Lasuncion M.A., Martín-Sanz P., Soehnlein O., Bosca L., Endothelial NOD1 directs myeloid cell recruitment in atherosclerosis through VCAM-1 (2019) *FASEB J*, 33 (3), 3912-3921. **IF: 5.3910**

Marín-Royo G., Rodríguez C., Le Pape A., Jurado-Lopez R., Luaces M., Antequera A., Martínez-González J., Souza-Neto F.V., Nieto M.L., Martínez-Martínez E., Cachafeiro V., The role of mitochondrial oxidative stress in the metabolic alterations in diet-induced obesity in rats (2019) *FASEB J*, 33 (11), 12060-12072. **IF: 5.3910**

Martínez-González J., Varona S., Canes L., Galán M., Briones A.M., Cachafeiro V., Rodríguez C., Emerging roles of lysyl oxidases in the cardiovascular system: New concepts and therapeutic challenges (2019) *BIOMOLECULES*, 9 (10). **IF: 4.6940**

Navas-Madronal M., Rodríguez C., Kassan M., Fite J., Escudero J.R., Canes L., Martínez-González J., Camacho M., Galán M., Enhanced endoplasmic reticulum and mitochondrial stress in abdominal aortic aneurysm (2019) *CLIN SCI*, 133 (13), 1421-1438. **IF: 5.2370**

Rodríguez C, Martínez-González J. The Role of Lysyl Oxidase Enzymes in Cardiac Function and Remodeling. *Cells*. 2019 Nov 21;8(12). pii: E1483. **IF: 5.656.**

Siegert A.-M., García Díaz-Barriga G., Esteve-Codina A., Navas-Madronal M., Gorbenko del Blanco D., Alberch J., Heath S., Galán M., Egea G., A FBN1 3'UTR mutation variant is associated with endoplasmic reticulum stress in aortic aneurysm in Marfan syndrome (2019) *BBA-MOL BASIS DIS*, 1865 (1), 107-114. **IF: 4.3280**

Tsilingiri K., de la Fuente H., Relano M., Sánchez-Díaz R., Rodríguez C., Crespo J., Sánchez-Cabo F., Dopazo A., Alonso-Lebrero J.L., Vara A., Vázquez J., Casanovas J.M., Alfonso F., Ibanez B., Fuster V., Martínez-González J., Martín P., Sánchez-Madrid F., Oxidized Low-Density Lipoprotein Receptor in Lymphocytes Prevents Atherosclerosis and Predicts Subclinical Disease (2019) *CIRCULATION*, 139 (2), 243-255. **IF: 23.0540**

Valls-Lacalle L., Negre-Pujol C, Rodríguez C, Varona S, Valera-Cañellas A, Consegal M, Martínez-González J, Rodríguez-Sinovas A. Opposite Effects of Moderate and Extreme Cx43 Deficiency in Conditional Cx43-Deficient Mice on Angiotensin II-Induced Cardiac Fibrosis. *Cells*. 2019 Oct 22;8(10). pii: E1299. **IF: 5.656.**

Other Publications

▶ Torres-Fonseca M, Galán M, Martínez-Lopez D, Cañes L, Roldan-Montero R, Alonso J, Reyero-Postigo T, Orriols M, Mendez-Barbero N, Sirvent M, Blanco-Colio LM, Martínez J, Martín-Ventura JL, Rodríguez C. Representing the Grupo de trabajo de Biología Vasculard de la Sociedad Española de Arteriosclerosis. Pathophysiology of abdominal aortic aneurysm: biomarkers and novel therapeutic targets. *Clin Investig Arterioscler*. 2019;31:166-177.

Diffusion Activities

Congress Communications and Invited Lectures

- ▶ 87th European Atherosclerosis Society Congress. Maastricht, 26-29 May 2019:
 - Consegal Pérez, M. Navas-Madroñal, J. Martínez-González, C. Rodríguez, M. Galán. Inhibition of endoplasmic reticulum stress as a potential therapy to limit the progression of AAA and hypertensive heart disease.
 - Del Monte A, Rodríguez C, Martínez González J, Andrés V. Aging downregulates lamin A/C expression in smooth muscle cells: A potential mechanism contributing to age-dependent cardiac disease.
- ▶ EMBO Workshop. Organ crosstalk in energy balance and metabolic disease. Cádiz, April 2019:
 - Galán M, Navas-Madroñal M, Castelblanco E, Consegal M, Camacho M, Mauricio D. Role of the scavenger receptor CD36 in vascular calcification and inflammation under hyperglycemic and atherogenic conditions.
- ▶ 6th International Conference on Cardiology and Vascular Biology. London, 11-12 November 2019.
 - Galán M. Inhibition of endoplasmic reticulum stress and mitochondrial oxidative stress as potential therapies to limit the progression of AAA and hypertensive heart disease.
- ▶ 32 Congreso Nacional de la Sociedad Española de Arteriosclerosis. Valencia, 12-14 June 2019:
 - Rodríguez C (guest presentation). Lisil oxidasa y remodelado de la matriz extracelular en las alteraciones estructurales y funcionales de la pared vascular.
 - Cañes L, Martí-Pàmies I, Alonso J, Ballester C, Rodríguez C, Martínez-González J. Nuevo modelo animal de utilidad pre-clínica en el ensayo de potenciales terapias para el aneurisma de aorta abdominal.
 - Varona S, Orriols M, Aguiló S, Galán M, Martínez González J, Rodríguez C. La lisil oxidasa regula la expresión vascular de MCP-1: contribución del factor de transcripción Sp1.

- Navas-Madroñal M, Consegal-Pérez M, Martínez-González J, Rodríguez C, Galán M. Uso de inhibidores del estrés del retículo endoplasmático como nueva terapia en el aneurisma de aorta abdominal y la hipertrofia cardiaca hipertensiva.
- ▶ Congreso Anual de la Sociedad Española de Cardiología (SEC), Barcelona, October 2019:
 - Cañes L, Martí-Pàmies I, Ballester C, Herraiz-Martínez A, Alonso J, Galán M, Muniesa P, Osada J, Hove-Madsen L, Rodríguez C, Martínez-González J. Remodelado cardiaco exacerbado en respuesta a sobrecarga de presión en TgNR4A3: nuevo modelo para la validación pre-clínica de terapias contra la hipertrofia ventricular.

Outreach Activities

- ▶ Dissemination in national media of research published in the journal *Circulation* on the role of CD69 as a marker of subclinical atherosclerosis (abc.es; CNIC.es, secardiologia.es, recercasantpau.cat). January 2019.
- ▶ Dissemination through national media of the research published by Navas-Madroñal *et al.* *Clin Sci* 2019, Marín-Royo *et al.* *FASEB J* 2019, Valls-Lacalle *et al.* *Cells* 2019.
- ▶ Dissemination of the Prize of the Real Academia de Medicina de Sevilla for the best Scientific Publication to the work entitled "Las células nestinas positivas dirigen la migración de las células inflamatorias en la arteriosclerosis". Webs CIBERCV and Instituto Biosanitario de Sevilla (IBIS). February 2019
- ▶ Conference for secondary students for the Week of Science. J. Martínez-González. Colesterol, el asesino silencioso. November 2019
- ▶ Video on cardiovascular disease within the contest "Yo investigo, yo soy CSIC" Laia Cañes Esteve. Nov-Dec 2019.

AREA 2

Genetic, Metabolic Inflammatory Disease

88 Genetic Diseases

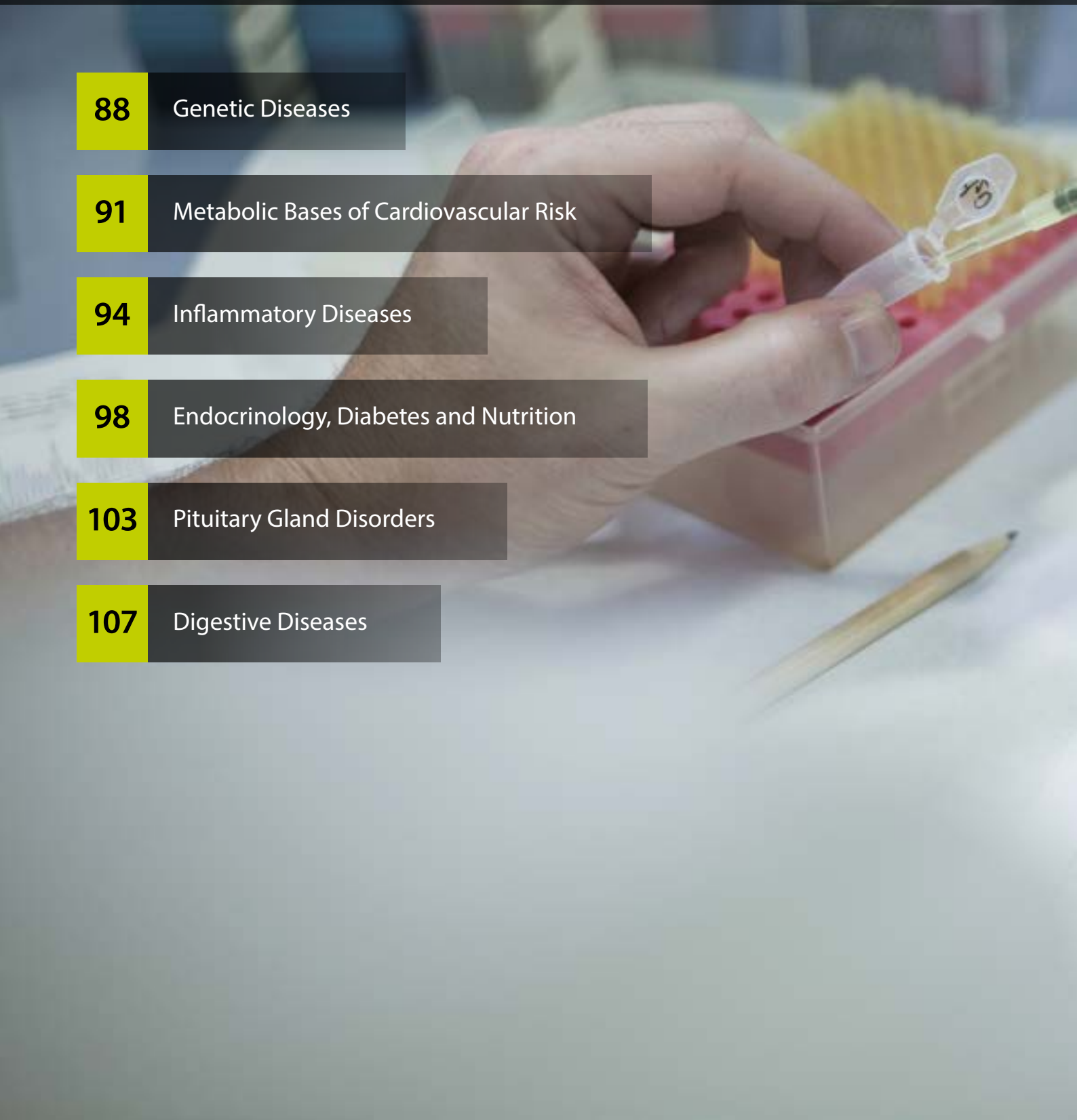
91 Metabolic Bases of Cardiovascular Risk

94 Inflammatory Diseases

98 Endocrinology, Diabetes and Nutrition

103 Pituitary Gland Disorders

107 Digestive Diseases



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115 Microbiology and Infectious Diseases

120 Multi-organ Damage

123 Chronic Respiratory Diseases

127 Research Group in HIV and AIDS

130 Genome Instability and DNA Repair Syndromes

AREA 2 · Genetic, Metabolic and Inflammatory Diseases

Genetic Diseases



Coordinator
Gallano Petit, Maria Pia (FGS)
pgallano@santpau.cat

Members
Alias Andreu, Laura (CIBERER)
Baena Gimeno, Manel (FGS)
Bernal Noguera, Sara (FGS)
Cliville Santano, Núria (FGS)
Cornet Ciurana, Mònica (FGS)
González Quereda, Lidia
(CIBERER)
Lasa Laborde, Adriana Maria
(FGS)

March Vallverdú, Francesca (FGS)
Rodríguez Fernández, M. José
(FGS)
Rodríguez Santiago, Benjamín
(FGS)
Rojas Rodríguez, Esther (FGS)
Salazar Blanco, Juliana (CIBERER)

Main Lines of Research

- ▶ Study of the clinical heterogeneity of genetic autosomal recessive transmission of waist dystrophy and autosomal dominant transmission.
- ▶ Spinal atrophy and SMN genes:
 - 1. Studies of molecular pathology, disease mechanisms and SMN gene expression.
 - 2. Identification of modifying genes.
 - 3. Study of biomarkers for validation processing in spinal muscular atrophy.
 - 4. Study of the neuromuscular junction in human development.
- ▶ Hereditary breast cancer and BRCA mutations:
 - 1. Identification of mutations and genetic variants.
 - 2. Molecular characterization of circulating tumor cells (CTCSS) through expression profiles in patients with breast cancer.
 - 3. Analysis of free circulating tumor DNA (cfDNA) as a predictor of response to the treatment of breast cancer.
- ▶ Pharmacogenetics: adverse reactions to medications.
- ▶ Congenital coagulopathies: molecular pathology of hemophilias.
- ▶ 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.

Scientific Challenges

Pharmacogenetics

- ▶ Colorectal and lung cancer treatments.
- ▶ Chronic inflammatory disease treatment.
- ▶ HIV infection treatment.

Muscular Dystrophies

- ▶ Post-transcriptional regulation of the dystrophin gene using non-sense-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 Breast/Ovarian Cancer

- ▶ DNA studies to classify DNA variants found in the BRCA genes as pathogenic or neutral.
- ▶ CTCs as prognostic markers in patients with locally advanced and disseminated breast cancer.
- ▶ Workflow development for the analysis of BRCA1 and BRCA2 genes by NGS techniques.

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.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Neurology Department: Neuromuscular Diseases group (IIB Sant Pau), headed by Eduard Gallardo.
- ▶ Oncology, Cardiology, ORL, Gynecology and Pediatrics Departments.

External Collaborations

Collaborations with Universities

- ▶ Several members of the group collaborate with the Universitat Autònoma de Barcelona as teachers in the second year of the Degree in Genetics, the Degree in Biology, the Master's Degree in Care Genetics and the Master of Neuropsychology.

▶ Tutoring of final master's works:

- Joan Barceló Mir. Técnicas moleculares para el diagnóstico de enfermedades genéticas raras. Universitat de Barcelona (UB), Facultat de Biologia. Tutor: Laura Alías Andreu.
- Andrea Valls. In search of a second CAPN3 mutation in a group of patients: elucidating the calpainopathy mode of inheritance. Universitat Autònoma de Barcelona (UAB), Facultat de Biociències. Tutor: Lidia González Quereda.

National Collaborations

- ▶ Hospital Sant Joan de Déu, Barcelona: Neuropediaetrics Department. Dr. A. Nascimento, Dr. C. Ortez and Dr. D. Natera.
- ▶ Hospital Vall d'Hebron, Barcelona: Neuropediaetrics Department. Dra. F. Munell.
- ▶ Hospital de Navarra, Navarra: Neurology Department. Dra. I. Jericó
- ▶ Hospital de Bellvitge, Barcelona: Neuropathology Department. Dra. M. Olivé.
- ▶ Hospital de Donostia, San Sebastián: Neurology Department. Dr. A. López de Munáin.
- ▶ Hospital 12 de Octubre, Madrid: Neurology Department. Dra. C. Domínguez.

Collaboration with scientific and patients organizations

- ▶ Fundació Catalana d'Hemofília
- ▶ 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 Genética Humana)
- ▶ AEP (Asociación Española de Pediatría)
- ▶ SEN (Sociedad Española de Neurología)
- ▶ SEG (Sociedad Española de Genética)
- ▶ SEQC (Sociedad Española de Bioquímica Clínica y Patología Molecular)
- ▶ SEFF (Sociedad Española de Farmacogenética y Farmacogenómica)
- ▶ AERES (Agence d'évaluation de la recherche et de l'enseignement supérieur). Committee: "Laboratoire de génétique médicale"
- ▶ Scientific Committee of the 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
- ▶ Member of the Scientific Advisory Committee of the Federación Española de Enfermedades Neuromusculares (Federación ASEM)

Active Grants

- ▶ Maria Pia Gallano Petit. Centro de Investigación Biomédica en Red de Enfermedades Raras. CIBERER. CB06/07/0011. Ministerio de Sanidad y Política Social. Duration: 2006-2020. 713,021.73 €.
- ▶ Maria Pia Gallano Petit. Implementación de la secuenciación masiva en el estudio de Miopatías Congénitas y Síndromes Miasténicos congénitos: un modelo de investigación traslacional en enfermedades raras. PI15/01898. Instituto de Salud Carlos III. Duration: 2016-2019. 56,500 €.
- ▶ Pau Riera Armengol. Marcadors farmacogenètics de resposta/resistència a les teràpies biològiques (anti-EGFR) en càncer colorectal. 2016 FI_B 00368. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2016-2019. 40,806 €.
- ▶ Maria Pia Gallano Petit. Implementació de la medicina personalitzada basada en la genòmica en malalties minoritàries neurològiques no diagnosticades. SLT002/16/00174. Departament de Salut. Duration: 2017-2019. 13,400 €.
- ▶ Maria Pia Gallano Petit. Servei de Genètica. 2017 SGR 00545. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Juliana Salazar Blanco. Millora del tractament amb fàrmacs antidepressius: desenvolupament i implementació de noves intervencions farmacogenètiques en àmbits hospitalaris. SLT006/17/00148. Departament de Salut. Duration: 2018-2020. 51,901 €.
- ▶ Maria Pia Gallano Petit. Anàlisi del transcriptoma mediante RNA-Seq en pacients con patologia neuromuscular no resuelta tras secuenciación de exoma: optimización del algoritmo diagnóstico. PI18/01585. Instituto de Salud Carlos III. Duration: 2019-2021. 102,000 €.
- ▶ Juliana Salazar Blanco. Estudio transversal y multicéntrico para el desarrollo de un modelo de predicción clínico y farmacogenético de la

satisfacción del paciente dependiente de heroína con la metadona como un medicamento. SLT 006 17 00179. Generalitat de Catalunya - Departament de Salut. Duration: 2018-2020. 166,627 €.

- ▶ Juliana Salazar Blanco. Caracterización genética del síndrome del QT largo asociado a fármacos. PI17/00980. Instituto de Salud Carlos III. Duration: 2018-2020. 197,351 €.
- ▶ Laura Alías Andreu, Aproximación genómica de la atrofia muscular espinal (AME): estudio de casos especiales con AME-5q y caracterización de pacientes con AME-no-5q. PI18/0687. Instituto de Salud Carlos III. Duration: 2019-2021. 172,183 €.
- ▶ Laura Alías Andreu. Biomarcadores precoces pronósticos y de respuesta a tratamiento en la Atrofia Muscular Espinal. Fundación GaliciAME. Duration: 2019-2020. 50,000 €.
- ▶ Pia Gallano, Sara Bernal. Implementación de la medicina personalizada basada en la Genómica en Enfermedades Minoritarias Neurológicas no diagnosticadas URDCAT. PERIS, Generalitat de Catalunya. Departament de Salut. 2016-2019. 1,002.740 €.
- ▶ Juliana Salazar. Mejora del tratamiento con fármacos antidepressivos: desarrollo e implementación de nuevas intervenciones farmacogenéticas en ámbitos hospitalarios. SLT006_17_00148. PERIS, Generalitat de Catalunya. Departament de Salut. Duration: 2018-2020. 137,581 €
- ▶ Ana Sebio Garcia. Evaluación de las alteraciones de la distrofina y proteínas afines como factores pronósticos en pacientes afectados de leiomiomasarcoma. FIS PI17/00143. Instituto de Salud Carlos III. Duration: 2018-2020. 76,230 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 111.087 · Mean Impact Factor: 6.1715

Aartsma-Rus A, Hegde M, Ben-Omran T, Buccella F, Ferlini A, Gallano P, Howell RR, Leturcq F, Martin AS, Potulska-Chromik A, Saute JA, Schmidt WM, Sejersen T, Tuffery-Giraud S, Uyguner ZO, Witcomb LA, Yau S, Nelson SF. Evidence-Based Consensus and Systematic Review on Reducing the Time to Diagnosis of Duchenne Muscular Dystrophy. *J PEDIATR* ;01. 204:305-313.e14. **FI: 3.739**

Alonso-Jimenez A., Kroon R.H.M.J.M., Alejaldre-Monforte A., Nunez-Peralta C., Horlings C.G.C., Van Engelen B.G.M., Olive M., Gonzalez L., Verges-Gil E., Paradas C., Marquez C., Garibaldi M., *et al.*, Muscle MRI in a large cohort of patients with oculopharyngeal muscular dystrophy (2019) *J NEUROL NEUROSUR PS*, 90 (5), 576-585. **IF: 8.2720**

Arranz M.J., Gonzalez-Rodriguez A., Perez-Blanco J., Penades R., Gutierrez B., Ibanez L., Arias B., Brunet M., Cervilla J., Salazar J., Catalan R., A pharmacogenetic intervention for the improvement of the safety profile of antipsychotic treatments (2019) *TRANSL PSYCHIAT*, 9 (1). **IF: 5.1820**

Draganov M., Arranz M.J., Salazar J., de Diego-Adelino J., Gallego-Fabrega C., Jubero M., Carceller-Sindreu M., Portella M.J., Association study of polymorphisms within inflammatory genes and methylation status in treatment response in major depression (2019) *EUR PSYCHIAT*, 60, 7-13. **IF: 3.9410**

Fernandez-Simon E., Carrasco-Rozas A., Gallardo E., Gonzalez-Quereda L., Alonso-Perez J., Belmonte I., Pedrosa-Hernandez I., Montiel E., Segovia S., Suarez-Calvet X., Llauger J., Mayos M., Illa I., *et al.*, Study of the effect of anti-rhGAA antibodies at low and intermediate titers in late onset Pompe patients treated with ERT (2019) *MOL GENET METAB*, 128 (1-2), 129-136. **IF: 3.6100**

Frongia A.L., Natera-de Benito D., Ortez C., Alarcon M., Borrás A., Medina J., Vigo M., Padros N., Moya O., Armas J., Carrera-García L., Exposito-Escudero J., Cuadras D., Bernal S., Martorell L., Colomer J., Nascimento A., Salbutamol tolerability and efficacy in patients with spinal muscular atrophy type II (2019) *NEUROMUSCULAR DISORD*, 29 (7), 517-524. **IF: 2.6120**

Gomez-Espana M.A., Gallego J., Gonzalez-Flores E., Maurel J., Paez D., Sastre J., Aparicio J., Benavides M., Feliu J., Vera R., SEOM clinical guidelines for diagnosis and treatment of metastatic colorectal cancer (2018) *CLIN TRANS ONCOL*, 21 (1), 46-54. **IF: 2.4410**

Grothey A., Yaeger R., Paez D., Tabernero J., Taieb J., Yoshino T., Groc M., Vedovato J., Chetaille E., Van Cutsem E., ANCHOR CRC: a phase 2, open-label, single arm, multicenter study of encorafenib (ENCO), binimetinib (BINI), plus cetuximab (CETUX) in patients with previously untreated BRAF V600E-mutant metastatic colorectal cancer (mCRC) (2019) *ANN ONCOL*, 30, iv109-. **IF: 14.1960**

Milev M.P., Stanga D., Schanzer A., Nascimento A., Saint-Dic D., Ortez C., Benito D.N., Barrios D.G., Colomer J., Badosa C., Jou C., Gallano P., Gonzalez-Quereda L., Topf A., Johnson K., Straub V., Hahn A., Sacher M., Jimenez-Mallebrera C., Characterization of three TRAPPC11 variants suggests a critical role for the extreme carboxy terminus of the protein (2019) *SCI REP-UK*, 9 (1), 14036-. **IF: 4.0110**

Paez D., Tobena M., Fernandez-Plana J., Sebio A., Virgili A.C., Cirera L., Barnadas A., Riera P., Sullivan I., Salazar J., Pharmacogenetic clinical randomised phase II trial to evaluate the efficacy and safety of FOLFIRI with

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Diffusion Activities

Conferences and Seminars

- ▶ Juliana Salazar. Actualització en farmacologia d'opioïdes majors/Farmacologia i farmacogenètica dels opioïdes. COFB. 2019
- ▶ Lidia González Quereda. 32 Congreso Nacional de Enfermedades Neuromusculares. 2019
- ▶ Lidia Gonzalez Quereda. IV Workshop del Conocimiento Científico en la Distrofia Muscular de Duchenne. 2019
- ▶ Lidia Gonzalez Quereda. Spring Meeting of the Grupo de estudio de enfermedades neuromusculares de la Sociedad Española de Neurología. Bilbao, 2019
- ▶ Lidia González Quereda. II Xornada Galega sobre Enfermedades Neuromusculares. Vigo, 2019
- ▶ Pia Gallano. Advanced DMD Expert Masterclass. Zurich, 2019
- ▶ Pia Gallano. VII Curs d'Actualització en Ciències de Laboratori Clínic. 2019
- ▶ Pia Gallano. Workshop Aspectos Moleculares de la Neuropatología. XXIX Congreso Nacional de la Sociedad Española de Anatomía Patológica. Granada, 2019
- ▶ Pia Gallano. Importance of genetic studies in neuromuscular diseases. PTC National Meeting. Madrid, 2019
- ▶ Pia Gallano. Round table: Familias-Clinicos-Pacientes. Congreso Internacional Duchenne Parent Project España. Madrid, 2019
- ▶ Pia Gallano. On som, on anem a la genètica assistencial a Catalunya: què diuen els professionals assistencials. III Jornada Interhospitalària de Genètica a Catalunya. Barcelona, 2019
- ▶ Pia Gallano. Malalties rares del pacient a la cura: EERR y diagnóstico; Diagnóstico Genético en EERR; ¿Qué es el diagnóstico genético?; Paneles genéticos y bioinformática; Problemática de este tipo de diagnóstico en las EERR; Consejo genético. Els Juliolis de la UB. Barcelona. 2019
- ▶ Laura Alías. Diagnóstico Molecular de Enfermedades Raras, 2019

Metabolic Bases of Cardiovascular Risk



Coordinator

Blanco Vaca, Francisco (FGS)
fblancova@santpau.cat

Members

Canyelles Vich, Marina (FGS)
Cedo Gine, Lidia (CIBERDEM)
Escolà Gil, Juan Carlos (IR)
Farràs Mañé, Marta (IR)
Julve Gil, Josep (IR)
Martín Campos, Jesús María (IR)
Martínez Figueroa, Susana (FGS)
Méndez Lara, Karen Alejandra (IR)

Pérez Pérez, Antonio (FGS)
Revilla Senra, Giovanna (IR)
Roig Martínez, Rosa (FGS)
Rotllan Vila, Noemí (IR)
Santos Palacios, David
(CIBERDEM)
Tondo Colomer, Mireia (FGS)

Main Lines of Research

- ▶ Molecular basis of lipoprotein metabolism, dyslipidemia and atherosclerosis.
- ▶ Impact of new therapies on cardiometabolic complications, including chronic inflammation and nonalcoholic steatohepatitis in experimental models of obesity, diabetes, and hyperhomocysteinemia, as well as in patients.
- ▶ Molecular basis of the association between adiposity, chronic inflammation and dysregulation of cholesterol metabolism with the development and aggressiveness of thyroid cancer.
- ▶ Development, validation and application of new clinical laboratory methods in the field of metabolic and cardiovascular medicine.

Scientific Challenges

- ▶ To extend the molecular diagnosis of Familial Hypercholesterolemia and other genetic dyslipidemias to prevent premature cardiovascular disease.
- ▶ To explore the effect of olive oil in reverse cholesterol transport in vivo and characterize the components responsible of this effect.
- ▶ To explore the anti-cancer mechanisms associated with cholesterol metabolism, especially in breast and thyroid cancer.
- ▶ Preliminary identification of lipoprotein-associated active lipid biomarkers informative of heart damage in patients with diabetes mellitus and animal models.
- ▶ To evaluate the cardiometabolic effects of vitamin B3 derivatives.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Drs. Enrique Lerma, Eugenia Mato. Estudio de las alteraciones del metabolismo intracelular del colesterol en el cáncer de mama y carcinoma epitelial de tiroides: Evaluación de estrategias terapéuticas basadas en la HDL. ISCIII (PI16/00139).
- ▶ Drs. Antonio Pérez, Gemma Carreras, Josep Julve. Preventing premature coronary heart disease in Catalonia by expanding Familial Hypercholesterolemia Diagnosis. Telemarató de TV3 2015.
- ▶ Dr. Olga Pol. Efectos cardiometabólicos del CORM-2 en la neuropatía diabética.
- ▶ Dr. José Luis Sánchez Quesada, B.S. Andrea Rivas-Urbina. Lipotoxicity and microvascular disease: contribution to myocardial damage in clinical and experimental models of diabetes. 201602.31. La Marató.

External Collaborations

- ▶ Dr. Jesús Osada. Universidad de Zaragoza and CIBEROBN. Zaragoza, Spain.
- ▶ Drs. Diego Gómez-Coronado and Miguel A. Lasunción. Hospital Ramón y Cajal and CIBEROBN, Madrid, Spain.
- ▶ Dr. Alberto Dávalos. IMDEA-Food. Madrid, Spain.
- ▶ Dr. Montserrat Fitó. IMIM and CIBEROBN. Barcelona, Spain.
- ▶ Drs. Annabel F. Valledor and Júlia Peinado. Universitat de Barcelona. Barcelona, Spain.
- ▶ Dr. Luís Masana. Hospital Sant Joan de Reus, Universitat Rovira i Virgili and CIBERDEM. Reus, Spain.
- ▶ Dr. Manuel Vázquez-Carrera. Universitat de Barcelona and CIBERDEM. Barcelona, Spain.
- ▶ Dr. Joan Carles Laguna. Universitat de Barcelona. Barcelona, Spain.
- ▶ Dr. Jose Luis Martin-Ventura. Fundación Jiménez-Díaz and CIBERCV, Madrid, Spain.
- ▶ Dr. Jesús Vázquez. CNIC and CIBERCV, Madrid, Spain.
- ▶ Drs. Isabel Moreno and Francisco Tinahones. Biomedical Research Institute of Málaga (IBIMA). University Hospital of Málaga and CIBEROBN, Málaga, Spain.
- ▶ Drs. Antonio Zorzano and David Sebastian. Institute for Research in Biomedicine (IRB) and CIBERDEM. Barcelona, Spain.
- ▶ Drs. Fernando Civeira and Ana Cenarro. Hospital Clínico Universitario Miguel Servet and CIBERCV. Madrid, Spain.
- ▶ Dr. Petri Kovanen. Wihuri Research Institute. Helsinki, Finland.
- ▶ Dr. Matti Jauhiainen. National Institute for Health and Welfare. Helsinki, Finland.
- ▶ Dr. Srinu Reddy. Department of Medicine, UCLA. CA, USA
- ▶ Dr. Ricardo Cassaroli. Universitat de Barcelona and IDIBAPS. Barcelona, Spain.

Active Grants

- ▶ Francisco Blanco Vaca. Centro de Investigación Biomédica en Red de Diabetes Mellitus y Enfermedades Metabólicas. CIBERDEM. CB07/08/0016. Ministerio de Sanidad y Política Social. Duration: 2007-2020. 502,162.26 €.
- ▶ Josep Julve Gil. Contratos Miguel Servet 2013 - Tipo I. MS13/00070. Instituto de Salud Carlos III. Duration: 2014-2019. 202,500 €.
- ▶ Francisco Blanco Vaca. Preventing Premature Coronary Heart Disease in Catalonia by Expanding Familial Hypercholesterolemia Diagnosis. MARATO 20152431. Fundació La Marató de TV3. Duration: 2016-2019. 119,968 €.
- ▶ Josep Julve Gil. Lipotoxicity and microvascular disease: contribution to myocardial damage in clinical and experimental models of diabetes. MARATO 201602.31. Fundació La Marató de TV3. Duration: 2017-2020. 108,000 €.
- ▶ Juan Carlos Escolà Gil. Estudio de las alteraciones del metabolismo intracelular del colesterol en el cáncer de mama y carcinoma epitelial de tiroides: Evaluación de estrategias terapéuticas basadas en la HDL. PI16/00139. Instituto de Salud Carlos III. Duration: 2017-2020. 71,500 €.
- ▶ Andrea Patricia Rivas Urbina. Ayudas predoctorales de formación en investigación en salud 2017. FI17/00031. Instituto de Salud Carlos III. Duration: 2018-2021. 82,400 €.
- ▶ Marta Farràs Mañé. Contratos postdoctorales "Sara Borrell" 2017. CD17/00233. Instituto de Salud Carlos III. Duration: 2018-2020. 80,598 €.
- ▶ Francisco Blanco Vaca. Grup de Recerca d'Estructura de Lipoproteïnes, Dislipèmies i altres factors de risc de l'Arteriosclerosi. 2017 SGR 01149. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Noemí Rotllan Vila. Subprograma Contratos Ramón y Cajal 2017. RYC-2017-22879. Ministerio de Ciencia, Innovación y Universidades. Duration: 2019-2024. 168,600 €.
- ▶ Francisco Blanco Vaca. TMAO y gammaBB y su relación con la disfuncionalidad de HDL y el riesgo de enfermedad coronaria en pacientes con hipercolesterolemia familiar y diabetes. PI18/00164. Instituto de Salud Carlos III. Duration: 2019-2021. 102,000 €.
- ▶ Andrea Patricia Rivas Urbina. Interaction of lipoproteins with proteoglycans and the inhibitory effect of HDL and mimetic peptides derived from apolipoproteins in HDL. MV18/00012. Instituto de Salud Carlos III. Duration: 2019. 7,440 €.
- ▶ Josep Julve Gil. Diabetes y obesidad: biomarcadores, fisiopatología y efectos de nuevas terapias. CPII18/00004. Instituto de Salud Carlos III. Duration: 2019-2022. 91,125 €.
- ▶ Noemí Rotllan Vila. Proyecto asociado al contrato Ramón y Cajal. RYC-2017-22879(P). Ministerio de Ciencia, Innovación y Universidades. Duration: 2019-2021. 40,000 €.
- ▶ Josep Julve. 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. Duration: 2018-2020. 146,410 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Juan Carlos Escola Gil. 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. Duration: 2020-2022. 92,000 €.
- ▶ Giovanna Revilla Senra. TMAO y su relación con la disfuncionalidad de HDL y el riesgo de enfermedad coronaria en pacientes con hipercolesterolemia familiar y diabetes tipo 2. FI19/00007. Instituto de Salud Carlos III. Duration: 2020-2023. 82,400 €.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Karen A. Méndez Lara. Nicotinamide effects on adiposity, energy metabolism, inflammation and atherosclerosis. Universitat Autònoma de Barcelona. Supervisors: Josep Julve, Francisco Blanco-Vaca. Date of defense: 11/11/2019.

Scientific Production

Total Impact Factor: 66.456 · Mean Impact Factor: 4.1535

Blanco-Vaca F, Martin-Campos J.M., Beteta-Vicente A., Canyelles M., Martínez S., Roig R., Farre N., Julve J., Tondo M., Molecular analysis of APOB, SAR1B, ANGPTL3, and MTTP in patients with primary hypocholesterolemia in a clinical laboratory setting: Evidence supporting polygenicity in mutation-negative patients (2019) *ATHEROSCLEROSIS*, 283, 52-60. **IF: 4.2550**

Cedo L., Farras M., Lee-Rueckert M., Escola-Gil J.C., Molecular insights into the mechanisms underlying the cholesterol-lowering effects of phytosterols (2019) *CURR MED CHEM*, 26 (37), 6704-6723. **IF: 3.8940**

Cedó L, Reddy ST, Mato E, Blanco-Vaca F, Escolà-Gil JC. HDL and LDL: Potential New Players in Breast Cancer Development. *J CLIN MED*. 2019 Jun 14;8(6). pii: E853. **IF 5.688**.

Diarte-Anazco E.M.G., Mendez-Lara K.A., Perez A., Alonso N., Blanco-Vaca F., Julve J., Novel insights into the role of HDL-associated sphingosine-1-phosphate in cardiometabolic diseases (2019) *INT J MOL SCI*, 20 (24). **IF: 4.1830**

Escola-Gil J.C., Phytosterols and health: Current status and future perspectives (2019) *CURR MED CHEM*, 26 (37), 6688-6690. **IF: 3.8940**

Farras M., Arranz S., Carrion S., Subirana I., Munoz-Aguayo D., Blanchart G., Kool M., Sola R., Motilva M.J., Escola-Gil J.C., Rubio L., Fernandez-Castillejo S., Pedret A., Estruch R., Covas M.I., Fito M., Hernaez A., Castaner O,

A functional virgin olive oil enriched with olive oil and thyme phenolic compounds improves the expression of cholesterol efflux-related genes: A randomized, crossover, controlled trial (2019) *NUTRIENTS*, 11 (8). **IF: 4.1710**

Lamiquiz-Moneo I, Civeira F, Gómez-Coronado D, Blanco-Vaca F, Villa-fuerte-Ledesma HM, Gil M, Amigó N, Mateo-Gallego R, Cénarro A. Lipid Profile Rather Than the LCAT Mutation Explains Renal Disease in Familial LCAT Deficiency. *J Clin Med*. 2019 Nov 3;8(11). pii: E1860. **IF 5.688**

Lopez De Las Hazas M.-C., Martin-Hernandez R., Crespo M.C., Tome-Carneiro J., Del Pozo-Acebo L., Ruiz-Roso M.B., Escola-Gil J.C., Osada J., Portillo M.P., Martínez J.A., Navarro M.A., Rubio L., Motilva M.J., Visioli F., Davalos A., Identification and validation of common molecular targets of hydroxytyrosol (2019) *FOOD FUNCT*, 10 (8), 4897-4910. **IF: 3.2410**

Martinez-Lopez D, Camafeita E, Cedo L, Roldan-Montero R, Jorge I, Garcia-Marques F, Gomez-Serrano M, Bonzon-Kulichenko E, Blanco-Vaca F, Blanco-Colio L.M., Michel J.-B., Escola-Gil J.C., Vazquez J, Martin-Ventura J.L., APOA1 oxidation is associated to dysfunctional high-density lipoproteins in human abdominal aortic aneurysm (2019) *EBIOMEDICINE*. **IF: 6.6800**

Mendez-Lara K.A., Farre N., Santos D., Rivas-Urbina A., Metso J., Sanchez-Quesada J.L., Llorente-Cortes V., Errico T.L., Lerma E., Jauhiainen M., Martin-Campos J.M., Alonso N., Escola-Gil J.C., Blanco-Vaca F., Julve J.,

Human ApoA-I overexpression enhances macrophage-specific reverse cholesterol transport but fails to prevent inherited diabetes in mice (2019) *INT J MOL SCI*, 20 (3). **IF: 4.1830**

Morillas C., Escalada J., Palomares R., Bellido D., Gomez-Peralta F., Perez A., Treatment of Type 2 Diabetes by Patient Profile in the Clinical Practice of Endocrinology in Spain: Delphi Study Results from the Think Twice Program (2019) *DIABETES THER*, 10 (5), 1893-1907. **IF: 2.8270**

Nunez M., Diaz S., Dilla T., Reviriego J., Perez A., Epidemiology, Quality of Life, and Costs Associated with Hypoglycemia in Patients with Diabetes in Spain: A Systematic Literature Review (2019) *DIABETES THER*, 10 (2), 375-392. **IF: 2.8270**

Perez A., Ramos A., Reales P., Tobares N., Gomez-Huelgas R., Indicator performance after the implementation of the Spanish Consensus Document for the control of hyperglycemia in the hospital and at discharge Rendimiento de los indicadores tras la implementación del Documento de consenso español para el control de la hiperglucemia en el hospital y al alta (2019) *REV CLIN ESP*, 219 (1), 18-25. **IF: 1.0430**

Revilla G., Corcoy R., Moral A., Escola-Gil J.C., Mato E., Cross-talk between inflammatory mediators and the epithelial mesenchymal transition process in the development of thyroid carcinoma (2019) *INT J MOL SCI*, 20 (10). **IF: 4.1830**

Revilla G., Pons M.P., Baila-Rueda L., Garcia-Leon A., Santos D., Cenaarro A., Magalhaes M., Blanco R.M., Moral A., Ignacio Perez J., Sabe G., Gonzalez C., Fuste V., Lerma E., Faria M.S., de Leiva A., Corcoy R., Carles Escola-Gil J., Mato E., Cholesterol and 27-hydroxycholesterol promote thyroid carcinoma aggressiveness (2019) *SCI REP-UK*, 9 (1). **IF: 4.0110**

Rodríguez-Carrio J, Lindholt JS, Canyelles M, Martínez-López D, Tondo M, Blanco-Colio LM, Michel JB, Escolà-Gil JC, Suárez A, Martín-Ventura JL. IgG Anti-High Density Lipoprotein Antibodies Are Elevated in Abdominal Aortic Aneurysm and Associated with Lipid Profile and Clinical Features. *J Clin Med*. 2019 Dec 26;9(1). pii: E67. **IF: 5.688**.

Diffusion Activities

Workshops

- ▶ Antonio Pérez and M. Antònia Llauger (coordinators). I Jornada d'Endocrinologia per a l'Atenció Primària. Barcelona, 20/11/2019.
- ▶ Francisco Blanco-Vaca, Antonio Pérez and Àlex Sionis (coordinators). Avances en Cardiometabolismo. Barcelona, 25/01/2019.

Congress

- ▶ European Atherosclerosis Society (EAS) Congress in Maastricht. 26-29 May 2019. Poster communications:
 - K. Méndez Lara, D. Santos, V. Pallarés, J.C. Escolà Gill, F. Blanco Vaca, J. Julve Gil Effects Of Vitamin B3 On Lipoprotein Metabolism In A Mouse Model Of Hypercholesterolemia. *Atherosclerosis*, Vol. 287, e56. Published online: 3 August 2019
 - A. Rivas Urbina, A. Rull, S. Villegas, J.C. Escolà Gil, J. Ordóñez Llanos, J.L. Sánchez Quesada Apolipoprotein J Mimetic Peptide

D-[113-122]ApoJ Retard Atherosclerosis In Ldlr-Ko Mice Under Atherogenic Diet By Improving Hdl Function And Decreasing Ldl Aggregability. *Atherosclerosis*, Vol. 287, e200-e201. Published online: 5 August 2019.

- L. Cedó, S. Fernández-Castillejo, L. Rubió, J. Metso, D. Santos, D. Muñoz, A. Rivas Urbina, K.A. Méndez-Lara, *et al.* The Intake Of Olive Oil Phenolic Compounds Promotes Macrophage-Specific Reverse Cholesterol Transport In Vivo. *Atherosclerosis*, Vol. 287, e223. Published online: 5 August 2019.

Scientific Diffusion

- ▶ Josep Julve. Ajudem la teva microbiota a prevenir l'obesitat i la diabetis. Festival de Ciència de Barcelona.
- ▶ Jesús M. Martín Campos. Joc de gens: quan Jon Neu va conèixer a Darwin. Researchers' Night. European Commission.

AREA 2 · Genetic, Metabolic and Inflammatory Diseases

Inflammatory Diseases



Coordinator

Vidal Alcorisa, Silvia (IR)
svidal@santpau.cat

Members

Alserawan de Lamo, Leticia (FGS)
Baucells de la Peña, Andrés (IR)
Canto Naves, Elisabeth (IR)
De la Calle Martín, Óscar (FGS)
Juárez Rubio, Cándido (FGS)
Mariscal Rodríguez, Anais (FGS)
Martínez Carretero, María
Ángeles (FGS)
Martínez Martínez, Laura (FGS)

Moga Naranjo, Maria Esther (FGS)
Mulet Gual, Maria (IR)
Ortiz de Juana, Maria Àngels (IR)
Perea Soriano, Lidia (IR)
Zamora Atenza, Carlos (IR)

Main Lines of Research

- ▶ The role of the immune system in the development and perpetuation of autoimmune and immune-mediated diseases, and inflammatory processes.
- ▶ Immunological response associated with the clinical course during immunomodulatory (immunotherapy and biological) treatments.
- ▶ The role of autoantibodies, components of the adaptive immune system, in the pathogenesis of autoimmune processes and their use as diagnostic and prognostic markers in these diseases.
- ▶ Mechanisms involved in immunodeficiency.

Scientific Challenges

- ▶ Role of cells, molecules and autoantibodies of the innate and adaptive immune response in the development and control of inflammatory processes, in the appearance of autoimmune phenomena, immunodeficiencies, infections, cardiovascular diseases and development of tumors.
- ▶ Study of mechanisms involved in immunodeficiency caused by alterations of molecular components.
- ▶ Analysis of the evolution of immunological parameters and their correlation with clinical response to treatment with immunomodulatory therapies.
- ▶ Cellular and molecular composition of complex human biological fluids in immunopathological processes. Association with clinical parameters and response to therapy.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Dr. C. Guarner, Dr. G. Soriano, Dra. Eva Roman, Dra. Esther Garcia-Planella and Dr. Jordi Gordillo (Digestive Diseases and CIBER): Mecanismes inflamatoris associats a la barrera epitelial en la cirrosi i malaltia inflamatoria intestinal
- ▶ Dra. Novelli (Hematology): Regulación de la repuesta inmune por la unión a los leucocitos de plaquetas inducidas por el trombo pag
- ▶ Dra. Isabel Illa (IP) (Neurology): Estudios moleculares y celulares en miastenia gravis: correlaciones clínicas y terapéuticas. Collaborator: Dr. Cándido Juárez. FIS P116/1440
- ▶ Dr. César Díaz-Torné and Dr. Hector Corominas (Rheumatology): Caracterización de las plaquetas “educadas” en un entorno inflamatorio crónico para optimizar las terapias inmunoreguladoras con plaquetas. Estudio inmunológico de la inflamación sistémica en enfermos con gota
- ▶ Dr. Plaza and Dr. Sibila (Pneumology): PRedictores de INfecCión bronquial en Enfermedades Respiratorias Crónicas
- ▶ Dr. Lluís Puig (Dermatology): Estudio de dianas inmunogenéticas en piel y suero de pacientes con psoriasis moderado-grave y su posterior clasificación para selección de tratamiento biológico existente
- ▶ Dra. Majem, Dr. Barnades and Dr. Maroto (Oncology): Fuentes de PD-1 y PD-L1 en el cancer de pulmón no microcítico. Estudio traslacional prospectivo del sistema inmune y de los biomarcadores de células tumorales circulantes en el cáncer de próstata metastásico resistente a la castración
- ▶ Dr. Joaquín López-Contreras (IP) (Infectious Diseases. Internal Medicine) and Dra. Noelia Vilaltia (Hematology): Trampas extracelulares

de los neutrófilos en sepsis. Marató 2018-2021. Collaborators: Dra. Silvia Vidal and Dr. Carlos Zamora.

- ▶ Dra. Olga Torres Bonafonte (IP) (Internal Medicine): Identificación de un inmunofenotipo de riesgo de mal pronóstico en ancianos que han sido ingresados por neumonía. Instituto de Salud Carlos III (P118/00684). (January 2019 – December 2021): Investigator collaborator: Dra. Laura Martínez-Martínez

External Collaborations

- ▶ Dra. Manichanh (Digestive Pathology, Hospital de la Vall d’Hebron)
- ▶ Dra. Hernández (Rheumatology, Hospital Clínic)
- ▶ Dr. Juan José de Agustí (Rheumatology, Hospital Vall d’Hebron)
- ▶ Dra. Blanca Sánchez (Hematology, Hospital del Mar)
- ▶ Dr. Albert Selva and Dr. Moises Labrador (Allergology, Hospital Vall d’Hebron)
- ▶ Dr. Porcel (Internal Medicine, Hospital Arnau de Vilanova)
- ▶ Dr. Fernández and Dra. Guillén (Fundació Puigvert)
- ▶ Dra. Sabzevari (Precigen MD, USA)
- ▶ Dra. Semnani and Dr. Nutman del NIAID-NIH (Bethesda MD, USA)
- ▶ Dra. Catalfamo del Georgetown University School of Medicine (Washington DC, USA)
- ▶ Dra. Monica Guma (University of California San Diego, CA, USA)

Tutoring of final master's works

- ▶ Carla Galán. Study of the effect of malignant pleural effusion on macrophage differentiation. Director: Dra. Silvia Vidal.
- ▶ Eudald Llauredó Calero. Anàlisi molecular de la col·ligació BCR-Fcγ RIBB en cèl·lules de Leucèmia Limfocítica Crònica. Director: Dra. Esther Moga.

Tutoring of final degree's projects

- ▶ Jorge Andrés Funes Pérez. Presència d'autoimmunitat en els pacients amb Leucèmia Limfàtica Crònica. Director: Dra. Esther Moga.

Active Grants

- ▶ Silvia Vidal Alcorisa. Caracterización de las plaquetas "educadas" en un entorno inflamatorio crónico para optimizar las terapias inmunoreguladoras con plaquetas. PI17/00072. Instituto de Salud Carlos III. Duration: 2018-2020. 47,500 €.
- ▶ Silvia Vidal Alcorisa. Grup d'Immunologia. 2017 SGR 00867. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Silvia Vidal Alcorisa. Regulación de la respuesta inmune por la unión a los leucocitos de plaquetas inducidas por el tromboxano. IIBSP-PTI-2018-65. Novartis. Duration: 2018-2020.
- ▶ Silvia Vidal. Fuentes de PD-1 y PD-L1 en el cáncer de pulmón no microcítico. IIBSP-PDL-2017-82. Bristol Mayer & Squidd. Duration: 2018-2020.
- ▶ Silvia Vidal Alcorisa. Estudio traslacional prospectivo del sistema inmune y de los biomarcadores de células tumorales circulantes en el cáncer de próstata metastásico resistente a la castración. IIBSP-PRO-2018-20. Bayer. Duration: 2018-2020.
- ▶ Silvia Vidal Alcorisa. Estudio de dianas inmunogenéticas en piel y suero de pacientes con psoriasis moderado-grave y su posterior clasificación para selección de tratamiento biológico existente. IIBSP-PSO-2018-119. Abbvie. Duration: 2018-2020.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Pérez ML, Castells-Sala C, Peró M, Casani L, Babot OJ, Moga E, López-Chicón P, Fariñas O, Porta O, Vilarrodona A. Preliminary results of the implantation of acellular dermal matrix for reconstruction of pelvic floor in animal model. XVI AEBT Asociación Española de Banco de Tejidos. Oviedo, 13-15 June 2019. Best communication.

Scientific Production

Total Impact Factor: 90.931 · Mean Impact Factor: 6.0621

Canto E., Zamora C., Garcia-Planella E., Gordillo J., Ortiz M.A., Perea L., Vidal S., Bacteria-related Events and the Immunological Response of Onset and Relapse Adult Crohn's Disease Patients (2019) J CROHNS COLITIS, 13 (1), 92-99. **IF: 8.658**

Díaz-Torné C, Ortiz MÀ, Sarmiento M, Díaz-López C, Corominas H, Casademont J, Vidal S. Rituximab levels are associated with the B cell homeostasis but not with the clinical response in patients with rheumatoid arthritis. EUR J RHEUMATOL. 2019 Apr 1;6(2):81-84. **IF: -**

Mariscal-Rodriguez A., Villar Guimerans L.M., Lopez-Trascasa M., Hernandez Gonzalez M., Moga Naranjo E., Laboratory guidelines for the diagnosis of patients with cryoglobulinaemic syndrome Guía de laboratorio para el diagnóstico de pacientes con síndrome crioglobulinémico (2019) REV CLIN ESP, 219 (9), 505-513. **IF: 1.0430**

Mensa-Vilaro A., Bravo Garcia-Morato M., de la Calle-Martin O., Franco-Jarava C., Martinez-Saavedra M.T., Gonzalez-Granado L.I., Gonzalez-Roca E., Fuster J.L., Alsina L., Mutchinick O.M., et al., Unexpected relevant role of gene mosaicism in patients with primary immunodeficiency diseases (2019) J ALLERGY CLIN IMMUN, 143 (1), 359-368. **IF: 14.1100**

Nieto J.C., Zamora C., Porcel J.M., Mulet M., Pajares V., Munoz-Fernandez A.M., Calvo N., Espinosa I., Pascual-García M., Bielsa S., Vidal S., Migrated T lymphocytes into malignant pleural effusions: an indicator of good prognosis in lung adenocarcinoma patients (2019) SCI REP-UK, 9 (1). **IF: 4.0110**

Pascual-Goni E., Martin-Aguilar L., Lleixa C., Martinez-Martinez L., Simon-Talero M.J., Diaz-Manera J., Cortes-Vicente E., Rojas-García R., Moga E., Juarez C., Illa I., Querol L., Clinical and laboratory features of anti-MAG neuropathy without monoclonal gammopathy (2019) SCI REP-UK, 9 (1). **IF: 4.0110**

Porcel J.M., Esquerda A., Bielsa S., Novell A., Sorolla M.A., Gatiús S., Zamora C., Vidal S., Salud A., Epithelial cell adhesion molecule (EpCAM) from pleural fluid cell lysates is a highly accurate diagnostic biomarker of adenocarcinomatous effusions (2019) RESPIROLOGY, 24 (8), 799-804. **IF: 4.7560**

Román E, Nieto JC, Gely C, Vidal S, Pozuelo M, Poca M, Juárez C, Guarner C, Manichanh C, Soriano G. Effect of a Multistrain Probiotic on Cognitive Function and Risk of Falls in Patients With Cirrhosis: A Ran-

domized Trial. HEPATOL COMMUN. 2019 Mar 12;3(5):632-645. eCollection 2019 May. **IF: -**

Roca E., Canto E., Nescolarde L., Perea L., Bayes-Genis A., Sibila O., Vidal S., Effects of a polysaccharide-based multi-ingredient supplement on salivary immunity in non-elite marathon runners (2019) J INT SOC SPORT NUTR, 16 (1). **IF: 3.8410**

Santiago A, Sanchez E, Clark A, Pozuelo M, Calvo M, Yañez F, Sarrabayrouse G, Perea L, Vidal S, Gallardo A, Guarner C, Soriano G, Manichanh C. Sequential Changes in the Mesenteric Lymph Node Microbiome and Immune Response during Cirrhosis Induction in Rats. MSYSTEMS. 2019 Feb 19;4(1):e00278-18. eCollection 2019 Jan-Feb. **IF: 6.28**

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Sibila O., Perea L., Canto E., Shoemark A., Cassidy D., Smith A.H., Suarez-Cuartin G., Rodrigo-Troyano A., Keir H.R., Oriano M., Ong S., Vidal S., Blasi F., Aliberti S., Chalmers J.D., Antimicrobial peptides, disease severity and exacerbations in bronchiectasis (2019) THORAX, 74 (9), 835-842. **IF: 9.6400**

Villarrubia N., Rodriguez-Martin E., Alari-Pahissa E., Aragon L., Castillo-Trivino T., Eixarch H., Ferrer J.M., Martinez-Rodriguez J.E., Massot M., Pinto-Medel M.J., Prada A., Rodriguez-Acevedo B., Urbaneja P., et al., Multi-centre validation of a flow cytometry method to identify optimal responders to interferon-β in multiple sclerosis (2019) CLIN CHIM ACTA, 488, 135-142. **IF: 2.7350**

Zamora C., Toniolo E., Diaz-Torne C., Canto E., Magallares B., Ortiz M.A., Perea L., Corominas H., Vidal S., Association of platelet binding to lymphocytes with B cell abnormalities and clinical manifestations in systemic lupus erythematosus (2019) MEDIAT INFLAMM, 2019, 2473164-. **IF: 3.5450**

Books or Chapters with ISBN

- ▶ Leticia Alserawan de Lamo, Teresa Franco Leyva, Andrés Baucells de la Peña, Cándido Juárez, Luis Querol Gutiérrez, Laura Martínez-Martínez. Paciente con polirradiculoneuropatía desmielinizante inflamatoria crónica (CIDP) y anticuerpos anti-neurofascina 155. *Inmunología Clínica: Casos clínicos de Autoinmunidad V.* 2019:70-74. ISBN 978-84-09-11305-7.
- ▶ Andrés Baucells de la Peña, Laura Martínez-Martínez, Teresa Franco Leyva, Leticia Alserawan de Lamo, Rebeca Pérez de Diego, Oscar de la Calle-Martín. Nueva mutación en CTLA4 en un paciente con una enteropatía crónica grave y linfopenia B profunda. *Inmunodeficiencias: Casos clínicos comentados.* 2019:62-66. ISBN 978-84-09-11045-2.

Diffusion Activities

Oral Presentations at Congresses

- ▶ L. Martínez-Martínez, B. Magallares López, I. Castellví, A. García-Guillen, S. Jeria-Navarro, D. Lobo, A. Laiz, C. Díaz-Torné, P. Moya, C. Pixart, M. Riera, M.C. Hernández, C. Juárez, H. Corominas. Les característiques immunològiques de la biòpsia de la glàndula salival en el síndrome de Sjögren. 1a Diada Reumatològica de la Societat Catalana de Reumatologia. Barcelona, 5 April 2019.
- ▶ Pérez ML, Castells-Sala C, Però M, Casani L, Babot OJ, Moga E, López-Chicón P, Fariñas O, Porta O, Vilarrodona A. Preliminary results of the implantation of acellular dermal matrix for reconstruction of pelvic floor in animal model. XVI AEBT Asociación Española de Banco de Tejidos. Oviedo, 13-15 June 2019. Best communication.
- ▶ María Teresa Sanz Martínez, Esther Moga Naranjo, Miguel Ángel Sánchez Martínez, Carlos Zamora Atenza, Silvia Vidal Alcorisa, Cándido Juárez Rubio, Lluís Puig. Platelet-Lymphocyte complexes in moderate to severe psoriasis: a response predictor biomarker in Pso patients treated with anti-TNF- α agents. 41 Congress of the Sociedad Española de Inmunología. Sevilla, 30 May - 1 June 2019.
- ▶ Leticia Alserawan de Lamo, Ana Milena Millan, Anaís Mariscal Rodríguez, Esther Moga Naranjo, Laura Martínez Martínez, Diego Castillo, Ana M Giménez, Laura López, M. Ángeles Martínez, Cándido Juárez Rubio. Diagnosis of anti-synthetase syndrome in a patient: importance of laboratory testing in clinical syndromes. 41 Congress of the Sociedad Española de Inmunología. Sevilla, 30 May - 1 June 2019.
- ▶ A Mariscal, AM Millán, A Baucells, L Alserawan, E Moga, L Martínez, C Juárez, MA Martínez, A Selva-O'Callaghan, I Castellví. Comparación de la determinación de anticuerpos anti-tif-1 γ ; mediante inmunoblot comercial e inmunoblot casero con proteína recombinante. 41 Congress of the Sociedad Española de Inmunología. Sevilla, 30 May - 1 June 2019.
- ▶ Laura Martínez Martínez, M. Cinta Lleixà, Gemma Boera Cranicero, Andrea Cortese, Jerome Devaux, Yusuf Rajabally, Emilien Delmont, Isabel Illa, Luis Querol, Óscar de la Calle Martín. Anti-NF155 chronic inflammatory demyelinating polyradiculoneuropathy strongly associates to HLA-DRB15. 41 Congress of the Sociedad Española de Inmunología. Sevilla, 30 May - 1 June 2019.
- ▶ Leticia Alserawan de Lamo, Teresa Franco Leyva, Andrés Baucells de la Peña, Cándido Juárez, Luis Querol Gutiérrez, Laura Martínez-Martínez. Paciente con polirradiculoneuropatía desmielinizante inflamatoria crónica (CIDP) y anticuerpos anti-neurofascina 155. 41 Congress of the Sociedad Española de Inmunología. Sevilla, 30 May - 1 June 2019.
- ▶ Andrés Baucells de la Peña, Laura Martínez-Martínez, Teresa Franco Leyva, Leticia Alserawan de Lamo, Rebeca Pérez de Diego, Oscar de la Calle-Martín. Nueva mutación en CTLA4 en un paciente con una enteropatía crónica grave y linfopenia B profunda. 41 Congress of the Sociedad Española de Inmunología. Sevilla, 30 May - 1 June 2019.
- ▶ Oriol Porta, Marta Però, María Luisa Pérez, Cristina Castells, Laura Casani, Oriol Juan, Esther Moga, Lina Badimon, Patricia López-Chicón, Oscar Fariñas, Anna Vilarrodona, Leticia Alserawan. A human acellular dermal matrix as a graft biomaterial for pelvic reconstructive surgery: preliminary results in an animal model. 12th EUGA Annual Congress. Tel Aviv, 16-18 October 2019.
- ▶ Alba García-Moral, Lorena Soto-Reyes, M. Victoria Rubiales, Esther Moga. Molecular IgE reactivity pattern in Lipid Transfer Protein (LTP) allergy using a new multiplex diagnostic array. Annual Meeting of the American Academy of Allergy Asthma & Immunology AAAAI. San Francisco, 22-25 February 2019.
- ▶ García-Cárdenas I, Martino R, Esquirol A, Bosch A, Martínez-Martínez L, Portos JM, Saavadra S, Awol R, Brunet S, Juárez C, Sierra J. Fecal calprotectin as a useful tool in the differential diagnosis of new onset diarrhea after allogeneic stem cell transplantation. 45th Annual Meeting of the European Society for Blood and Marrow Transplantation. Frankfurt, 24-27 March 2019.
- ▶ B. Magallares López, L. Martínez-Martínez, A. García-Guillen, Y. Álvaro Gargallo, H. Park, A.M. Millán, P. Moya, I. Castellví, C. Díaz-Torné, A. Laiz, S. Fernández, C. Pixart, M. Riera, J. Casademont, S. Boronat, C. Juárez, H. Corominas. Estudi de biomarcadors a l'artritis idiopàtica juvenil en pràctica clínica. 1a Diada Reumatològica de la Societat Catalana de Reumatologia. Barcelona, 5 April 2019.
- ▶ A. García-Guillen, B. Magallares López, L. Martínez-Martínez, E. Mol-tó-Lacosta, E. Corica, C. Díaz-Torné, P. Moya, A.M. Millán, A. Laiz, D. Lobo-Prat, S. Jeria-Navarro, H. Park-Sang, S. Fernández, M. Riera-Soler, C. Pixart-Grau, J.M. de Llobet, I. Castellví, H. Corominas. Evolució clínica i serològica a 5 anys d'una cohort de pacients amb LES i anticossos anti-C1q positiu. 1a Diada Reumatològica de la Societat Catalana de Reumatologia. Barcelona, 5 April 2019.
- ▶ V Pomar, J López-Contreras, D Castillo, E Vilarrasa, A Lopez, C Vanrell, P Millan, L Querol, I Castellví, N Rabella, A Feliu, L Villamarín, E Moga, M Martínez, A Fontanet, G Ballarin, N Benito, M Gurgui. Profilaxis y vacunas en pacientes candidatos a tratamiento inmunosupresor. XXIII SEIMC Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica. Madrid, 23-25 May 2019.
- ▶ Esther Moga, Leticia Alserawan, Teresa Franco, M. Victoria Rubiales, Andres Baucells, Edgar Zapico, Miquel Granell. Rationalization of Bence Jones Protein analysis based on a serum algorithm including Free Light Chain testing. 23rd IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine National Congress of the Spanish Society of Laboratory Medicine. Barcelona, 19-23 May 2019.
- ▶ Paloma Millan Billi, Silvia Barril Farre, Ivan Castellví, Laura Martínez-Martínez, Tomás Franquet Casas, Laura López Vilaró, Francisco Aparicio, Oriol Sibila, Diego Castillo Villegas. ¿Neumopatía intersticial inclassificable? Desenmascarando posibles etiologías. 52º Congreso Nacional de la Sociedad Española de Neumología y Cirugía Torácica (SEPAR). Santiago de Compostela, 13-16 June 2019.
- ▶ A. Milena Millán, M.A. Martínez, A. Mariscal, A. Baucells, L. Alserawan, E. Trallero, C. Díaz-Torné, A. Laiz, B. Magallares, P. Moya, H. Park, A. García-Guillén, S. Jeria, D. Lobo, A. Gil, C. Gozalvez, S.P. Fernández-Sánchez, L. Martínez-Martínez, E. Moga, H. Corominas, C. Juárez, I. Castellví, A. Selva-O'Callaghan. Discordance in anti-TIF-1 γ antibodies detection through commercial kit in comparison with homemade immunoblot: Clinical Evaluation. EULAR European Congress of Rheumatology. Madrid, 12-15 June 2019.
- ▶ Maria Mulet, Carlos Zamora, Juan C. Nieto, José M. Porcel, Elisabet Cantó, M. Angels Ortiz, Lúdia Perea, Virginia Pajares, Ana Muñoz, Nuria Calvo, Iñigo Espinosa, Mónica Pascual, Silvia Bielsa, Silvia Vidal. PF4 levels in malignant pleural effusions as an indicator of poor prognosis in lung cancer patients. XIII Congrés de la Societat d'Immunologia Catalana d'Immunologia. Barcelona, 14-15 November 2019.
- ▶ Lidia Perea, Ana Rodrigo-Troyano, Elisabet Cantó, Marisol Domínguez-Álvarez, Jordi Giner, Ferran Sanchez-Reus, Alfons Torrego, Judit Villar-García, Sara Quero, Marian García, Eduard Monsó, Rosa Faner, Alvar Agustí, Silvia Vidal, Oriol Sibila. Airway FABP4 is decreased in COPD patients with airway bacterial infection. Congress of the European Respiratory Society, Madrid, 28 September - 2 October 19.

Posters

- ▶ Eva Román, Maria Poca, Gerard Amorós, Xavier Rosell, Cristina Gely, Berta Cuyàs, Silvia Vidal, Eulàlia Urgell, Elvira Hernández, Rosalia Santemases, Carlos Guarnier, Germán Soriano. L'angle de fase determinat per impedància elèctrica és un factor predictiu d'hospitalització, caigudes i mortalitat en els pacients amb cirrosi. XXVIII Congress of the Societat Catalana de Digestologia (SCD). Tarragona, January 2019.

- ▶ Anaís Mariscal, Ana Milena Millán, Andrés Baucells, Leticia Alserawan, Teresa Franco, Esther Moga, Laura Martínez, Cándido Juárez, Angeles Martínez, Iván Castellví, Albert Selva. Determination of anti-TIF1γ autoantibodies through commercial vs home-made immunoblot: a comparison with clinical relevance. XIII Congress of the Societat Catalana d'Immunologia (SCI). Barcelona, 14-15 November 2019.
- ▶ Alserawan L, Però M, Babot OJ, Casani L, Pérez ML, Castells-Sala C, López-Chicón P, Fariñas O, Vilarrodona A, Badimon L, Porta O, Moga E. Immunological study of a human acellular dermal matrix graft in an animal model for use in pelvic reconstructive surgery. XIII Congress of the Societat Catalana d'Immunologia (SCI). Barcelona, 14-15 November 2019.
- ▶ Teresa Franco-Leyva, Leticia Alserawan, Elisabeth Moltó, Yolanda Álvaro, Verónica Calahorra, Andrés Baucells, Cándido Juárez, Laura Martínez-Martínez, Anaís Mariscal Rodríguez. Anti-centromere antibodies detection by IFI and its correlation with anti-CENP-A and anti-CENP-B by immunoblotting. XIII Congress of the Societat Catalana d'Immunologia (SCI). 14-15 November 2019.
- ▶ T. Franco-Leyva, L. Soriano-Baguet, P. Millan, A. Mariscal, A. Baucells, I. Castellví, D. Castillo, L. Martínez-Martínez. Diagnostic value of serum KL-6 in interstitial lung disease: results from a Spanish cohort. Póster. XIII Congress of the Societat Catalana d'Immunologia (SCI). 14-15 November 2019.

Moderations in Scientific Congresses

- ▶ Manuel Hernández and Esther Moga (Moderators); Manuel Hernández and Esther Moga (Speakers). Immunochemistry group meeting and workshop. 41 Congress of the Sociedad Española de Inmunología. Sevilla, 30 May - 1 June 2019.
- ▶ Workshop The Binding Site. IgG4 Related Diseases. Esther Moga and Manuel Hernández (Moderators), Ferran Martínez Valle and Theo Rispen (Speakers). 41 Congress of the Sociedad Española de Inmunología. Sevilla, 30 May - 1 June 2019.

Organization of Congresses

- ▶ Esther Moga (Member of the Organizing Committee). XIII Congress of the Societat Catalana d'Immunologia (SCI). Evasió del sistema immunitari per patògens i tumors. Barcelona, 14-15 November 2019.

Scientific Dissemination

- ▶ Silvia Vidal. Buscant l'optima seqüència de biològics en el tractament de l'AR. Reflexions sobre l'AR - Sanofi Genzyme. Barcelona, 25 January 2019.
- ▶ Silvia Vidal Acorisa. Papel del interferón en la génesis de autoinmunidad. VI Simposio de Enfermedades Autoinmunes Sistémicas. Eleche, 22-23 February 2019.
- ▶ Silvia Vidal. Efecto inmunomodulador Eltrombopag. Formación Reunión Ciclo II. Silvia Vidal. Training session Novartis. Madrid, 10 April 2019.
- ▶ Simposium of the SER: Kevzara, el nuevo bloqueante IL-6 para AR. Inmunología y señalización de IL-6: ¿qué diferencia hay con otros bloqueadores? Valencia, 22 May 2019.
- ▶ Silvia Vidal. Diferencias a nivel inmunológico de los mecanismos de acción entre los fármacos para la artritis reumatoide. Santiago de Compostela, 4 October 2019.
- ▶ Silvia Vidal. Nociones generales del sistema inmune para reumatología. Respuesta innata. Mediadores solubles y células. Presentación antigénica. Respuesta adaptativa. Subpoblaciones de linfocitos T y B. Citocinas y quimiocinas. Diferencias a nivel inmunológico de los mecanismos de acción entre terapias biológicas para AR. Bilbao, 8 October 2019.
- ▶ Silvia Vidal. Multiparameter flow cell analysis of complex biological fluids - MACSQuant User Meeting Spain. Barcelona, 10 October 2019.
- ▶ Silvia Vidal. Diferencias en la inmunomodulación entre los tratamientos de la PTI. Training session: XI Reunión Gallega de Hematología. Pontevedra, 9 November 2019.
- ▶ Forum L.E.S. 2019. Societat Catalana de Reumatologia. Base inmunológica del Lupus Eritematoso Sistémico. Barcelona, 29 November 2019.
- ▶ Anaís Mariscal Rodríguez. Autoinmunidad inducida por cáncer en enfermedades reumáticas. XII Jornada Técnica de la SCI. Barcelona, 14 November 2019.

AREA 2 · Genetic, Metabolic and Inflammatory Diseases

Endocrinology, Diabetes and Nutrition



Coordinator

Mauricio Puente, Diego (FGS)
dmauricio@santpau.cat

Members

Barranco Altirriba, María (IR)
Blanco Soto, Rosa María (CIBERBBN)
Brugués Brugués, Eulalia (IR- external)
Castelblanco Echavarría, Esmeralda (CIBERDEM)
Castilla Manjón, María José (IR)
Chico Ballesteros, Ana Isabel (FGS)
Corcoy Pla, Rosa (FGS)

Cubero Marcos, José María (FGS)
Cuixart Carruesco, Gemma (IR)
Gallastegui Mozos, Teresa (IR)
Genua Trullas, Idoia (FGS)
Gil Millán, Pedro Alejandro (IR)
González Blanco, Cintia (FGS)
López Argudo, Alicia (FGS)
Lupiáñez Barbero, Ascensión (IR)
María María, Miguel Ángel (FGS)
Martínez Bru, Cecilia (FGS)
Martínez Roldán, María José (IR)
Mato Matute, Eugenia (CIBERBBN)
Mendoza Mathison, Lilian Cristina (FGS)
Miñambres Donaïre, Inka (FGS)

Navarro Cano, Gemma (FGS)
Orellana Casado, Inmaculada (FGS)
Pérez Pérez, Antonio (FGS)
Pujol Abajo, Montserrat (FGS)
Quifer Rada, Paula (IR)
Real Gatus, Jordi (CIBERDEM)
Rodríguez Hernández, Claudia (IR)
Sabé Blanco, Gerard (IR-external)
Stantonyonge Sesnic, Nicole (FGS)
Tundidor Rengel, Diana (IR)

Main Lines of Research

- ▶ Diabetic complications: atherosclerosis and microvascular disease.
- ▶ Diabetic epidemiology: primary care research, and research with large databases.
- ▶ Endocrinological diseases and pregnancy.
- ▶ Nodular disease and thyroid cancer.
- ▶ Diabetes and cardiovascular risk factors.

Scientific Challenges

Endocrine Neoplasms

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

Autoimmune Diabetes Mellitus

- ▶ Classic type 1 autoimmune diabetes mellitus: discovery of genes that influence susceptibility to autoimmune diabetes (classic type 1).
- ▶ LADA type diabetes: prevalence of metabolic syndrome among patients with LADA compared to prevalence among patients with classic type 1 diabetes, type 2 diabetes and the general non-diabetic population in European countries.

Diabetes and Pregnancy

- ▶ Clinical research aimed at optimizing care for women with pre-gestational and gestational diabetes at pre-conception, pregnancy, birth and postpartum stages. And specifically, addressing the importance of adequate weight gain in pregnancy, 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 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, Hyperlipidemia, 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 pathogenesis, biomarkers, and early detection and treatment of microvascular and chronic complications, especially atherosclerosis.

Diabetic Epidemiology: Primary Care Research, and with Large Databases

- ▶ Research on diabetes mellitus in primary health care in Catalonia. In recent years, the group has developed projects using the SIDIAP database, in different aspects of real-world evidence.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Oncogenesis and Antitumour Drugs (Ramon Mangues)
- ▶ Ophthalmology (Fernando Rodríguez Álvarez)
- ▶ Cardiovascular Biochemistry (Jorge Ordóñez, José Luis Sánchez Quesada, Francisco Blanco)
- ▶ General and Digestive Surgery (Antonio Moral, Ignacio Pérez)
- ▶ Reproductive Health (Carmen Medina Mallén)
- ▶ Metabolic Bases of Cardiovascular Risk (Francisco Blanco, J. C. Escalà)
- ▶ Group of Regulatory Mechanisms in Cardiovascular Remodelling (Maria Galán)
- ▶ Ophthalmology. 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. Universidad Politécnica de Madrid, Spain (GBT-UPM) (Enrique J. Gómez Aguilera)
- ▶ Biomedical Engineering Research Group. 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 Lluña)
- ▶ 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"
- ▶ Departamento de Medicina, Universidad 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)

Active Grants

- ▶ Rosa Corcoy Pla. Centro de Investigación Biomédica en Red en Bioingeniería, Biomateriales y Nanomedicina. CIBERBBN. CB06/01/0009. Ministerio de Sanidad y Política Social. Duration: 2006-2020. 465,195.97 €.
- ▶ Ascensión Lupiáñez Barbero. Validació clínica de la plataforma tecnològica PREDIRCAM en l'etapa primerenca de la diabetis autoimmune tipus LADA. 2016 FI_B 00211. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2016-2019. 60,465.12 €.
- ▶ Rosa Corcoy Pla. Grup de Recerca en Endocrinologia, Diabetes i Metabolisme. Universitat Autònoma de Barcelona, Hospital de la Santa Creu i Sant Pau (EDUAB-HSP). 2017 SGR 01652. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Diego Mauricio Puente. Descubrimiento y validación de marcadores de predicción de diabetes tipo 2: proyecto colaborativo de cohortes. PI18/00328. Instituto de Salud Carlos III. Duration: 2019-2021. 145,750 €.
- ▶ Paula Quifer Rada. Risk and benefits of Beer and nonalcoholic beer moderate consumption on cardiovascular system. CD18/00172. Instituto de Salud Carlos III. Duration: 2019-2022. 80,598 €.
- ▶ Nicole Stanton Yonge Sesnic. Neurofilamento de cadena ligera en sangre como marcador precoz de alteraciones neurocognitivas en pacientes con diabetes mellitus tipo 1 e hipoglicemia inadvertida. SED 2018. Sociedad Española de Diabetes. Duration: 2018-2020. 18,181.82 €.
- ▶ Diego Mauricio Puente. Centro de Investigación Biomédica en Red de Diabetes y Enfermedades Metabólicas Asociadas (CIBERDEM). CB15/08/00071_2. Ministerio de Economía y Competitividad. Duration: 2018-2020. 55,927.28 €.
- ▶ Lilian Mendoza. Does pregnancy induce changes in Urinary C-peptide Creatinine Ratio in women with type 1 diabetes? EFSD/JDRF/Lilly European Programme in Type 1 Diabetes Research 2018. Duration: 2018-2019.

- ▶ Diwgo Mauricio. Caracterización del riesgo cardiovascular antes del primer evento cardiovascular prematuro en Catalunya. Departament de Salut. Generalitat de Catalunya. Duration: 2017-2019.
- ▶ Antonio Pérez. TMAO y gamma BB y su relación con la disfunción de HDL y el riesgo de enfermedad coronaria en pacientes con hipercolesterolemia familiar y diabetes. PI18/00164. Duration: 2019-2021.
- ▶ Antonio Pérez. Contribución de especies lipídicas (esfingosina-1-fosfato) asociadas con HDL sobre la disfunción miocárdica en pacientes con diabetes mellitus tipo 2 y efecto del control glicémico. PI17/00232. Duration: 2018-2020.

Private capital grants

- ▶ Ana Chico. Estudio SED1. Sociedad Española de Diabetes. Duration: 2019
- ▶ Ana Chico. Evolve Study NovoNordisk. Duration: 2019
- ▶ Cintia González. Estudio DeMPower. MSD. Duration: 2019
- ▶ Cintia González. Evaluación clínica de la app MySugr®. Roche Diabetes Care. Duration: 2019
- ▶ Eugenia Mato. Nanopartículas contra inhibidores de la tirosina. Menarini. Duration: 2019
- ▶ Ana Chico. Estudio OneCare. Sanofi. Duration: 2019
- ▶ Antonio Pérez. Relationship of epicardial fat, lipoprotein function and inflammation with the development of arteriosclerosis and diabetic cardiomyopathy. Menarini. Duration: 2019-2021

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Eugenia Mato Matute. És el 27-hydroxycholesterol un metabòlit senyalitzador en el carcinoma epitelial de tiroide? SCEN 2018. Societat Catalana d'Endocrinologia i Nutrició. Duration: 2019-2020. 8,181.82 €.
- ▶ Cintia González Blanco. Les xarxes socials com a alternativa a l'educació terapèutica tradicional. ACD 2019. Associació Catalana de Diabetis. Duration: 2019-2021. 5,454.55 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Rosa Corcoy. Premi a l'Excel·lència Professional. Col·legi Oficial de Metges de Barcelona. November 2019

Doctoral Theses

- ▶ Eladio José Losada Grande. Relación entre fracturas óseas en pacientes con diabetes mellitus tipo 2 y el uso de tratamientos hipoglucemiantes. Universitat Autònoma de Barcelona. Director: Didac Mauricio. Date of defense: 28/10/2019

Scientific Production

Total Impact Factor: 355.5230 · Mean Impact Factor: 7.9005

Bermudez-Lopez M., Forne C., Amigo N., Bozic M., Arroyo D., Bretones T., Alonso N., Cambray S., Del Pino M.D., Mauricio D., Gorriz J.L., Fernandez E., Valdivielso J.M., An in-depth analysis shows a hidden atherogenic lipoprotein profile in non-diabetic chronic kidney disease patients (2019) EXPERT OPIN THER TAR, 23 (7), 619-630. **IF: 4.6210**

Byrne CS, Blunt D, Burn J, Chambers E, Dagbasi A, Franco Becker G, Gibson G, Mendoza L, Murphy K, Poveda C, Ramgulum A, Tashkova M, Walton G, Washirasakiri C, Frost G. A study protocol for a randomised crossover study evaluating the effect of diets differing in carbohydrate quality on ileal content and appetite regulation in healthy humans. F1000Res. 2019 Mar 5; 8:258. **IF: 2.64**

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Canivell S., Mata-Cases M., Vlachó B., Gratacos M., Real J., Mauricio D., Franch-Nadal J., How Many Patients with Type 2 Diabetes Meet the Inclusion Criteria of the Cardiovascular Outcome Trials with SGLT2 Inhibitors? Estimations from a Population Database in a Mediterranean Area (2019) J DIABETES RES, 2019. **IF: 3.0400**

Carbonell M, Alonso N, Castelblanco E, Real J, Ramírez-Morros A, Simó R, Hernández C, Jurjo C, Traveset A, Valldeperas X, Mauricio D. Assessment of Inner Retinal Layers and Choroidal Thickness in Type 1 Diabetes Mellitus: A Cross-Sectional Study. J Clin Med 2019 Sep 8;8(9):1412. **IF: 5.688**

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Castelblanco E, Betriu A, Hernández M, Granado-Casas M, Ortega E, Soldevila B, Ramírez-Morros A, Franch-Nadal J, Puig-Domingo M, Fernández E, Avogaro A, Alonso N, Mauricio D. Ultrasound Tissue Characterization of Carotid Plaques Differs Between Patients With Type 1 Diabetes and Subjects Without Diabetes. J Clin Med 2019 Mar 28;8(4):424. **IF: 5.688**

Cedó L, Reddy ST, Mato E, Blanco-Vaca F, Escolà-Gil JC. HDL and LDL: Potential New Players in Breast Cancer Development. J Clin Med. 2019;8(6):853. **IF: 5.688**

Corcoy Rosa. Glucose Screening in Pregnancy to Predict Future Cardiovascular Risk. Nat Rev Endocrinol 2019 Jul;15(7):380-382. **IF: 14.559**

de Gonzalo-Calvo D, Vilades D, Martínez-Cambor P, Veà À, Ferrero-Gregori A, Nasarre L, Bornachea O, Sanchez Vega J, Leta R, Puig N, Benítez S, Sanchez-Quesada JL, Carreras F, Llorente-Cortés V. Plasma microRNA Profiling Reveals Novel Biomarkers of Epicardial Adipose Tissue: A Multidetector Computed Tomography Study. J Clin Med. 2019 Jun 1;8(6). **IF: 5.688**

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Harreiter J., Simmons D., Desoye G., Corcoy R., Adelantado J.M., Devlieger R., Galjaard S., Damm P., Mathiesen E.R., Jensen D.M., Andersen L.L.T., Dunne F., Lapolla A., Dalfrá M.G., Bertolotto A., *et al.*, Nutritional lifestyle intervention in obese pregnant women, including lower carbohydrate intake, is associated with increased maternal free fatty acids, 3-b-hydroxybutyrate, and fasting glucose concentrations: A secondary factorial analysis of the European multicenter, randomized controlled DALI lifestyle intervention trial (2019) DIABETES CARE, 42 (8), 1380-1389. **IF: 15.2700**

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Books or Chapters with ISBN

► Maghanes, Marcelo; Mato, Eugenia; Alberto de Leiva, Fernando Jose Brito, Manuel do Santos Faria. *Técnicas de Laboratoriais em Biologia Molecular*. In: *Diabetes & endocrinologia na prática clínica: Complicações clínicas. Parte I, Aspectos Laboratoriais*. Francisco Bandeira. Elsevier Health Sciences, 2019. ISBN: 8535288333, 9788535288339

► Kumar A., de Leiva A., Corcoy R. Lapolla A, Metzger BE (eds): *Gestational Diabetes. A Decade after the HAPO Study*. *Front Diabetes. Autoimmunity in Gestational Diabetes Mellitus*. Basel, Karger, 2020, vol 28, pp 234-242.

Diffusion Activities

Scientific Dissemination

International Courses

- ▶ Diego Mauricio and Xavier Cos (coordinators). Perceptorship on Clinical Diabetes and Its complications. Medical School Building, Hospital de la Santa Creu i Sant Pau, Barcelona, 13-14 September 2019.

National Courses

- ▶ Antonio Pérez (coordinator). I Jornada de Endocrinología para la Atención Primaria. Hospital de la Santa Creu i Sant Pau. Barcelona, 20 November 2019.
- ▶ Antonio Pérez (coordinator). Curso Avanzado de Lípidos. Sociedad Española de Endocrinología y Nutrición (SEEN). Barcelona, 24-25 January 2019.
- ▶ Antonio Pérez (coordinator). Experto en el Manejo de la Diabetes Mellitus. Universidad de Barcelona, 2019.
- ▶ Rosa Corcoy (coordinator). I Curso de simulación y seguridad clínica en el manejo del enfermo en un Servicio de Endocrinología. Unitat Docent de Sant Pau, Facultat de Medicina, UAB.

International Conferences

- ▶ Diego Mauricio. Diabetes and Cardiovascular Disease. EASD Postgraduate Education Course. Lviv, Ukraine. October 2019.
- ▶ Diego Mauricio. Diabetes treatment for older patients. EASD Postgraduate Education Course. Lviv, Ukraine. October 2019.
- ▶ Cintia González. Ajustando esquemas de insulina con monitoreo Flash. IV Jornadas de Tecnología e Innovación en diabetes. Antofagasta, Chile. May 2019.
- ▶ Cintia González. Nuevas bombas, infusores y dispositivos. IV Jornadas de Tecnología e Innovación en Diabetes. Antofagasta, Chile. May 2019.
- ▶ Cintia González. Telemedicina. 70th Annual Meeting of the SPEDM. Braga, Portugal. January 2019.
- ▶ Rosa Corcoy. How do CGM-metrics compare with lab markers in the prediction of neonatal outcomes in women with Type 1 diabetes? Symposium Pregnancy Diabetes. Winnipeg, Canada, 2-5 October 2019.
- ▶ Rosa Corcoy. Pharmacological management of a diabetic pregnancy - Oral hypoglycaemic agents. International Diabetes Federation. Busan, Korea, 2-6 December 2019.

International Congresses

- ▶ I. Miñambres, J. Amigó, D.A. López Mora, M. Estorch, J-I. Pérez, A. Moral, M. Clos, E. Ballester, Q. Asla, A. Chico 18-fluorocholine PET/CT in patients with primary hyperparathyroidism and negative or inconclusive 99mCT-MIBI parathyroid scan; clinico-pathological correlations. European Endocrinology Congress. Lyon, 18-21 May 2019.

National Congresses

- ▶ XV Congress of the Associació Catalana de Diabetis. Grupo de Endocrinología, Nutrición y Diabetes - IIB Sant Pau Barcelona, 21-22 March 2019.
- ▶ Antonio Pérez (President of the Congress and the Scientific Committee). XXX Congreso Nacional Sociedad Española de Diabetes (SED). Sevilla, 23-26 April 2019.

Dissemination Activities to Society

- ▶ Ana Chico. Monitorización de la glucosa intersticial: MCG y Flash. XII Jornada de Avances en Diabetes. Sociedad Española de Endocrinología Pediátrica. Madrid, 15 February 2019. Conference.
- ▶ Ana Chico. Interpretación y uso de la monitorización flash de glucosa. Abbott. Barcelona, 2 July 2019. Conference.
- ▶ Ana Chico. Nódulo tiroideo. CAP Roger de Flor. Barcelona, 11 December 2019. Conference.
- ▶ Ana Chico. Papel de los SGLT2 en el tratamiento de la diabetes tipo 2 en atención primaria. Astra Zéneca. Barcelona, 2 April 2019. Conference.
- ▶ Ana Chico. Insulinoterapia. Qué conocimientos en relación con la diabetes necesita tener el interlocutor de Medical Affairs de Roche? Roche Diabetes Care. Barcelona, 27 February 2019. Conference.
- ▶ Ana Chico. Complicaciones crónicas de la diabetes. Qué conocimientos en relación con la diabetes necesita tener el interlocutor de Medical Affairs de Roche? Roche Diabetes Care. Barcelona, 26 February 2019. Conference.
- ▶ Ana Chico. Seguimiento de pacientes con DM1. Actividad: Qué conocimientos en relación con la diabetes necesita tener el interlocutor de Medical Affairs de Roche? Roche Diabetes Care. Barcelona 5 March 2019. Conference.
- ▶ Eugenia Mato. Evolució i Càncer, relació o coincidència? IIB Sant Pau-Centre Cívic Guinardo, 2019. Conference.
- ▶ Eugenia Mato. Evolució i Càncer. IIB SantPau-Col·legi Jesuïtes de Casp, 2019. Conference.
- ▶ Eugenia Mato. La papallona que marca la nostra vida: La glàndula tiroide. Agrupació de Mestresses de Casa de Barcelona i Província, 2019. Conference.
- ▶ Antonio Pérez. Insulinas basales: Insulinas clásicas, segunda generación de insulinas basales e insulinas biosimilares. III Edición Recorri2: Acompañando al paciente con DM2, Madrid, 6 July 2019. Conference.

Pituitary Gland Disorders



Coordinator

Webb Youdale, Susan (FGS)
swebb@santpau.cat

Members

Aulinas Maso, Anna (FGS)
Martel Duguech,
Luciana María (IR)
Resmini, Eugenia (CIBERER)
Santos Vives, Alicia (IR)
Valassi, Elena (CIBERER)

Main Lines of Research

- ▶ Morbidity and mortality, low-grade inflammation, and cardiovascular risk in patients diagnosed with acromegaly or Cushing's syndrome.
- ▶ Neuroradiological, neuropsychiatric and hormonal correlation of patients with endogenous hypercortisolism.
- ▶ Spanish Molecular Registry on Pituitary Adenomas (REMAH study).
- ▶ Etiopathogeny of heart disease in acromegaly and its relation to body composition.
- ▶ ERCUSYN: European Registry of Cushing's Syndrome. Maintenance and operation of the database containing more than 1800 patients and is the largest one so far worldwide on these patients.
- ▶ Role of telomeres in endocrine diseases. In collaboration with the group of J Surrallés
- ▶ Collaboration in the international consortium to identify genes and pathogenic mechanisms involved in the development of cranio-pharyngiomas and pituitary adenomas.
- ▶ Study of bone microarchitecture and resistance and factors that determine them in Cushing syndrome or acromegaly in remission. Model for investigating the body's bone-fat interaction.
- ▶ Etiology and extent of impaired quality of life, fatigue and cognitive, affective and emotional dysfunction in patients with Cushing syndrome. Prospective studies using structural and functional magnetic resonance imaging, positron emission tomography, genetic and cerebrospinal fluid analysis.
- ▶ Role of myosteatosis in the development and persistence of residual muscle weakness in treated acromegaly and Cushing syndrome. Study of the involved mechanisms.

Scientific Challenges

- ▶ Evaluate long-term persistent morbidity and mortality in patients who have had Cushing syndrome or acromegaly, especially bone quality, muscular dysfunction and quality of life.
- ▶ Analyze and update the European database of patients with Cushing syndrome (ERCUSYN), which in 2019 included over 1850 patients, with partners from 53 centers in 26 countries.
- ▶ 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, to investigate personalized markers of therapeutic response (mainly in acromegaly, corticotroph adenomas and non-functioning pituitary adenomas).
- ▶ Analyze clinical and molecular aspects of pituitary adenomas diagnosed at a young age, in collaboration with Hospital Universitario Cruces.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Collaboration with the Neuromuscular Research Group led by Drs. Isabel Illa and Eduard Gallardo, specifically with Dr. Jordi Díaz Manera, to evaluate muscle in patients treated for acromegaly and Cushing syndrome. This multidisciplinary group also includes Rehabilitation (Dr. H. Bascuñana and Mr. Jordi Garcia), and Imaging (Dr. J. Llauger), and a CIBERER working group has been set up by Dr. E Valassi to investigate non-invasive diagnostic tools to early detect impairment of muscle architecture in patients with pituitary rare diseases.
- ▶ Collaboration by Alicia Santos with the Psychiatry research group (mainly with Dr. Joaquim Soler, Dr. Juan Carlos Pascual and Dr. Cristina Carmona) in order to analyze the effects of compassionate therapy in patients with eating disorders and borderline personality disorder. (Efectos de la terapia de compasión en pacientes con trastornos de la conducta alimentaria y trastorno límite de la personalidad).

- ▶ Collaboration by Elena Valassi with the Unit of Palliative Care led by doctor Antonio Pascual to investigate the clinical implications of poor glycemic control in patients with advanced chronic diseases.
- ▶ Collaboration with the group of Jordi Surrallés on the study of telomeres in pituitary diseases.

External Collaborations

- ▶ Participation in the project of Personalized Medicine of the ISCIII, 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.
 - Participating 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

- 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)
- ▶ Silent corticotrope adenomas: Are they a subtype of more aggressive non-functioning pituitary adenomas? Project funded by CIBERER in the competitive call on Translational Medicine, 2015-2016 and published in 2019 in a Q1 journal (European Journal of Endocrinology).
 - PI: Antonio Picó (Alicante)
 - Participating Units: U747-S. Webb (Hospital de Sant Pau); U725A-L. Castaño (Bilbao); GCV 13_Picó (Alacant); GCV 11_Halperin (Hospital Clínic Barcelona); GCV 12_Marazuela (Hosp Princesa, Madrid); GCV 14_Puig (Hospital GTiP, Badalona); GCV 15_Soto (HUV Rocío Sevilla)
- ▶ Clinical study protocol on recently diagnosed patients with Cushing's syndrome, in collaboration with investigators in Leiden and Goteborg (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. We have sent over 100 samples and a first publication is currently being written up. A Santos, SM Webb collaborating with Drs. Itxaso Rica and Luis Castaño from Hospital Universitario Cruces, Instituto de investigación Sanitaria BioCruces.
- ▶ Bilateral collaboration between E. Resmini and Richard Lee of Baltimore University, Departments of Psychiatry and Medicine, the Johns Hopkins University School of Medicine.
- ▶ Genetic, molecular and clinical characterisation of craniopharyngioma. St Bartholomew's Hospital and The London Charity Hospital. With Dr. Carles Gaston-Massuet.
- ▶ Bilateral collaboration between E. Valassi and Oskar Ragnarsson, University of Gotheborg (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 Brian Keevil, University of Manchester (UK) to investigate the role of salivary cortisone in the residual morbidity of patients with 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 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 between E. Valassi and María Morán (Hospital 12 de Octubre, Madrid), Federico Pallardó and José Luis García (U733 CIBERER; Valencia University) to identify early markers of metabolic impairment in patients with Cushing's syndrome and acromegaly.

Active Grants

- ▶ Susan Webb Youdale. Centro de Investigación Biomédica en Red de Enfermedades Raras. CIBERER. CB06/07/0044. Ministerio de Sanidad y Política Social. Duration: 2006-2020. 330,667.96 €.
- ▶ Susan Webb Youdale. Estudio de microarquitectura y resistencia ósea y de factores que las determinan en el síndrome de Cushing o acromegalia en remisión. Modelo para investigar la interacción hueso-grasa corporal. PI14/00194. Instituto de Salud Carlos III. Duration: 2015-2019. 91,500 €.
- ▶ Susan Webb Youdale. Grup de Recerca de Malalties de la Hipòfisi i Grup CIBERER 747 (CIBER de Malalties Rares). 2017 SGR 00750. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Elena Valassi, Alicia Santos, Susan Webb. Agreement signed between HRA Pharma and the European Society of Endocrinology to support the ERCUSYN database over 5 years, which allows an annual support of ESE to IR for the sustainability of ERCUSYN. Duration: 2018-2023.
- ▶ Elena Valassi, Alicia Santos, Susan Webb. Registro observacional, prospectivo e internacional para recopilar información clínica sobre pacientes con síndrome de Cushing endógeno expuestos a ketoconazol (mediante el Registro Europeo de Síndrome de Cushing [European Registry on Cushing's Syndrome Cushing's Syndrome, ERCUSYN] ya existente) para evaluar el patrón de utilización del fármaco y para documentar la seguridad (p. ej., hepatotoxicidad, prolongación del intervalo QT) y la eficacia del ketoconazol. Duration: 2018-2023.
- ▶ Elena Valassi, PostDoctoral CIBERER researcher. Role of myosteatosis in the development and persistence of residual muscular frailty in treated acromegaly and Cushing's syndrome tratados. Study of the mechanisms involved. PI 17/00749. Duration: 2018-2020.
- ▶ Susan Webb. European Society of Endocrinology audit and multi-country comparison of Adult Growth Hormone Deficiency (AGHD) treatment in clinical practice in Europe, Australia and New Zealand; how closely are protocols and best practice recommendations followed. Pfizer Independent Grants for Learning & Change: Improving the Identification and Management of Adult Growth Hormone Deficiency (AGHD). Duration: 2018-2019. 150,000 \$

Clinical trials

- ▶ Open multicentric protocol of continuation of Pasireotide, for patients that have completed a prior study of pasireotide sponsored by Novartis and when the investigator considers that the patient will benefit from the continuation of treatment with pasireotide. SOM230B2412. It started in 2011 and is still going on (it is a continuation of CSOM230G2304 "Phase III study, multicentric, randomized and double blind, to evaluate the efficacy and safety of pasireotide LAR in patients with Cushing's disease", nr Eudract. 2009-011128-70).
- ▶ Glucocorticoid Receptor Antagonism in the Treatment of Cushing Syndrome (GRACE): A Phase 3, Double-Blind, Placebo-Controlled, Randomized-Withdrawal Study of the Efficacy and Safety of Relacorilant (CORT125134). IND Number 128625. EudraCT Number 2018-003096-35. It started in 2019.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Anna Aulinas Maso. Contractes Juan Rodés 2019. JR19/00013. Instituto de Salud Carlos III. Duration: 2020-2024. 180,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Luciana Martel, Alicia Alonso, Helena Bascuñana, Jordi Díaz-Manera, Jaume Llauger, Claudia Nuñez-Peralta, Betina Biagetti, Paula Montesinos, Susan M. Webb, Elena Valassi. Fatty infiltration in the skeletal muscle of the thighs is associated with impaired muscle function in patients with Cushing's syndrome in long-term remission. Award for best oral communication in Neuroendocrinology at the Congress of the SEEN (Sociedad Española de Endocrinología y Nutrición). Bilbao, 16-18 October 2019.
- ▶ Susan Webb was the recipient of 2 European awards for outstanding lifetime contribution to the field of Endocrinology: Clinical Endocrinology Trust and European Society of Endocrinology Award and Rolf Gaillard Prize awarded by the European Neuroendocrine Association.

Doctoral Theses

- ▶ Francisca Caimari Palou. Pituitary disease in the context of unusual situations, Universitat Autònoma de Barcelona. Durectors: Susan M Webb, Marta Korbonits. Date of defense: 04/10/2019.

Scientific Production

Total Impact Factor: 20.487 · Mean Impact Factor: 3.4145

Álvarez-Escolá C, Venegas-Moreno EM, García-Arnés JA, Blanco-Carrera C, Marazuela-Azpiroz M, Gálvez-Moreno MÁ, Menéndez-Torre E, Alier-Pardo J, Salinas-Vert I, Resmini E, Torres-Vela EM, Gonzalo-Redondo MA, Vilchez-Joya R, de Miguel-Novoa MP, Halperín-Rabinovich I, Páramo-Fernández C, de la Cruz-Sugranyes G, Houchard A, Picó-Alfonso AM; ACROSTART Study Group. ACROSTART: A retrospective study of the time to achieve hormonal control with lanreotide Autogel treatment in Spanish patients with acromegaly. *ENDOCRINOL DIABETES NUTR*. 2019 Feb 14. [Epub ahead of print] **IF: 1.268**

Ejlsmark-Svensson H, Sikjaer T, Webb SM, Rejnmark L, Rolighed L. Health-related quality of life improves 1 year after parathyroidectomy in primary hyperparathyroidism: A prospective cohort study. *CLIN ENDOCRINOL (OXF)*; 01. 90(1):184-191. **IF: 2.897**

García-Martínez A., Cano D.A., Flores-Martínez A., Gil J., Puig-Domingo M., Webb S.M., Soto-Moreno A., Pico A., Why don't corticotroph tumors

always produce Cushing's disease? (2019) *EUR J ENDOCRINOL*, 181 (3), 351-361. **IF: 5.1070**

Santos A., Resmini E., Martínez Momblán M.A., Valassi E., Martel L., Webb S.M., Quality of Life in Patients With Cushing's Disease (2019) *FRONT ENDOCRINOL*, 10. **IF: 3.6340**

Valassi E., García-Giralt N., Malouf J., Crespo I., Llauger J., Díez-Pérez A., Webb S.M., Circulating mir-103a-3p and mir-660-5p are associated with bone parameters in patients with controlled acromegaly (2019) *ENDO-CR CONNECT*, 8 (1), 39-49. **IF: 2.4740**

Valassi E., Tabarin A., Brue T., Feelders R.A., Reincke M., Netea-Maier R., Toth M., Zacharieva S., Webb S.M., Tsagarakis S., Chanson P., Pfeifer M., Droste M., Komerduš I., Kastelan D., Maiter D., Chabre O., *et al*, High mortality within 90 days of diagnosis in patients with Cushing's syndrome: Results from the ERCUSYN Registry (2019) *EUR J ENDOCRINOL*, 181 (5), 461-472. **IF: 5.1070**

Books or Chapters with ISBN

- ▶ Susan Webb. In: *Minorities que fan una majoria*. La Marató TV3. 1st edition. Barcelona: Enciclopèdia; 2019. p 21-37. ISBN: 978-84-412-3213-6
- ▶ Anna Aulinas. Physiology of the Pineal Gland and Melatonin. In: Feingold KR, Anawalt B, Boyce A, Chrousos G, Dungan K, Grossman A, Hershman JM, Kaltsas G, Koch C, Kopp P, Korbonits M, McLachlan R, Morley JE, New M, Perreault L, Purnell J, Rebar R, Singer F, Trencle DL, Vinik A, Wilson DP, editors. *Endotext* [Internet]. South Dartmouth (MA): MDText.com, Inc.; 2000-. 2019 Dec 10. PMID: 31841296.

Diffusion Activities

Difussion and Divulgation to Society

- ▶ Susan Webb was the Scientific Coordinator of the 2019 Marató de TV3 about Minority Diseases; apart from several meetings she participated in the program video (<https://www.ccma.cat/tv3/alcarta/la-marato-de-tv3/video-divulgatiu-de-la-marato-2019-malalties-minorities/video/5888815/>) and the book "Minorities que fan una majoria" ISBN: 978-84-412-3213-6. She also contacted some of the patients that later participated in the program videos.
- ▶ Susan Webb is member of the Endo-ERN Steering Committee, responsible for the Work package "Quality of care and patient view". Annual Meeting in Budapest, 12 March 2019.
- ▶ Susan Webb represented Endo-ERN at the 7TH Meeting of the European Reference Networks Coordinators Group (ERN - CG), organized by the European Commission Directorate General for Health and Food Safety. Brussels, 25 March 2019.
- ▶ Susan Webb (invited speaker). New challenges/opportunities in biomedical research. Dia Mundial de les Malalties Minoritàries a Catalunya. Parc de Recerca Biomèdica de Barcelona, 28 February 2019.
- ▶ Elena Valassi. Divulgative talk for patients: How does muscle change in acromegaly? Let's go to the gym! VII Encuentro Nacional de Pacientes con Acromegalia, Bilbao, 19 October 2019.
- ▶ Alicia Santos. The psychological aspects of Cushing's syndrome: the patients' voice. Talk for a French patient association: 6e Journée de l'Association Surrénales: Les hypersécrétions Surrénales. Paris, France, 29 November 2019.

Scientific Diffusion

Interventions of members of the group as invited speakers

- ▶ Susan Webb. Cushing syndrome diagnosis: from guidelines to clinical practice. 70th Annual Meeting of the Portuguese Society of Endocrinology, Diabetes & Metabolism (SPEDM). Braga, Portugal, 26 January 2019.
- ▶ Susan Webb. Are we prepared to listen? Symposium Living With Endocrine Disorders Acromegaly and NETs: A Conversation On the Real Patient Experience. 21st European Congress of Endocrinology (ECE). Lyon, France, 19 May 2019.
- ▶ Susan Webb. How can patients perception of outcome be improved after controlling pituitary disease? 21st European Congress of Endocrinology (ECE). Lyon, France, 20 May 2019. Clinical Endocrinology Trust and European Society of Endocrinology Award for 2019, awarded at the European Congress of Endocrinology, with the corresponding invited lecture.
- ▶ Susan Webb. Round table: Complex clinical cases of Cushing syndrome. 60th Congress of the Sociedad Española de Endocrinología y Nutrición. Bilbao, Spain, 16-18 October 2019.
- ▶ Susan Webb. Patient-centred outcomes with pituitary and paraneoplastic disease European Neuroendocrine Association (Enea). Athens, Greece, 5 December 2019. Susan Webb was the recipient of the Rolf Gaillard Prize awarded by the European Neuroendocrine Association – Enea.

- ▶ Susan Webb Quality of life in patients included in ERCUSYN (European Register on Cushing's Syndrome). 4th Scientific Pituitary Expert Meeting: "Endocrine hypertension". Sofia, Bulgaria 10 May 2019.
- ▶ Alicia Santos. Psychological aspects when managing Cushing's syndrome: the voice of the patients. 4th Scientific Pituitary Expert Meeting: "Endocrine hypertension". Sofia, Bulgaria, 10 May 2019.
- ▶ Alicia Santos. Psychological aspects in pituitary adenomas: understanding our patients for better management. XXII National Symposium of Psychoneuroendocrinology. Timisoara, Rumania, 21-23 November 2019.
- ▶ Eugenia Resmini. Ipofisi e Psiche. CUEM 2019, VIII Clinical Update in Endocrinologia e Metabolismo. Milan, Italy, 05 July 2019.
- ▶ Elena Valassi. Does my patient have Cushing's? Update in Endocrinology. Klinicni Center and University of Ljubljana. Ljubljana, Slovenia, 18 April 2019.
- ▶ Elena Valassi. Residual Morbidity and impact on QoL in pituitary disease. Joint European Society of Endocrinology Nurses/WAPO (World Alliance of Pituitary Organizations) Meeting. Lyon, France, 18 May 2019.
- ▶ Elena Valassi. The Cushing's collaborative: can cross-discipline partnerships improve outcomes? 21th European Congress of Endocrinology. Lyon, France, 18-21 May 2019.
- ▶ Elena Valassi. Cushing's disease. The European experience. Birmingham Pituitary Preceptorship Meeting, University of Birmingham, Queen Elizabeth Hospital. Birmingham (UK), 19-20 September 2019.
- ▶ Elena Valassi. Meet the expert: Pituitary diseases and pregnancy. 60th Congress of the Spanish Society of Endocrinology and Nutrition (SEEN). Bilbao, Spain, 16-18 October 2019.
- ▶ Elena Valassi. ERCUSYN: an example of fruitful European collaboration Workshop EuRRECa/EndoERN on rare endocrine registries. Glasgow, UK, 12-13 December 2019.

Other

- ▶ Susan Webb is a Member of the International Guideline working group set up by the European Society of Endocrinology-ESE, European Society of Pediatric Endocrinology-ESPE and European Reference Network -EndoERN- on "Pituitary disease & pregnancy", first meeting in Vienna (14-15 February 2019) and final meeting in Leiden, to be published in 2020.
- ▶ Susan Webb. Chair of the Program Organizing Committee which met in Buenos Aires, Argentina, to elaborate the scientific program of the International Congress of Endocrinology to be held in Buenos Aires in October 2020. 24-25 June, 2019.

Digestive Diseases



Coordinator

Guarner Aguilar, Carlos (FGS)
cguarner@santpau.cat

Members

Alvarado Tapias, Edilmar
Auxiliadora (IR)
Bertoletti, Federico (FGS)
Colan Hernández, Juan (FGS)
Concepción Martín, María del Mar
(FGS)

Cuyas Espí, Berta (FGS)
Gallego Moya, Adolfo (FGS)
García Gil, Judit (IR)
García Guix, Marta (FGS)
García Planella, Esther (FGS)
Gómez Oliva, Cristina (FGS)
González Juan, Dolores (FGS)
Gordillo Ábalos, Jorge (FGS)
Guarner Argente, Carlos (FGS)
Murzi Pulgar, Marianne C. (FGS)
Oblitas Susanibar, Elida (FGS)

Poca Sans, Maria (FGS)
Roman Abal, Eva Maria (FGS)
Sainz Saenz-Torre, Sergio (FGS)
Sánchez Ardid, Elisabet
(CIBEREHD)
Soriano Pastor, Germán (FGS)
Torras Colell, Javier (FGS)
Villanueva Sánchez, Cándid (FGS)

Main Lines of Research

Experimental research

- ▶ 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: pathophysiology and treatment.
- ▶ MiRNAs expression profile in inflammatory bowel disease after stimulation with toll-like receptor ligands.

Clinical investigation

- ▶ Pathophysiology, 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.

- ▶ Pathophysiology, diagnosis, treatment and prevention of digestive hemorrhage due to portal hypertension of non-varicose origin.
- ▶ Diagnosis and treatment of chronic hepatitis B and C.
- ▶ Diagnosis and treatment of hepatocarcinoma.
- ▶ Pathophysiology, diagnosis and treatment of intestinal inflammatory disease (inflammatory bowel disease).
- ▶ Diagnosis and treatment in advanced gastrointestinal endoscopy.
- ▶ Diagnosis and treatment of acute pancreatitis.
- ▶ Prevention of acute post-ERCP pancreatitis.
- ▶ Chronic pancreatitis and pancreatic neoplasms: molecular studies, early detection and treatment.
- ▶ Evaluation of acute alcohol hepatitis.

Scientific Challenges

- ▶ Consolidate the CIBEREHD, CIBER, Institut de salut Carlos III research group by studying complications in cirrhosis.
- ▶ UAB (Universitat Autònoma de Barcelona) research group: Research group on complications in cirrhosis of the liver.
- ▶ Catalan government consolidated research group (SGR).
- ▶ Expand the hepatology research lab and develop new research.
- ▶ Consolidate the portal hypertension 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.
- ▶ Group CIBERehd-evs.

Collaborations

Collaborations with other IIB Sant Pau Groups

We establish relationships with different research scientific support areas and technical services such as:

- ▶ Clinical Trials Documentation
- ▶ Research Institute Management
- ▶ Research Institute Projects Unit
- ▶ Quality and Information Systems Unit
- ▶ Animal Experimentation Services
- ▶ Transfer and Innovation Unit

▶ Biobank

The collaboration with different research areas of the IIB Sant Pau, Institut de Recerca are:

- ▶ Genetic, Metabolic and Inflammatory Diseases Research Area:
 - Dr. Cándido Juárez (Inflammatory Diseases)
 - Dr. Pere Coll/Ferran Navarro (Microbiology and Infectious Diseases)
 - Dra. Pia Gallano and Dr. Jordi Surrallés (Genetic Research)
 - Dr. Dídac Mauricio (Endocrinology, Diabetes and Nutrition)

- ▶ Neurological, Mental Disorders and Ageing:
 - Dra. Beatriz Gómez Ansón (Neuroradiology)
- ▶ Molecular, Genomic, Cellular and Kinetic-Dynamic Bases for Diseases and their Treatment:
 - D. Juan García (Banc de Sang i Teixits, Generation of Advanced Therapy Medicines)
- ▶ Associated Groups:
 - D. Lluís Puig (Dermatology)
- ▶ Fundació de Gestió Sanitària Hospital de la Santa Creu i Sant Pau.
 - Dra. Bascuñana (Physical Medicine and Rehabilitation)

External Collaborations

National Collaborations

- ▶ CIBER Groups: CIBEREHD: Dr. Albillos, Dr. Francès, Dr. Bosch, Dr. Bruix, Dr. Cabré, Dr. Forns, Dr. Genesca, Dr. Andrade, Dr. Romero Gómez, Dr. Bañares, among others...); CIBERSAM: Dr. Gish; CIBERER: Dr. Pia Gallano
- ▶ Instituto de Productos Lácteos (IPLA) Asturias
- ▶ Danone Nutricia Research. Barcelona, Spain
- ▶ Gastrointestinal Oncology Group of the Spanish Gastroenterological Association
- ▶ Spanish Collaborative Group for the Study of the Use of Hepatitis 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)
- ▶ ENEIDA project
- ▶ 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 Gastroenterological Association
- ▶ Grupo Español de Resección Endoscópica de la Sociedad Española de Endoscopia Digestiva: Clinical Guidelines for Endoscopic Mucosal Resection Of Non-Pedunculated Colorectal Lesions
- ▶ Asociación Española de Gastroenterología
- ▶ Sociedad Española de Endoscopia Digestiva
- ▶ Societat Catalana de Pàncrees
- ▶ Registro ColHai
- ▶ Programa Pacient Expert Catalunya

- ▶ Quecomiicat
- ▶ InTeam Consortium Study Investigators
- ▶ COHORTE HEPA-C
- ▶ Estudio EPIBarrett
- ▶ PREDESCI Study Group
- ▶ Grp Invest PROCOLON

International Collaborations

- ▶ Cleveland Abu Dhabi
- ▶ University of Bologna, Italy
- ▶ 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
- ▶ Boehringer Ingelheim
- ▶ American Society for Gastrointestinal Endoscopy

External Collaborations with Industry

- ▶ Proyecto Hepatitis C: Impacto del tratamiento con nuevos antivirales. EHD15PE94B_B/2016-Estudios inmunológicos.
- ▶ Caracterización evolutiva de la cirrosis por VHC y del síndrome de hipertensión portal asociado, tras la erradicación del VHC con tratamiento antiviral sin interferón. IIBSP-VHC-2015-20
- ▶ Eficacia y seguridad de los antivirales de acción directa (AAD) en pacientes con cirrosis hepática por el VHC genotipo 1 y signos endoscópicos de hipertensión portal.
- ▶ Evidencia en vida real de la efectividad de Paritaprevir/r/Ombitasvir ± Dasabuvir (REGIMEN ABBVIE) ± Ribavirina en pacientes con Hepatitis C Crónica - Estudio Observacional Retrospectivo en España. ABB-OMB-2016-01 AbbVie Spain, S.L.U.
- ▶ A Multicenter, Double-Blind, Randomized, Placebo-Controlled, Phase 2 Study to Evaluate the Efficacy and Safety of Elafibranor at Doses of 80 mg and 120mg after 12 Weeks of Treatment in Patients With Primary Biliary Cholangitis (PBC) and Inadequate Response to Ursodeoxycholic Acid.

Active Grants

- ▶ Carlos Guarner Aguilar. Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas. CIBEREHD. CB06/04/0030. Ministerio de Sanidad y Política Social. Duration: 2006-2020. 422,709.45 €.
- ▶ Carlos Guarner Aguilar. Estudio de las alteraciones de la barrera intestinal en la cirrosis hepática. PI14/00680. Instituto de Salud Carlos III. Duration: 2015-2019. 81,500 €.
- ▶ Cándid Villanueva Sánchez. Evolución de la circulación colateral portosistémica y la hiperdinamia asociadas a hipertensión portal con el

tratamiento etiológico de la cirrosis. Influencia en el desarrollo de complicaciones. PI16/01992. Instituto de Salud Carlos III. Duration: 2017-2021. 101,500 €.

- ▶ Edilmar Auxiliadora Alvarado Tapias. Ajuts per a contractes de formació "Río Hortega" 2016. CM16/00133. Instituto de Salud Carlos III. Duration: 2017-2019. 53,732 €.
- ▶ Carlos Guarner Aguilar. Grup de Recerca: Complicacions de la Cirrosi Hepàtica. 2017 SGR 00956. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.

- ▶ Eva Maria Roman Abal. Intervención multifactorial basada en ejercicio físico a domicilio, aminoácidos ramificados y prebiótico multi-especies en el tratamiento de la fragilidad en pacientes con cirrosis. PI_011CNDE2018. Conferencia Nacional de Decanos de Enfermería. Duration: 2018-2021. 3,000 €.
- ▶ Carlos Guarner Aguilar. Convenio para asistir al AASLD. G20-2001. W. L. Gore and Associates. Duration: 2019. 1,659.64 €.

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Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

Total Impact Factor: 320.991 · Mean Impact Factor: 9.727

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- ▶ Iborra M, Garcia-Morales N, Rubio S, Bertolotti F, Calvo M, Samsó CT, Bosca-Watts MM, Sierra-Ausin M, Marcos NM, Beltran B *et al.* Real-life experience with long-term maintenance of golimumab in ulcerative colitis patients. (2019) *GASTROENTEROLOGY*; 156 (6): S831-S831 Supl: 1 Abstract: Mo1765; May 2019
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- ▶ Marin I, Guarner-Argente C, Rodriguez M, Benslaiman B, Serra J. Rapid drink challenge test (RDC) during high resolution impedance manometry (HRIM) for evaluation of the responses to peroral endoscopic myotomy (POEM) in patients with achalasia. (2019) *NEUROGASTROENTEROLOGY AND MOTILITY*; 31 (4) Special issue: SI Abstract: 159; Aug 2019

Books or Chapters with ISBN

- ▶ Mar Concepción, Carlos Guarner Argente. Endoscopia digestiva avanzada del tubo digestivo. Módulo 2. Enfermedades del esófago. Tema 2.6 Tratamiento de varices esofágicas. Editorial Médica Panamericana. EAN9788491105343.

Diffusion Activities

Dissemination Activities in Society

- ▶ Eva Román. Calidad de vida de los pacientes con Enfermedad Hepática Avanzada (EHA). Los cuidados invisibles. General session. Hospital Sant Joan de Reus. October 2019
- ▶ Elisabet Sánchez. 48H Open House 2019, Barcelona, 26 October 2019
- ▶ Avenços en Patologia Digestiva. Escola de Patologia Digestiva de Sant Pau. 21-22 Novembre 2019.
- ▶ Eva Román. YouTube video. Nurses group presentation AEEH. 2019. (<https://www.youtube.com/watch?v=44ECqOHw6s&feature=youtu.be>)

Scientific Dissemination Activities

Organization of Courses

- ▶ Carlos Guarner Aguilar, Sergio Sainz, Germán Soriano, Xavier Torras, Cándido Villanueva. 102 Curso de la Escuela de Patología Digestiva. Hospital de la Santa Creu i de Sant Pau, Barcelona. 21-22 November 2019.
- ▶ Cristina Gómez Oliva, Carlos Guarner Aguilar, Maria Poca, Mar Concepción, Cristina Gómez, Carlos Guarner Argente, Sergio Sainz Saenz, Jordi Gordillo, Esther García-Planella, Marianne Murzi, Federico Bertolotti. LXXXV Curso de Sedación Profunda en Endoscopia de Barcelona. Hospital de la Santa Creu i de Sant Pau. Barcelona, 15-17 May 2019.

Teachers in Postgraduate Courses

- ▶ Carlos Guarner Argente. Especialización de Ultrasonografía Endoscópica (USE). Master: Endoscopia digestiva avanzada del tubo digestivo.

Módulo 2. Enfermedades del esófago. Tema 2.6 Tratamiento de varices esofágicas.

Symposiums and Conferences in Courses and Congresses

Presentations at conferences as a guest

- ▶ Eva Román (invited speaker). Calidad de vida en el paciente con enfermedad hepática avanzada. VI Curso de Enfermería en Hepatología. Asociación Española para el Estudio del Hígado (AEEH). Madrid, February 2019.
- ▶ María del Mar Concepción. Urgències endoscòpiques. 4t Taller Videofòrum d'Endoscopia. XXVIII Congrés de la Societat Catalana de Digestologia. Tarragona, 26-28 January 2019.
- ▶ Germán Soriano. Meeting Pharmabest, Vivomixx - clinical practice starting from IBD evolving to liver diseases. Warsaw, 29 November 2019.
- ▶ María del Mar Concepción. Diagnóstico, clasificación y tratamiento de la Encefalopatía Hepática. 7º Curso para Residentes de la Asociación Española para el Estudio del Hígado (AEEH). Barcelona 18 October 2019.
- ▶ María del Mar Concepción. Complicaciones y soluciones en pacientes con pancreatitis crónica. 22ª Annual Meeting of the Asociación Española de Gastroenterología. Madrid, 20-22 March 2019.
- ▶ María del Mar Concepción. Diabetes secundaria a pancreatopatía. XV Congress of the Associació Catalana de Diabetis. Barcelona, 21-22 March 2019.
- ▶ Germán Soriano (speaker). Diagnóstico, clasificación y tratamiento de la Encefalopatía Hepática. 7º Curso para Residentes de la Asociación Española para el Estudio del Hígado (AEEH). Barcelona, 18 October 2019.

Oral and poster communications

- ▶ XXVIII Congress of the Societat Catalana de Digestologia. Palau Firal i de Congressos de Tarragona, 24-26 January 2019
 - Liseth Rivero-Sanchez; Coral Arnau-Collell; Jesús Herrero; David Remedios; Victoria Alvarez; Eduardo Albéniz; Patricia Calvo; Jordi Gordillo; Ignasi Puig; Jorge Lopez-Vicente, *et al.* Colonoscopia de Luz Blanca de Alta Definición vs Cromoendoscopia para la vigilancia del Síndrome de Lynch. Estudio Multicéntrico, Aleatorizado, Controlado y Paralelo (Estudio Endolynch). Oral communication
 - Francesc Bas Cutrina; Carme Loras; Xavi Andújar; Carlos Huertas; Marc Albert; Raquel Ballester; Ferran Gonzalez Huix; Carles Guarner Argente; Albert Pardo; Joan B Gornals. Lligadura amb banda sense resecció de tumors submucosos de mida petita (estudi prospectiu multicéntric BANDING-TSM): Resultats preliminars a curt-mitjà termini. Oral communication
 - Sabela Lens; Edilmar Alvarado; Isabel Blanco; Zoe Mariño; Tanya Orizaga; Luis Ibáñez; X Torras; Anna Baiges; Fanny Turon; Virginia Hernández Gea; Rafael Bañares; Angela Puente; Jaume Bosch; Joan-Albert Barberà; Cándid Villanueva; Xavier Forn; Juan-Carlos García Pagan. Impacte a llarg termini de la curació del VHC amb règims orals en l'hemodinàmica sistèmica i pulmonar en pacients amb hipertensió portal clínicament significativa. Oral communication
 - E Sainz; Y Zabana; I Miguel; A Fernández; M Casanova; M Martín; MD Picó; F Gomollón; I Rodríguez; F Muñoz; M Domínguez; E Iglesias; D Busquets; A Gutiérrez; *et al.* Característiques clíniques, requeriments terapèutics i evolució dels pacients amb malaltia de Crohn i afectació del tracte digestiu alt (estudi CROHNEX). Oral communication
 - Eva Román; Maria Poca; Gerard Amorós; Xavier Rosell-Ferrer; Cristina Gely; Berta Cuyàs; Silvia Vidal; Eulalia Urgell; Elvira Hernández; Rosalia Santesmases; Carlos Guarner; *et al.* L'angle de fase determinat per bioimpedància elèctrica és un factor predictiu d'hospitalització, caigudes i mortalitat en els pacients amb cirrosi. Oral communication
 - A Reig; LP Llovet; M Romero Gómez; A Albillos; F Saez-Royuela; E Fábrega; J Salmerón; A Gallego; D Horta; J A Carrión; R Andrade; M Sala; A Castaño; E Gómez, *et al.* L'elevada prevalença de comorbiditats autoimmunitàries extrahepàtiques no s'associa a mal pronòstic a la colangitis biliar primària. Poster communication
 - Berta Cuyàs Espi; Elida Oblitas Susanibar; Marc Batlle Garcia; Gerard Suris Marín; Alberto Amador Navarrete; Margarita Sala Llinas; Helena Masnou Ridaura; José Castellote Alonso; *et al.* Comparació d'una pauta descendent ràpida de corticoides amb la pauta estàndard en l'hepatitis alcohòlica greu. Poster communication
 - Francesc Bas-Cutrina; Albert Garcia-Sumalla; Carlos Dolz; Cristina Gómez; Eloy Sánchez; Enrique Domínguez; Javier Jiménez; Jorge Canena; Pedro Pereira; Jose-Ramón Aparicio; *et al.* Ús actual de la colangiopancreatoscòpia digital oral (SpyGlassDS) a Espanya i Portugal: Dades preliminars. Poster communication
 - I Marín; C Guarner Argente; M Rodríguez; B Benslaiman; J Serra. Avaluació de les respostes pressives i de l'aclariment esofàgic al test de sobrecàrrega amb deglució ràpida en pacients amb acalàsia després de tractament amb miotomia endoscòpica per-oral (POEM). Poster communication
 - Margalida Calafat; Míriam Mañosa; Elena Ricart; Pilar Nos; Eva Flores Iglesias; Isabel Vera; Antonio López San Roman; Jordi Guardiola; Carlos Taxonera; Miguel Mínguez; *et al.* on behalf of researchers of register ENEIDA of GETECCU. L'ínici d'infliximab en edat avançada no s'acompanya d'un increment del risc d'efectes adversos immunomediats ni pèrdua secundària de resposta. Estudi de cohorts del registre Eneida. Poster communication
 - Margalida Calafat; Míriam Mañosa; Elena Ricart; Eva Iglesias; Marta Calvo; Francisco Rodríguez Moranta; Carlos Taxonera; Pilar Nos; Francisco Mesonero; M.Dolores Martín-Arranz; Miguel Mínguez; Javier P. Gisbert; *et al.*, on behalf of researchers of register ENEIDA of GETECCU. Switch' de tiopurines: una estratègia d'utilitat més limitada en pacients d'edat avançada. Estudi multicèntric del registre Eneida. Poster communication
 - Álvaro Díaz González; Marco Sanduzzi Zamparelli; Leonardo Gomes da Fonseca; G G Di Costanzo; R Alves; M Iavarone; C Leal; R Sacco; A M Matilla; M Hernandez Guerra; G Aballay Soteras; *et al.* El tratamiento con sorafenib es una alternativa de tratamiento sistémico para pacientes que reciben diálisis. Resultado de un estudio multicéntrico e internacional. Poster communication
- Elisabet Sánchez; Alba Santiago; Allison Clark; Marta Pozuelo; Miguel Calvo; Francisca Yáñez; Guillaume Sarrabayrouse; Lidia Perea; Silvia Vidal; Cándido Juárez; Carlos Guarner; Chaysavanh Manichanh; German Soriano. Canvis seqüencials del microbioma de ganglis limfàtics mesentèrics i resposta immune en un model experimental de cirrosi en rates. Poster communication
- ▶ 44º Congreso Anual de la Asociación Española para el Estudio del Hígado (AEEH). Madrid, 20-22 February 2019
 - A. Reig, L.P. Llovet, M. Romero-Gómez, A. Albillos, F. Sáez-Royuela, E. Fábrega, J. Salmerón, A. Gallego, D. Horta, J.A. Carrión, R. Andrade, M. Sala, A. Castaño, *et al.* La coexistencia de enfermedad autoinmune extrahepática es frecuente y no influye en el pronóstico de la colangitis biliar primaria. Oral communication
 - Debora Angrisani, Virginia Hernández-Gea, Bogdan Procopet, Alvaro Giraldez, Lucio Amitrano, Cándid Villanueva, Dominique Thabut, Luis Ibáñez, Gilberto Silva-Junior, *et al.* Factores pronósticos en pacientes con hemorragia digestiva por varices esofagogástricas de alto riesgo tratados con un tips preventivo precoz. Oral communication
 - Joaquín Cabezas, Inmaculada Fernández, Susana Llerena, José Antonio Carrión, Adolfo Gallego, José Luis Calleja, Sabela Lens, Juan Manuel Pascasio, Martín Prieto, *et al.* El acceso universal al tratamiento antiviral no es suficiente para prevenir las fases avanzadas de la infección por VHC. Oral communication
 - Eva Román Abal, Maria Poca Sans, Gerard Amorós Figueras, Xavier Rosell-Ferrer, Cristina Gely Vila, Berta Cuyàs Espi, Silvia Vidal Alcorisa, Eulalia Urgell Rull, Elvira Hernández Martínez-Esparza, *et al.* El ángulo de fase determinado por bioimpedancia eléctrica es un factor predictivo de hospitalización, caídas y mortalidad en los pacientes con cirrosis. Oral communication
 - Martínez J, Téllez L, Hernández-Gea V, Procopet B, Giraldez Á, Amitrano L, Villanueva C, Thabut D, Ibáñez-Samaniego L, Silva-Junior G, Genescà J, Bureau C, Trebicka J, Llop E, *et al.* Infección respiratoria en pacientes con cirrosis hepática y hemorragia variceal aguda en profilaxis antibiótica: estudio multicéntrico, internacional, observacional de 2.138 pacientes. Oral communication
 - Marta Garcia-Guix, Edilmar Alvarado, Alba Ardèvol, Rosa Montañès, Berta Cuyàs, Beatriz Deriba, Carlos González, Maria Poca, Xavier Torras, Carlos Guarner, Cándid Villanueva. Influencia de los cambios en la presión portal en respuesta a beta-bloqueantes en los distintos estadios de la cirrosis descompensada. Oral communication
 - Sabela Lens, Edilmar Alvarado, Isabel Blanco, Zoe Mariño, Tanya Orizaga, Luis Ibáñez, José Ignacio Fortea, Xavier Torras, Anna Baiges, Fanny Turon, Virginia Hernández-Gea, Rafael Bañares, Ángela Puente, Jaume Bosch, Joan Albert Barberà, Cándid Villanueva, Xavier Forn, Juan Carlos García-Pagán. Pacto a largo plazo de la curación del VHC con regímenes orales en la hemodinámica sistémica y pulmonar en pacientes con hipertensión portal clínicamente significativa. Oral communication
 - J Llaneras, M Riveiro-Barciela, S Lens, M Diago, A Cachero, J García-Samaniego, I Conde, A Arencibia, JI Arenas, F Gea, X Torras, JL Calleja, JA Carrión, I Fernández, *et al.* Eficacia y seguridad en vida real de velpatasvir/sofo buvir/voxilaprevir en pacientes con hepatitis crónica C previamente tratados con DAAs. Oral communication
 - Elisabet Sánchez, Alba Santiago, Allison Clark, Marta Pozuelo, Miguel Calvo, Francisca Yáñez, Guillaume Sarrabayrouse, Lidia Perea, Silvia Vidal, Cándido Juárez, Carlos Guarner, Chaysavanh Manichanh, German Soriano. Cambios secuenciales en el microbioma A de ganglios linfáticos mesentéricos y en la respuesta immune durante la inducción de cirrosis en rates. Poster communication
 - Díaz-González A, Sanduzzi-Zamparelli M, Gomes da Fonseca L, Di Costanzo GG, Alves R, Iavarone M, Leal C, Sacco R, Matilla AM, Hernández-Guerra M, Aballay Soteras G, *et al.* El tratamiento con sorafenib es una alternativa de tratamiento sistémico para pacientes que reciben diálisis. Resultado de un estudio multicéntrico e internacional. Poster communication
 - Berta Cuyàs, Elida Oblitas, Marc Batlle, Gerard Surís, Alberto Amador, Margarita Sala, Helena Masnou, José Castellote, Nuria Cañete, Eva Román, Carlos Guarner, Germán Soriano, Maria Poca. Comparación entre una pauta descendent rápida de corticoides y la pauta estándar en la hepatitis alcohólica grave. Poster communication

- ▶ IV Jornadas de Enfermería. Hospital de la Santa Creu i Sant Pau. 27 February - 1 March 2019
 - Eva Román, Maria Poca, Gerard Amorós, Xavier Rosell-Ferrer, Cristina Gely, Berta Cuyàs, Sílvia Vidal, Eulalia Urgell, Elvira Hernández, Rosalía Santesmases, Carlos Guarner, Germán Soriano. El ángulo de fase determinado por bioimpedancia eléctrica es un factor predictivo de hospitalización, caídas y mortalidad en los pacientes con cirrosis. Oral communication.
- ▶ 22 Annual Meeting of the Asociación Española de Gastroenterología (AEG). 20-22 March 2019
 - Liseth Rivero-Sánchez, Aleksardar Gavric, Coral Arnau, Jesús Herrero, David Remedios, Victoria Álvarez, Eduardo Albéniz, Patricia Calvo, Jordi Gordillo, Ignasi Puig, Jorge López Vicente, Alain Huerta, *et al.* La estrategia de "diagnose and disregard" se puede implementar en pacientes con síndrome de Lynch cuando el diagnóstico óptico es realizado por colonoscopistas expertos. Oral communication
 - E. Sainz, Y. Zabana, I. Miguel, A. Fernández-Clotet, M.J. Casanova, M. Martín, M.D. Picó, E. Alfambra, I. Rodríguez, F. Muñoz, M. Domínguez, E. Iglesias, D. Busquets, A. Gutiérrez, F. Cañete, L. Núñez, *et al.* Características clínicas, requerimientos terapéuticos y evolución de los pacientes con enfermedad de Crohn y afectación del tracto digestivo alto (estudio Crohnex). Oral communication
 - Liseth Rivero Sánchez, Coral Arnau-Collell, Jesús Herrero, David Remedios, Victoria Álvarez, Eduardo Albéniz, Patricia Calvo, Jordi Gordillo, Ignasi Puig, Jorge López-Vicente, Alain Huerta, *et al.* Colonoscopia de luz blanca de alta definición vs cromoendoscopia para la vigilancia del síndrome de Lynch. Estudio multicéntrico, aleatorizado, controlado y paralelo (estudio Endolyn CH). Oral communication
 - Liseth Rivero Sánchez, Coral Arnau-Collell, Jesús Herrero, David Remedios, Victoria Álvarez, Eduardo Albéniz, Patricia Calvo, Jordi Gordillo, Ignasi Puig, Jorge López-Vicente, Alain Huerta, *et al.* Colonoscopia de luz blanca de alta definición vs cromoendoscopia para la vigilancia del síndrome de Lynch. Estudio multicéntrico, aleatorizado, controlado y paralelo (estudio Endolyn CH). Oral communication
 - Juan Colan Hernández, Oriol Sendino, Carme Loras, Xavier Andujar, Albert Pardo, Joan Gornals, Mar Concepción, Cristina Sánchez Montes, Marianne Murzi, Gloria Fernández Esparrach, Àngels Ginés, Carlos Guarner Argente. Ensayo clínico multicéntrico, aleatorizado y doble ciego sobre la profilaxis antibiótica para la usepaaf de lesiones quísticas pancreáticas. Oral communication
 - Fermín Estremera Arévalo, Carlos Guarner Argente, Marianne Murzi, Sonia Ezquer Iturbide, Eduard Targarona, Rosa Iglesias Pícazo, Jordi Serra, Juan Vila Costas, Eduardo Albéniz Arbizu. Poem para trastornos motores esofágicos: resultados tras los primeros 50 procedimientos realizados en dos centros. Poster communication
 - María Raffaella Romito, Marianne Murzi Pulgar, Anna Brujats, Mireia Trias, Laura González, Juan Colan, Jordi Gordillo, Mar Concepción, Maria Poca, Esther Garcia-Planella, Cristina Gómez-Oliva, Sergio Sainz, Carlos Guarner-Argente. Utilidad de la perfusión por endoscopia de contraste enteral en las perforaciones iatrogénicas de colon tratada con clips. Poster communication
 - Iago Rodríguez-Lago, Jesús Castro-Poceiro, Agnès Fernández-Clotet, Francisco Mesonero, Antonio López-Sanromán, Alicia López-García, Lucía Márquez, Ariadna Clos-Parals, *et al.* Eficacia y seguridad de Tacrolimus en la enfermedad de Crohn: estudio multicéntrico de Geteccu. Poster communication
 - Marisa Iborra, Natalia García-Morales, Saioa Rubio, Federico Bertolletti, Marta Calvo, Carlos Taxonera Samso, Marta Maria Bosca-Watts, Mónica Sierra-Ausín, Noemí Mancediño Marcos, *et al.* Análisis en vida real de los factores asociados a la persistencia de Golimumab en el tratamiento de la colitis ulcerosa. Poster communication
 - María José Casanova, María Chaparro, Miguel Mínguez, Elena Ricart, Carlos Taxonera, Santiago García-López, Jordi Guardiola, Antonio López-San Román, Eva Iglesias, Belén Beltrán, *et al.* Eficacia y seguridad del uso secuencial de un segundo y tercer fármaco anti-TNF en pacientes con enfermedad inflamatoria intestinal (EII): resultados del registro Eneida. Poster communication
 - María Chaparro, Ana Garre, Elena Ricart, Valle García-Sánchez, Carlos Taxonera, Miriam Mañosa, Isabel Vera Mendoza, Miguel Mínguez, Federico Argüelles, Luisa de Castro Parga, *et al.* Carac-
- terísticas diferenciales de la enfermedad inflamatoria intestinal (EII) diagnosticada en edad pediátrica en comparación con la diagnosticada en edad adulta: resultados del estudio carousel de GETECCU. Poster communication
- Margalida Calafat, Míriam Mañosa, Elena Ricart, Sandra Marín, Marta Calvo, Francisco Rodríguez-Moranta, Carlos Taxonera, Pilar Nos, Francisco Mesonero, M. Dolores Martín-Arranz, *et al.* 'Switch' de tiopurinas: ¿una estrategia segura en pacientes con enfermedad inflamatoria intestinal de edad avanzada? Estudio de cohortes del registro Eneida. Poster communication
- Margalida Calafat, Míriam Mañosa, Elena Ricart, Pilar Nos, Eva Iglesias Flores, Isabel Vera, Antonio López-San Román, Jordi Guardiola, Carlos Taxonera, Miguel Mínguez, M. Dolores Martín, *et al.* El inicio de Infliximab en pacientes de edad avanzada con enfermedad inflamatoria intestinal no se acompaña de un incremento del riesgo de efectos adversos inmunomediados ni pérdida secundaria de respuesta. Estudio de cohortes del registro Eneida. Poster communication
- Laura González González, Anna Brujats Rubirola, Mireia Trias Torroglosa, Beatriz De Riba Soler, Raffaella Romito, Marianne Murzi Pulgar, Mar Concepción, *et al.* Factores asociados a la necesidad de necrosectomía en el tratamiento endoscópico de las necrosis pancreáticas encapsuladas. Poster communication
- ▶ Digestive Disease Week (DDW); San Diego, CA, 18-21 May 2019: Amer Gastroenterol Assoc; Amer Assoc Study Liver Dis; Amer Soc Gastrointestinal Endoscopy; Soc Surg Alimentary Tract
 - Laursen, SB; Stanley, AJ; Hernández-Gea, V; Procopet, B; Giraldez, A; Sanchez, CV; Thabut, D; Ibáñez-Samaniego, L; Martínez, J; Genesca, J; Bureau, C; Trebicka, J, *et al.* Optimal timing of endoscopy is associated with lower 42-day mortality in variceal bleeding. Poster communication
 - Iborra, M; Garcia-Morales, N; Rubio, S; Bertolletti, F; Calvo, M; Samso, CT; Bosca-Watts, MM; Sierra-Ausín, M; Marcos, NM; Beltran, B, *et al.* Real-life experience with long-term maintenance of Golimumab in ulcerative colitis patients. Poster communication
 - Sabela Lens, Edilmar Alvarado, Isabel Blanco, Zoe Mariño, Tanya Orizaga, Luis Ibáñez, José Ignacio Fortea, Xavier Torras, Anna Baiges, Fanny Turon, Virginia Hernandez-Gea, *et al.* Long-term impact of sustained virological response on systemic and pulmonary hemodynamics in HCV-cirrhotic patients with portal hypertension. Oral presentation
- ▶ EASL International Liver Congress™2019. Vienna, Austria, 10-14 Apr 2019
 - Stig Borbjerg Laursen, Adrian Stanley, Virginia Hernández-Gea, Bogdan Procopet, Álvaro Giraldez, Lucio Amitrano, Candid Villanueva, Dominique Thabut, Luis Ibáñez-Samaniego, *et al.* Optimal timing of endoscopy is associated with lower 42-day mortality in variceal bleeding. Oral presentation
 - Debora Angrisani, Virginia Hernández-Gea, Bogdan Procopet, Karel Caca, Álvaro Giraldez-Gallego, Lucio Amitrano, Maria Anna Guardascione, Cándid Villanueva, Edilmar Alvarado, *et al.* Factors predicting survival in patients with high-risk acute variceal bleeding treated with pre-emptive (Early)-TIPS. Oral presentation
 - Álvaro Díaz-González, Marco Sanduzzi-Zamparelli, Leonardo Gomes da Fonseca, Giovan Giuseppe Di Costanzo, Rogério Alves, Massimo Iavarone, Cassia Regina G Leal, Rodolfo Sacco, *et al.* A multicenter international study of sorafenib treatment in patients with hepatocellular carcinoma and chronic kidney disease undergoing hemodialysis. Poster presentation
 - Marc Puigvehí, Agustín Albillos, Ana Viu, Manuel Hernández-Guerra, Inmaculada Fernández Vázquez, M Prieto, Xavier Torras, José Miguel Rosales Zabal, Lourdes Grande Santamaria, *et al.* Efficacy and safety of glecaprevir/pibrentasvir for the pangenotypic treatment of chronic hepatitis C in former intravenous drug users: Subanalysis from a Spanish real-world cohort (Hepa-C). Poster presentation
 - Berta Cuyas, Elida Oblitas, Marc Batlle, Gerard Surís, Alberto Amador, Margarita Sala, Helena Masnou, José Castellote, Nuria Cañete, Eva Roman, Carlos Guarner, Germán Soriano, Maria Poca. Comparison of a fast corticosteroid tapering with the standard corticosteroid schedule in severe alcoholic hepatitis. Poster presentation
 - Anna Reig, Laura Patricia Llovet, Manuel Romero Gómez, Mercedes Vergara Gómez, Agustín Albillos, Federico Sáez-Royuela, Emilio Fàbrega, Javier Salmerón, Diana Horta, *et al.* Overlap of primary biliary cholangitis and autoimmune hepatitis. Natural

history and prognosis in a large cohort of patients from Spain. Poster presentation

- Eva Roman, Maria Poca, Gerard Amoròs, Javier Rosell, Cristina Gely, Berta Cuyàs, Silvia Vidal, Eulalia Urgell, Elvira Hernández, Rosalia Santesmases, Cándido Juárez, Carlos Guarner, Germán Soriano. The phase angle determined by bioelectrical impedance is a predictive factor of hospitalization, falls and mortality in patients with cirrhosis. Poster presentation
 - Lorena Vigon, Sonia Vazquez-Moron, Juan Berenguer, Juan González-García, M. Àngeles Jiménez-Sousa, Josep Maria Guardiola, Manuel Crespo, Ignacio de los Santos, Miguel Von Wichmann, *et al.* Rapid decrease in titer and breath of neutralizing anti-HCV antibodies in HIV/HCV-coinfected patients who achieved sustained virological response. Poster presentation
 - Joaquín Cabezas, Inmaculada Fernández Vázquez, Susana Llerena, José A. Carrión, Adolfo Gallego Moya, Sabela Lens, Jose Luis Calleja Panero, Juan Manuel Pascasio, *et al.* Universal access to direct-acting antivirals treatment is not enough to prevent late stage presentation of hepatitis C infection. Poster presentation
 - Álvaro Díaz-González, Marco Sanduzzi-Zamparelli, Leonardo Gomes da Fonseca, Giovan Giuseppe Di Costanzo, Rogerio Alves, Massimo Iavarone, Cassia Regina G Leal, *et al.* A multicenter international study of sorafenib treatment in patients with hepatocellular carcinoma and chronic kidney disease undergoing hemodialysis. Poster presentation
 - Marta Garcia Guix, Edilmar Alvarado, Alba Ardevol, Rosa Montanes, Berta Cuyàs, Bea de Riba, Carlos González, Ana Brujats, Maria Poca, Xavier Torras, Carlos Guarner, Germán Soriano, Cándid Villanueva. Prognostic implications of encephalopathy to adequately define differentiated stages of decompensated cirrhosis. Poster presentation
 - Javier Martínez, Luis Tellez, Virginia Hernandez-Gea, Bogdan Procopet, Álvaro Giraldez-Gallego, Lucio Amitrano, Cándid Villanueva, Dominique Thabut, Luis Ibáñez, *et al.* Respiratory infection in patients with cirrhosis and acute variceal bleeding on antibiotic prophylaxis: A multicenter observational study of 2138 patients. Poster presentation
- The Liver Meeting 2019 AASLD, 8-12 November
- Cándid Villanueva, Agustín Albillos, Joan Genesca, Juan Carlos García-Pagan, José Luis Calleja, Carles Aracil, Rafael Bañares Cañizares, Rosa Morillas, Maria Poca Sans, *et al.* Bacterial infections in patients with compensated cirrhosis and clinically significant portal hypertension: implications on the risk of developing decompensation and on survival. Oral communication
 - Jonel Trebicka, Luis Ibáñez Samaniego, Virginia Hernández-Gea, Carla Pitarch, Elisabet Garcia, Bogdan Procopet, Álvaro Giráldez, Lucio Amitrano, Cándid Villanueva, Dominique Thabut, Gilberto Silva-Junior, *et al.* Acute on chronic liver failure is a major risk factor for bleeding control and mortality, while pre-emptive tips improves survival in these patients. Poster communication
 - Mattias Mandorfer, Virginia Hernández-Gea, Bogdan Procopet, Álvaro Giráldez, Lucio Amitrano, Cándid Villanueva, Dominique Thabut, Luis Ibáñez Samaniego, Gilberto Silva-Junior, Javier Martínez, *et al.* Factors predicting survival in patients with 'non-high-risk' acute variceal bleeding receiving nsbb and/or EBL to prevent re-bleeding. Poster communication

Microbiology and Infectious Diseases



Coordinator

Navarro Risueño, Ferran (FGS)
fnavarror@santpau.cat

Members

Arnau Vila, Albert (IR)
Ballarín Laliena, Gemma (FGS)
Canal Girol, Cristina (F. Puigvert)
Cermeño Reyes, Sílvia (FGS)
Coll Figa, Pedro (FGS)
Cortés Palacios, Ana Pilar (FGS)
Cruells Gascón, Adrià (UAB)
De Benito Hernández, María Natividad (FGS)
Español Fran, Montserrat (FGS)

Espinal Marín, Paula Andrea (IR)

Facundo Molas, Carme (F. Puigvert)

Fernández Arévalo, Anna (IR)

Fernández Piqueras, Engracia (FGS)

Gálvez Deltoro, María Luz (FGS)

Gelpi Remiro, Rosana (F. Puigvert)

Gómez Martínez, Laura (FGS)

Gurgui Ferrer, Mercedes (FGS)

López-Contreras González,

Joaquín (FGS)

Margall Coscojuela, Nuria (FGS)

Miró Cardona, Elisenda (FGS)

Muñoz Batet, Carmen (FGS)

Mur Arizon, Isabel (FGS)

Piriz Marabajan, Marta (FGS)

Pomar Solchaga, Virginia (FGS)

Prim Bosch, Nuria (FGS)

Rabella Garcia, Nuria (FGS)

Rivera Martínez, Maria Alba

(FGS)

Roch Villaverde, Nerea (FGS)

Rodríguez Navarro, Judith (IR)

Rubio Bueno, Marc (IR)

Sánchez Morillo, Alba (IR)

Sánchez Reus, Fernando (FGS)

Serra Cabañas, Nuria (F. Puigvert)

Vila Santandreu, Anna (F.

Puigvert)

Main Lines of Research

Clinical Microbiology

- ▶ Detection and characterization 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.
- ▶ Leishmaniosis: epidemiology, characterization and diagnosis.
- ▶ Chagas diseases, diagnosis and study of congenital infection.
- ▶ Medical care projects.

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 hemodialysis and renal transplant patients.

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.

Scientific Challenges

Clinical Microbiology

- ▶ Detection and characterization 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 gene expansion (plasmids, transposons, integrons and 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 next-generation sequencing as a tool for whole genome analysis. Genotype characterization of *Cryptosporidium* spp. oocysts from stool samples. Characterization 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 repetitive 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 in depth, especially invasive fusariosis and aspergillosis and respiratory tract viral infections in patients with onco-hematologic diseases. Multi-center studies of HIV (ongoing). Research related to bacteremia 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. Minimization of resistance, cost reduction and improvement of 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. Study of epidemiology for our hospital. Reduction of incidence. Prevention/containment of epidemic outbreaks and work with the Microbiology Unit on epidemiology and molecular studies.
- ▶ Study of infections associated with foreign bodies (joint prostheses, catheters, cardiac prostheses and pacemakers). Reduction of incidence. Development of effective conservative treatment regimes. Infections in Transplant Patients (Heart, Haemopoietic Progenitors). Study of current epidemiology. Evaluation of the efficacy of prophylaxis and other preventive measures.
- ▶ Tuberculosis. Cooperation on studies of resistance and new treatment regimens for tuberculosis.
- ▶ Chagas diseases. Collaboration on the developing the protocol for 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 (coordinator: Dr. Sambeat).
- ▶ New influenza control: Barcelona-Dreta Epidemiological Surveillance Operations Committee (coordinator: Dr. López-Contreras).
- ▶ Database for monitoring CMV infections after renal transplantation.
- ▶ Database for monitoring BK virus infections after renal transplantation.
- ▶ Observational and multicenter case-controlled (1:2) study to compare the evolution of renal transplantation in patients with HIV infection (Dr. Canal, Dr. Facundo and Dr. Serra), 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

Collaborations with other IIB Sant Pau Groups

- ▶ Kidney Transplant of Puigvert Foundation (Guirado Perich, Lluís; Facundo Molas, Carme; Serra Cabañas, Nuria; Canal Girol, Cristina; Vila Santandreu, Anna; Gelpi Remiro, Rosana; Bardají de Quixano, Beatriz; Silva Torres, Irene):
 - Biomarkers for BKV in urine sample: Determination of a diagnostic and prognostic biomarker in urine by proteomics of nephropathy by BK virus in renal transplant receptors, sponsored by the Infectious Diseases Department, Vall d'Hebron University Hospital, Barcelona, Spain.
 - Study of the kinetic of the immunity T CD8+ from CMV in renal transplants in treatment with Thymoglobulin. Financed by Grants from the Foundation, Project and Health of the Andalusia.
 - Suspension of the prophylaxis treatment with valganciclovir in renal transplants CMVseropositive that maintain the immunity T CD8+ CMV-specific after treatment with Thymoglobulin. Financed by ISCIII Grant FIS (PI15/00402).
 - Prevalence and incidence of hepatitis E virus infection in haemodialysis and renal transplant patients
 - Renal transplant program of hepatitis C virus positive donors.

External Collaborations

Clinical Microbiology

- ▶ Secció de Parasitologia, Departament de Biologia, Sanitat i Medi Ambient, Facultat de Farmàcia. Universitat de Barcelona. Montserrat Gállego Culleré. Topic: Chagas and leishmaniasis.
- ▶ Laboratorio de Biología Molecular de la Enfermedad de Chagas (LabMECh). Instituto de Investigaciones en Ingeniería Genética y Biología Molecular (INGEBI-CONICET). Buenos Aires, Argentina. Alejandro Gabriel Schijman. Topic: Chagas
- ▶ Université Aix-Marseille, INSERM-IRD-AMU UMR 912, Marseille, France. Renaud Piarroux. Topic: Leishmaniasis. Characterization

- ▶ Département de Parasitologie-Mycologie, Centre National de Référence des Leishmanioses, Centre Hospitalier Universitaire de Montpellier, France. Patrick Bastien, Laurence Lachaud. Topic: Leishmaniasis. Characterization
- ▶ Departamento de Parasitología. Universidad Complutense de Madrid (UCM). Francisco Bolás Fernández. Topic: Leishmaniasis
- ▶ Universidade de São Paulo (USP). Brasil. Marcia Dalastra Laurenti. Topic: Tegumentary leishmaniasis
- ▶ Parasitology laboratory –Medicin Faculty. Universidad Mayor de San Simón and Laboratorio de Investigación-Fundación CEADES de Cochabamba, Bolivia. Mary Cruz Torrico de Solano. Topic: Leishmaniasis in Bolivia.
- ▶ Great Ormond Street Hospital (Camelia Botnar Laboratories). London, UK. Dr. Kathryn Harris. Topic: Epidemiology of Mycobacterium abscessus complex using whole genome sequencing. Interhuman transmission?
- ▶ Department of Infectious Diseases. Instituto Superiore di Sanità. Rome, Italy. Dra. Aurora Garcia Fernández. Topic: Epidemiology of enteropathogenic bacteria
- ▶ Sapienza University of Rome, Italy. Dra Alessandra Carattoli. Topic: Characterization of plasmids
- ▶ Departament de Genètica, Microbiologia i Estadística, Universitat de Barcelona. Maite Muniesa. Topic: Presence of phages in clinical samples
- ▶ Departament de Genètica, Microbiologia i Estadística, Universitat de Barcelona. Carlos Balsalobre and Cristina Madrid. Topic: Campylobacteriosis
- ▶ University Medical Center (UMCG) Groningen, The Netherlands. Alex Friederik and Silvia Garcia-Cobos. Topic: Whole genome sequence in carbapenemase-producing Enterobacteriaceae.
- ▶ Sequentia Biotech. Tomas Grassi. Topic: Microbiome in recurrent urinary tract infection

Active Grants

- ▶ Pedro Coll Figa. Grup de Recerca en Patologia Infecciosa i Microbiologia Clínica. 2017 SGR 01096. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Joaquín López-Contreras González. Neutrophil Extracellular Traps in Sepsis: Discovering prognostic and diagnosis markers and therapy targets. MARATO 20182310. Fundació La Marató de TV3. Duration: 2019-2022. 125,500 €.
- ▶ Joaquín López-Contreras González. La importància de la higiene de mans. INPA FP 2018. Fundació Privada Hospital de la Santa Creu i Sant Pau. Duration: 2019. 2,000 €.
- ▶ Pedro Coll Figa. Conveni Departament Salut - Dr. Coll (IR). Desenvolupar conjuntament funcions de vigilància epidemiològica de les infeccions nosocomials i la poliomièlitis (Vigilància de les paràlisis flàccides). Departament de Salut. Duration: 2011-2019. 104,670.49 €.
- ▶ Paula Andrea Espinal Marín. Contratos Sara Borrell 2015. CD15/00017. Instituto de Salud Carlos III. Duration: 2016-2019. 80,598 €.
- ▶ María Natividad de Benito Hernández. Optimización de la profilaxis quirúrgica antimicrobiana en los pacientes a los que se implanta una prótesis articular electiva en España. PI15/01026. Instituto de Salud Carlos III. Duration: 2016-2020. 59,000 €.
- ▶ Ferran Navarro Risueño. Presencia de bacteriófagos en muestras clínicas estériles e interferencia de los mismos en el diagnóstico microbiológico de las infecciones. PI16/00158. Instituto de Salud Carlos III. Duration: 2017-2019. 66,000 €.
- ▶ C. Facundo. Study of the kinetic of the immunity T CD8+ from CMV in renal transplants in treatment with Thymoglobulin. Grants from the Foundation, Project and Health of the Andalusia. ISCIII Grant FIS (PI15/00402) and Ayuda SENEPRO. Duration: 2016-2019. 34,000 €.
- ▶ C. Facundo. Suspension of the prophylaxis treatment with valganciclovir in renal transplants CMV- seropositive that maintain the immunity T CD8+ CMV-specific after treatment with Thymoglobulin. SLT002/16/00089. Departament de Salut. Duration: 2016-2019. 39,100 € / 24,000 €
- ▶ María Natividad de Benito Hernández. Factores de risc i prevenció de les infeccions del peu diabètic: paper del control glicèmic i el microbioma de l'úlcer. SLT002/16/00089. Departament de Salut. Duration: 2017-2019. 58,714.20 €
- ▶ Joaquín López-Contreras González. La importància de la higiene de mans. INPA FP 2018. Fundació Privada Hospital de la Santa Creu i Sant Pau. Duration: 2019. 2,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Ferran Navarro Risueño. Papel del microbioma intestinal y genital en las infecciones urinarias recurrentes. PI19/00427. Instituto de Salud Carlos III. Duration: 2020-2022. 67,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 151.275 · Mean Impact Factor: 5.6027

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Diffusion Activities

Courses or Seminars

- ▶ Ferran Navarro (coordinator). Actualitzacions en el diagnòstic i l'epidemiologia de les malalties infeccioses. Centre de Recerca en Patologia Infecciosa i Microbiologia Clínica (CRePIMC). Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau.

Congress Sessions or Posters

- ▶ Del Cuerpo M, Marin P, Esteban M, Antón A, Miró E, Roig MC, Cabrerizo M, Torner N, Rabella N. Evaluación del rendimiento de las diferentes muestras clínicas para el diagnóstico de la infección por enterovirus A71. XXII Congress of the Sociedad de Enfermedades Infecciosas y Microbiología Clínica. Madrid. 2019.
- ▶ I. Bleriot, L. Blasco, R. Trastoy, A. Ambroa, L. Fernández-García, E. Pérez-Nadales, F. Fernández-Cuenca, J. Torre-Cisneros, J. Oteo, F. Navarro, E. Miró, A. Pascual, G. Bou, L. Martínez-Martínez, M. Tomas. Estudio genómico de 42 bacteriófagos localizados en los genomas de 17 cepas clínicas de *Klebsiella pneumoniae* resistentes a carbapenemas. XXII Congress of the Sociedad de Enfermedades Infecciosas y Microbiología Clínica. Madrid. 2019.

- ▶ Juan José González-López, Albert Moreno-Mingorance, Joaquín López-Contreras, Belén Viñado, Alba Rivera, Carmen Ferrer, Eduardo Padilla, José Ángel Rodrigo, Engracia Fernández-Piqueras, Marta Rodríguez, Juan Pablo Horcajada, *et al.* Aplicación de la secuenciación de genomas completos al estudio de la transmisión de bacterias multirresistentes en unidades de bajo riesgo de dos hospitales terciarios. XXII Congress of the Sociedad de Enfermedades Infecciosas y Microbiología Clínica. Madrid. 2019.
- ▶ Albert Moreno-Mingorance, Anna Fàbrega, Elisenda Miró, Milagros Herranz, Jesús Oteo-Iglesias, Engracia Fernández-Piqueras, Benito Almirante, Yannick Hoyos, Alba Rivera, Carmen Ferrer, Cristina González Juanes, Belén Viñado, Juan Pablo Horcajada, *et al.* Diseminación del linaje emergente *Klebsiella pneumoniae* ST307 multirresistente en tres hospitales del área de Barcelona. XXII Congress of the Sociedad de Enfermedades Infecciosas y Microbiología Clínica. Madrid. 2019.
- ▶ Albert Moreno-Mingorance, Anna Fàbrega, Thais Cornejo-Sánchez, Milagros Herranz, Alba Rivera, María Pérez-Vázquez, Joaquín López-Contreras, Nuria Prim, Elisenda Miró, Cristina González Juanes, Engracia Fernández-Piqueras, Jesús Oteo-Iglesias, *et al.* Persistencia del linaje de *E. coli* ST131 resistente a cefalosporinas en Barcelona y emergencia del linaje epidémico ST1193. XXII Congress of the So-

ciudad de Enfermedades Infecciosas y Microbiología Clínica. Madrid. 2019.

- ▶ Blasco L., R. Trastoy, A. Ambroa, E. Perez-Nadales, F. Fernandez-Cuenca, J. Torre-Cisneros, J. Oteo, A. Oliver, R. Canton, T. Kidd, F. Navarro, E. Miro, A. Pascual, G. Bou, L. Martínez-Martínez, M. Tomas. ElyA1, a new endolysin isolated from the *Acinetobacter baumannii* bacteriophage Ab105Φ1, displays antimicrobial activity against Gram-negative bacteria when used in combination with colistin. 2019.
- ▶ Muniesa M., Maryury Brown-Jaque, Lorena Rodríguez-Rubio, Elisenda Miró, Paula Espinal, Ferran Navarro. Presence of bacteriophages in clinical samples and their interference in the microbiological diagnosis of Infections SEV-GVN 2019: XV Congress of the Spanish Society of Virology / 11th International Meeting GVN. 2019.
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- ▶ Becerra F, Merino I, Gómez-Zorrilla S, Siverio A, Berbel D, Sanchez Carrillo C, Rivera A, De Malet A, Xercavins M, Martínez J, Ruiz E, Armendariz L, Lopez D, Díaz-Regañón J, Canton R, Oliver A, Horcajada JP. Dramatic increase and changing epidemiology of ESBL-producing *Escherichia coli* causing healthcare-associated bacteraemia of urinary source in Spain. 29th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID). Amsterdam, 13-16 April 2019.
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- ▶ Benito N, Sorli L, Mur I, Puig L, Rivera A, Ruiz A, Crusi X, Luque S, González JC, Rodríguez S, Horcajada JP. Does expanded Gram-negative antimicrobial prophylaxis reduce the risk for prosthetic joint infection after joint arthroplasty surgery? 29th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID). Amsterdam, 13-16 April 2019.
- ▶ M.M. Montero, S. Domene Ochoa, C. López-Causapé, S. Luque, L. Sorli, N. Campillo, E. Padilla, N. Prim, C. Segura, V. Pomar, A. Rivera, S. Grau, A. Oliver and J.P. Horcajada. Evaluación in vitro de ceftolozano/tazobacam y colistina solos o en combinación en diferentes clones de *Pseudomonas aeruginosa* extremadamente resistentes (XDR). XXII Congress of the Sociedad de Enfermedades Infecciosas y Microbiología Clínica. Madrid.
- ▶ F. Becerra Aparicio, I. Merino, R. Cantón, P. Ruiz Garbajosa, C. Sánchez Carrillo, E. Cercenado, S. Gómez Zorrilla, A. Siverio, J.P. Horcajada, D. Berbel, A. Rivera, A. de Malet, M. Xercavins, J.A. Martínez, E. Ruiz de Gopegui, A. Oliver, J.L. del Pozo, D. López Mendoza and J. Díaz Regañón. Alta prevalencia de CTX-M-15 B2-*Escherichia coli* ST131 y emergencia de CTX-M-27 en bacteriemia de origen urinario en España (estudio ITU-BRAS-2). XXII Congress of the Sociedad de Enfermedades Infecciosas y Microbiología Clínica. Madrid.
- ▶ C. Berengua, A. Rivera, N. Benito, D. de Miniac, P. Berenguer and P. Coll. Utilidad de Le filmarray blood culture identification panel para el diagnóstico de la meningitis bacteriana posquirúrgica. XXII Congress of the Sociedad de Enfermedades Infecciosas y Microbiología Clínica. Madrid.
- ▶ Soldevila, I. Mur, Á. Fernández, E. Benavent, Y. Sierra, A. Rivera, J. Bosch, S. Martí, J. Gaitan, A. Montero, A. Soriano, C. Ardanuy, L. Morata, N. Benito and O. Murillo. Evaluación del papel de los cultivos cuantitativos en la diferenciación entre colonización e infección de las úlceras del pie diabético. XXII Congress of the Sociedad de Enfermedades Infecciosas y Microbiología Clínica. Madrid.
- ▶ J.J. González-López, A. Moreno-Mingorance, J. López-Contreras, B. Viñado, A. Rivera, C. Ferrer, E. Padilla, J.Á. Rodrigo, E. Fernández-Piqueiras, M. Rodríguez, J.P. Horcajada, M. Pérez-Vázquez, L. Salas, Á. Cotura, A. Fàbrega1, E. Miró, J. Oteo-Iglesias, F. Navarro, B. Almirante and M. Larrosa. Aplicación de la secuenciación de genomas completos al estudio de la transmisión de bacterias multirresistentes en unidades de bajo riesgo de dos hospitales terciarios. XXII Congress of the Sociedad de Enfermedades Infecciosas y Microbiología Clínica. Madrid.

AREA 2 · Genetic, Metabolic and Inflammatory Diseases

Multi-organ Damage



Coordinator
Casademont Pou, Jordi (FGS)
jcasademont@santpau.cat

Members
Arroyo Díaz, Juan Antonio (FGS)
Barceló Trias, Montserrat (FGS)
Castellví Barranco, Ivan (FGS)
Corominas Macias, Héctor (FGS)
Díaz Torné, César (FGS)
Filella Agulló, David (FGS)
Francia Santamaria, Esther (FGS)
Hernández de Sosa, Nerea (FGS)
Herrera Bachs, Sílvia (IR)

Laiz Alonso, Ana María (FGS)
Malouf Sierra, Jorge (IR)
Mascaró Lamarca, Jordi (FGS)
Matas Pericas, Laia (FGS)
Moya Alvarado, Patricia (FGS)
Rodríguez Díez, Basilio (IR)
Sánchez Núñez, Isabel (IR)
Torres Bonafonte, Olga Herminia (FGS)

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, analyzing the contribution of trabecular and cortical components using HRCT.
- ▶ Description of fat values and percentages in a normal population (in collaboration with the HIV Unit and CETIR Medical Group).
- ▶ Description of bone structure in patients with a history of acromegaly assessed by DXA and HRQCT.

Hypertension and Vascular Risk

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

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

- ▶ Immunomodulation due to anti-CD20 (rituximab) treatment and study of polymorphisms.
- ▶ Evaluation of the clinical and ultrasonographic criteria of remission in Rheumatoid arthritis.
- ▶ Immunological basis and pathogenic studies of rheumatoid arthritis and other inflammatory conditions.
- ▶ Pharmacogenetic studies of disease-modifying and immunomodulatory drugs in autoimmune and inflammatory diseases.
- ▶ Validation of the effect of baricitinib in patients with moderately to severe active rheumatoid arthritis who have had an inadequate response to methotrexate or anti-TNF therapy.
- ▶ Role of tofacitinib in patients with moderate to severely active rheumatoid arthritis with inadequate response to biologic DMARD.
- ▶ JAK-STAT pathway in autoimmune processes, mainly focused in rheumatoid arthritis.

Systemic Sclerosis

- ▶ Capillaroscopy patterns and correlation with auto-antibodies and pulmonary function tests.
- ▶ Evidence-based detection of pulmonary arterial hypertension in systemic sclerosis: the DETECT study.
- ▶ Use of endothelin receptor antagonism to prevent pulmonary arterial hypertension (in collaboration with Vall d'Hebron University Hospital, Barcelona, Spain).
- ▶ Genetic studies in systemic sclerosis and collaboration with DUO Registry and LAUDES study.
- ▶ Study of capillaroscopy patterns in diffuse connective tissue diseases: QuantiCAP study.

Gout

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

Sjögren Syndrome, SLE and others

- ▶ Role of Association of Platelet Binding to Lymphocytes with B Cell Abnormalities and Clinical Manifestations in Systemic Lupus Erythematosus.
- ▶ Clinical and epidemiological findings in Spanish patients with primary Sjögren syndrome (in collaboration with Spanish Society of Rheumatology).
- ▶ Evaluation of the effect of Apremilast in the Healing process of Mucocutaneous Lesions in Behçet Disease.
- ▶ Study of the pattern of interstitial lung disease in primary Sjögren's syndrome.
- ▶ Musculoskeletal involvement and ultrasonography update in systemic lupus erythematosus: New insights and review. ESSDAI activity index of the SJÖGRENSER cohort: analysis and comparison with other European cohorts.
- ▶ SER recommendations on the use of biological drugs in primary Sjögren's syndrome.
- ▶ Studies of Adult-Onset Autoinflammatory Syndromes.

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.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Digestive Diseases (Dr. Germán Soriano), Study by densitometry and ergospirometry of the effects of an exercise programme in overweight patients with liver cirrhosis.
- ▶ Orthopaedic Surgery and Traumatology Service (Dr. José Carlos González Rodríguez). Randomized, double-blind, placebo-controlled clinical trial of parallel groups assessing the efficacy of subcutaneous denosumab for periprosthetic resorption decrease in patients with total knee prosthesis, IIBSP-DEN-2012-24, Eudra No: 2012-001285-15.
- ▶ Cardiovascular Risk Group (Dr. Laiz Matas). Longitudinal epidemiological study for the assessment of arterial stiffness in patients with renal insufficiency and treatment with vitamin D3 and vitamin D analogues, IIBSP-VIT-2013-138.
- ▶ Oncology Service (Dra. Barceló, Dr. Mascaró and Dra. Desiree Moras). Study PEBEL.
- ▶ Endocrinological Diseases Research Group. Pituitary Diseases Unit. Hospital de la Santa Creu i Sant Pau. Papel de la mioestatis en el desarrollo y la persistencia de la debilidad muscular residual en acromegalia y síndrome de Cushing tratados. Estudio de los mecanismos involucrados.

External Collaborations

- ▶ Dr. Luis del Rio, Standardized measures of different tissues using dual-energy X-ray absorptiometry, CETIR Medical Group, Barcelona, Spain.
- ▶ Internal Medicine Pneumonia Study (ENEMI), coordinated by the Hospital General Universitario Gregorio Marañón, Madrid, Spain.
- ▶ Héctor Corominas. Hospital Vall d'Hebron. Biomarcadores de actividad en la artritis reumatoide. Estudio transversal y prospectivo basado en la inmunosecuenciación de anticuerpos y receptores TCR. FIS 2018 (PI17/00019).
- ▶ Dr. Jorge Malouf. CETIR and GALGO Medical. Desarrollo de un software para la medicación de parámetros estructurales de la cadera en 3D a partir una imagen 2D de DXA.
- ▶ Dr. Jorge Malouf. CETIR. Desarrollo de un fantoma (testigo) para la futura calibración del software anteriormente descrito and Calibración cruzada (Desarrollar la ecuaciones necesarias que nos permitan relacionar los parámetros obtenidos en las densitometrías, para así poder comparar los resultados, independientemente de con qué densitómetro se haya obtenido la imagen anteriormente).

Active Grants

- ▶ Olga Herminia Torres Bonafonte. Identificación de un inmunofenotipo de riesgo de mal pronóstico en ancianos que han sido ingresados por neumonía. PI18/00684. Instituto de Salud Carlos III. Duration: 2019-2021. 66,000 €.
- ▶ David Filella (IP: Alejandro de la Sierra Iserte). Valor predictivo de la hemodinámica central de 24 horas en pacientes de edad avanzada hospitalizados por descompensación de patología crónica. Multi-center study in the recruitment phase III. Instituto de Salud Carlos. EC/18/308/5374 (PS).
- ▶ Registro Nacional de Insuficiencia Cardíaca (RICA) de la Sociedad Española de Medicina Interna. FESEMI. EC/17/267/4993 (OBS)
- ▶ David Filella (IP: Marisha Burden). Opioid Prescribing Practices and Satisfaction with Pain Management in Patients Hospitalized on Medical Wards: an international survey. COMIRB n°: 13-1809.
- ▶ Jorge Malouf. A Phase 3 Randomized, double-blind, multi-dose, placebo-controlled study to evaluate the long-term Safety and the efficacy of fasinumab in patients with Pain due to Osteoarthritis of the Knee or Hip. R475-PN-1523
- ▶ Jorge Malouf. A randomized, double-blind, multicenter integrated phase I/III study in postmenopausal women with osteoporosis to compare the pharmacokinetics, pharmacodynamics, efficacy, safety and immunogenicity of GP2411 (proposed biosimilar denosumab) and Prolia® (EU-authorized), PXL#241965. Hexal AG/Sandoz Inc., CGP24112301.
- ▶ Jordi Mascaró (IP: Antoni Bayés). Advanced Characterization of Cognitive Impairment in Elderly with InterAuricular Block (CAMBIAD study).
- ▶ Jordi Mascaró and Montserrat Barceló (IP: Dra Margarita Majem). Survival, Quality of Life and self Reportde Outcomes of Elderly Patients with Advanced Non-Small Cell Lung Cancer (NSCLC), treated with Pembrolizumab (MK-3475) in the firts line setting. (Estudi PEBEL GECP 16/06).
- ▶ Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Berta Paula Magallares López. Estudio de la fragilidad ósea en población pediátrica con factores de riesgo. Universitat Autònoma de Barcelona. Directors: Jordi Casademont, Jorge Malouf Sierra, Dacia Cerdà Gabaroi. Date of defense: 28/06/2019.
- ▶ Paola Helena Ponte Márquez. Estudio del grado de control de los factores de riesgo cardiovascular modificables en pacientes atendidos en un hospital de 3er nivel uno o dos años después de sufrir un infarto cerebral o un síndrome coronario agudo. Universitat Autònoma de Barcelona. Directors: Jordi Casademont, Juan A. Arroyo. Date of defense: 12/11/2019.

Scientific Production

Total Impact Factor: 78.5730 · Mean Impact Factor: 4.6219

Aterido A., Canete J.D., Tornero J., Ferrandiz C., Pinto J.A., Gratacos J., Queiro R., Montilla C., Torre-Alonso J.C., Perez-Venegas J.J., Fernandez Nebro A., Munoz-Fernandez S., Gonzalez C.M., Roig D., Zarco P., Erra A., Rodriguez J., *et al.*, Genetic variation at the glycosaminoglycan metabo-

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Burden M., Keniston A., Wallace M.A., Busse J.W., Casademont J., Chadaga S.R., Chandrasekaran S., Cicardi M., Cunningham J.M., Filella D.,

Hoody D., Hilden D., Hsieh M.-J., Lee Y.-S., Melley D.D., Munoa A., Perego F., Shu C.-C., Sohn C.H., Spence J., Thurman L., Towns C.R., You J., Zocchi L., Albert R.K., Opioid utilization and perception of pain control in hospitalized patients: A cross-sectional study of 11 sites in 8 countries (2019) *J HOSP MED*, 14 (12), 737-745. **IF: 2.2760**

Cancio J.M., Vela E., Santauegenia S., Cleries M., Inzitari M., Ruiz D., Long-term Impact of Hip Fracture on the Use of Healthcare Resources: a Population-Based Study (2019) *J AM MED DIR ASSOC*, 20 (4), 456-461. **IF: 4.8990**

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de Agustin J.J., Erra A., Ponce A., Moragues C., Diaz-Torne C., Reina D., Moreno E., Ramirez J., Mateo L., Pujol Busquets M., Moya P., Santo-Panero P., Ros-Exposito S., Narvaez J., Sanmarti R., Garcia de Yebenes M.J., Carmona L., Measuring inflammation in rheumatoid arthritis with a new clinical and ultrasound index: development and initial validation (2019) *RHEUMATOL INT*, 39 (12), 2137-2145. **IF: 2.2000**

Díez-Manglano J; Isasi de Isasmendi Pérez S; Rubio Gómez M; Formiga F; Sánchez Muñoz LÁ; Castiella Herrero J; Casariego Vales E; Torres Bonafonte OH. End-of-life care for patients hospitalised in internal medicine departments *REVISTA CLINICA ESPANOLA* 2019 107-115. 2019. ISSN 0014-2565. **IF: 1.043**

Elhai M., Boubaya M., Distler O., Smith V., Matucci-Cerinic M., Alegre Sancho J.J., Truchetet M.-E., Braun-Moscovici Y., Iannone F., Novikov P.I., Lescoat A., Siegert E., Castellvi I., Airo P., Vettori S., De Langhe E., Hachulla E., Erler A., *et al.*, Outcomes of patients with systemic sclerosis treated with rituximab in contemporary practice: A prospective cohort study (2019) *ANN RHEUM DIS*, 78 (7), 979-987. **IF: 14.2990**

Estrada Alarcon P, Reina D, Navarro Angeles V, Cerda D, Roig-Vilaseca D, Corominas H, Doppler ultrasonography of superficial temporal artery in a cohort of patients with strong clinical suspicion of giant cell arteritis *Ecografía Doppler de arterias temporales superficiales en la arteritis de células gigantes en una cohorte con alta sospecha clínica* (2019) *MED CLIN-BARCELONA*, 153 (4), 151-153. **IF: 1.2770**

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Gullón A, Formiga F, Díez-Manglano J, Mostaza JM, Cepeda JM, Pose A, Castiella J, Suárez-Fernández C; NONAVASC study group Vascular Risk Group of the Spanish Society of Internal Medicine. Influence of frailty on anticoagulant prescription and clinical outcomes after 1-year follow-up in hospitalised older patients with atrial fibrillation. *INTERN EMERG MED*. 2019 Jan;14(1):59-69. Epub 2018 Sep 6. Erratum in: *INTERN EMERG MED*. 2019 Mar;14(2):335. **IF: 2.335**

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Lopez-Isac E., Acosta-Herrera M., Kerick M., Assassi S., Satpathy A.T., Granja J., Mumbach M.R., Beretta L., Simeon C.P., Carreira P., Ortego-Centeno N., Castellvi I., Bossini-Castillo L., Carmona F.D., Orozco G., Hunzelmann N., *et al.*, GWAS for systemic sclerosis identifies multiple risk loci and highlights fibrotic and vasculopathy pathways (2019) *NAT COMMUN*, 10 (1). **IF: 11.8780**

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Valassi E., Garcia-Giralt N., Malouf J., Crespo I., Llauger J., Díez-Perez A., Webb S.M., Circulating mir-103a-3p and mir-660-5p are associated with bone parameters in patients with controlled acromegaly (2019) *ENDOCR CONNECT*, 8 (1), 39-49. **IF: 2.4740**

Zamora C., Toniolo E., Diaz-Torne C., Canto E., Magallares B., Ortiz M.A., Perea L., Corominas H., Vidal S., Association of platelet binding to lymphocytes with B cell abnormalities and clinical manifestations in systemic lupus erythematosus (2019) *MEDIAT INFLAMM*, 2019, 2473164-. **IF: 3.5450**

Other Publications

- ▶ Simon A, Casademont J, Pérez Padilla J. Estilos de apego adulto en pacientes americanos y españoles con fibromialgia y artritis reumatoide: un estudio transversal. *DOLOR* 2019; 34:1-11.
- ▶ Díaz-Torné C, Ortiz MA, Sarmiento M, Díaz-López C, Corominas H, Casademont J, Vidal S. Rituximab levels are associated with the B cell homeostasis but not with the clinical response in patients with rheumatoid arthritis. *EUR J RHEUMATOL*. 2019 Apr 1;6(2):81-84.

Diffusion Activities

- ▶ Fité J, Sánchez L, PeyPOCH O, Ruiz D, Francia E, Escudero JR. La valoración geriátrica preoperatoria en la decisión de la indicación quirúrgica en patología aórtica: resultados tras dos años de aplicación. 65 Congress of the Sociedad Española de Angiología y Cirugía Vascul (SEACV). Maspalomas, Gran Canaria, 28-31 May 2019. Oral communication.
- ▶ Barceló Trias M, Martín Marcuello J, Torres Bonafonte O, Sane K, Santos Gutiérrez A, Francia Santamaría E, Moras Sarabia R, Mascaró Lamarca J. Impacto del retraso quirúrgico mayor de 48 horas en fractura de fémur en pacientes con y sin estabilidad clínica. 40 National Congress of the Sociedad Española de Medicina Interna (SEMI)/19 Congress of the Sociedad Catalano-Balear de Medicina Interna (SCBMI). Barcelona, 27-29 Noviembre 2019. Communication.
- ▶ Francia E. Manejo del paciente frágil. Estenosis aórtica (TAVI). Round table: Manejo del Paciente Frágil. 40 National Congress of the Sociedad Española de Medicina Interna (SEMI). 27-29 Noviembre, Barcelona.
- ▶ Jorge Malouf Sierra. Curso online multidisciplinar: Vitamina D, últimas evidencias - I Masterclass multidisciplinar en Vitamina D, 1 y 2 de marzo 2019, Madrid, <http://www.cursonlinemasterclassvitaminad.com/comite-cientifico>
- ▶ Héctor Corominas (Co-Director). Musculoskeletal Ultrasound Introduction Course for fellows and faculty. Rheumatology Division. Beth Israel Deaconess Medical Center, Harvard Medical School. Boston, 14-15 November 2019.

Chronic Respiratory Diseases



Coordinator

Plaza Moral, Vicente (FGS)
vplaza@santpau.cat

Members

Alonso León, Ana María (FGS)
Antón Albisu, Pedro Antonio (FGS)
Bigorra Rodríguez, Teresa (IR)
Brienza, Sonia Nadia (IR)
Calaf Sordo, Nuria (FGS)
Castillo Villegas, Diego (FGS)
Cisneros Antó, Josep Lluís (FGS)
Crespo Lessmann, Astrid del Carmen (FGS)
Curto Sánchez, Elena (IR)
Farré Maduell, Ariadna (IR)

Feliu Roperó, Anna (IR)
Fortuna Gutiérrez, Ana María (FGS)
García Moral, Alba (FGS)
Giménez Badia, Sandra (FGS)
Giménez Palleiro, Ana María (FGS)
Giner Donaire, Jordi (FGS)
Güell Rous, Maria Rosa (FGS)
Gutiérrez Rouco, Marta (FGS)
Macías Paredes, Abigail Estefany (FGS)
Mateus Medina, Eder Fredy (IR)
Mayos Pérez, Mercedes (FGS)
Millán Billi, Paloma (FGS)
Miralda Galan, Rosa María (FGS)
Morante Vélez, Fátima (FGS)
Osuna Gómez, Rubén (IR)

Pajares Ruiz, Virginia (FGS)
Paz del Río, Luis Daniel (FGS)
Peiró Fàbregas, Meritxell (FGS)
Peñacoba Toribio, Patricia (IR)
Perea Soriano, Lidia (IR)
Puy Rion, Maria Carme (FGS)
Ramos Barbón, David (FGS)
Segura Medina, Macarena (FGS)
Sibila Vidal, Oriol (FGS)
Solanes García, Ingrid (FGS)
Soto Retes, Lorena Concepción (FGS)
Torrego Fernández, Alfonso (FGS)
Torrejón Lázaro, Montserrat (FGS)
Ujaldón Miró, Cristina (IR)

Main Lines of Research

Asthma

- ▶ Asthma exacerbations.
- ▶ Severe asthma.
- ▶ Good clinical practice guidelines for asthma.
- ▶ Bronchial inflammation.
- ▶ Experimental asthma and pathogenic mechanisms.
- ▶ Multicenter 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 Apnea (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.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Ear, Nose and Throat Cancers (Dr. V. Plaza). EPONA study.
- ▶ Genetics and Vascular Surgery Departments (Dr. V. Plaza). TAGA study.

External Collaborations

- ▶ Dr. V. Plaza, Emergent Asthma Group, SEPAR.
- ▶ Dr. V. Plaza, INASMA Group.

- ▶ Drs. V. Plaza and D. Ramos Barbón, Integrated Research Programme (PII) for Asthma, SEPAR.
- ▶ Drs. V. Plaza and D. Ramos Barbón. CIBER-Respiratory.
- ▶ Drs. V. Plaza and D. Ramos Barbón. Severe Heterogenous Asthma Research collaboration, Patient-centered (SHARP) of the European Respiratory Society
- ▶ Dr. D. Castillo Villegas, National Institute for Rare Diseases, Instituto de Salud Carlos III, Madrid, Spain.
- ▶ Dr. D. Castillo Villegas, International Working Group on Langerhans Cell Histiocytosis and EUROHISTIONET.

- ▶ Dr. D. Ramos Barbón (PI), Multicentre Biobank of Bronchial Biopsies for Asthma Research, with collaborators as follows:
 - Dr. Carlos Martínez Rivera. Hospital Universitari Germans Trias i Pujol, Badalona, Spain.
 - Dr. Antolín López Viña. Hospital Universitario Puerta de Hierro, Madrid, Spain.
 - Dr. Francisco Javier González Barcala. Complejo Hospitalario de Pontevedra, Spain.
- Dr. Teresa Bazús González. Hospital Universitario Central de Asturias, Oviedo, Spain.
- Dr. Luis Pérez de Llano. Hospital Lucus Augusti, Lugo, Spain.
- Dr. Patrick Berger. Université Bordeaux 2, Bordeaux, France.
- Dr. James G. Martin. McGill University, Montreal, Canada.

Active Grants

- ▶ David Ramos Barbón. Mecanismos patogénicos *versus* terapéuticos de las células madre mesenquimales sobre la remodelación bronquial en asma: prueba de concepto para subsiguiente desarrollo farmacéutico. PI14/00257. Instituto de Salud Carlos III. Duration: 2015-2019. 121,500 €.
- ▶ Oriol Sibila Vidal. El microbioma respiratorio en la EPOC; relación con la respuesta inmune pulmonar y sistémica. PI15/02042. Instituto de Salud Carlos III. Duration: 2016-2019. 72,000 €.
- ▶ Oriol Sibila Vidal. Respiratory Microbiome and COPD exacerbations. Ramon Pla Armengol 2015. Fundació Ramon Pla Armengol. Duration: 2015-2019. 63,636.36 €.
- ▶ David Ramos Barbón. Desarrollo clínico y validación de biomarcadores de un nuevo tratamiento oral para el asma a través de un ensayo de fase II. RTC-2016-4698-1. Ministerio de Economía y Competitividad. Duration: 2016-2019. 178,150 €.
- ▶ Vicente Plaza Moral. Asma Neutrofílica y/o No Eosinofílica. Proyecto ANNE. PI17/01950. Instituto de Salud Carlos III. Duration: 2018-2020. 87,000 €.
- ▶ Astrid del Carmen Crespo Lessmann. Validación de la medición de la IgE total e IgE específica en el esputo inducido de pacientes con asma alérgica y no alérgica. BECA LETI 2016. Fundació Catalana de Pneumologia. Duration: 2016-2019. 10,909.08 €.
- ▶ Oriol Sibila Vidal. Infecció bronquial en les malalties respiratòries cròniques; estudi del microbioma pulmonar, de la resposta immune associada i de la utilitat d'un nas electrònic per al seu diagnòstic. SLT006/17/00120. Departament de Salut. Duration: 2018-2019. 76,759.89 €.
- ▶ Oriol Sibila Vidal. El proyecto PRINCE; Predictores Inmunológicos de Infección Bronquial en Enfermedades Respiratorias Crónicas. PI18/00311. Instituto de Salud Carlos III. Duration: 2019-2021. 97,000 €.
- ▶ David Ramos Barbón. Cercamiento de subproductos de células madre mesenquimales mediadores de anti-remodelación de músculo liso bronquial y prueba farmacológica preclínica en asma experimental. PI18/01102. Instituto de Salud Carlos III. Duration: 2019-2021. 122,000 €.
- ▶ Lorena Concepción Soto Retes. Papel del sistema nervioso autónomo en el asma no controlada y en el fenotipo paucigranulocítico. SEPAR 2016. Fundació RESPIRA. Duration: 2018-2019. 23,750 €.
- ▶ Ástrid del Carmen Crespo Lessmann. Asma Neutrofílica No Eosinofílica (ANNE). ASTRAZENECA 2018. Fundación AstraZeneca. Duration: 2018-2020. 18,181.82 €.
- ▶ Vicente Plaza Moral. Asma neutrofílica y/o no eosinofílica (Proyecto ANNE). SEPAR 2017. Sociedad Española de Neumología y Cirugía Torácica. Duration: 2018-2020. 10,363.64 €.
- ▶ Ana María Rodrigo Troyano. El microbioma respiratorio en la EPOC; relación con la respuesta inmune pulmonar y sistémica. BECARIO SEPAR 2017. Sociedad Española de Neumología y Cirugía Torácica. Duration: 2018-2019. 17,100 €.
- ▶ Vicente Plaza Moral. Proyecto ANNE (Non-Eosinophilic Neutrophilic Asthma). Periodo 2019-22. Fundació Ramon Pla i Armengol. Duration: 2019. 70,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Virginia Pajares Ruiz. Biopsia electrónica de tejido pulmonar in-vivo basada en espectroscopia de impedancia eléctrica. RTI2018-098116-B-C22. Ministerio de Ciencia, Innovación y Universidades. Duration: 2019-2021. 25,000 €.
- ▶ Sandra Giménez Badia. The impact of Alzheimer's disease on sleep in adults with Down Syndrome. JEROME LEJEUNE 2019, Jérôme Lejeune Fondation. Duration: 2020-2022. 72.000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Ana María Rodrigo Troyano. *Pseudomonas aeruginosa* en la Enfermedad Pulmonar Obstructiva Crónica; papel de los patrones de resistencia e impacto en las agudizaciones graves. Universitat Autònoma de Barcelona. Director: Oriol Sibila Vidal. Date of defense: 28/05/2019.

Scientific Production

Total Impact Factor: 112.4440 · Mean Impact Factor: 4.8889

Canto E., Zamora C., Garcia-Planella E., Gordillo J., Ortiz M.A., Perea L., Vidal S., Bacteria-related Events and the Immunological Response of Onset and Relapse Adult Crohn's Disease Patients (2019) J CROHNS COLITIS, 13 (1), 92-99. **IF: 7.8270**

Castillo D., Enghelmayer J.I., Can Clinical Guidelines on Idiopathic Pulmonary Fibrosis be Applied in Ibero-America? The Need to Establish Centers of Reference ¿Es posible aplicar en Iberoamérica las guías clínicas sobre fibrosis pulmonar idiopática? La necesidad de establecer centros de referencia (2019) ARCH BRONCONEUMOL. **IF: 4.2140**

Faverio P., Stainer A., De Giacomi F., Messinesi G., Paolini V., Monzani A., Sioli P., Memaj I., Sibila O., Mazzola P., Pesci A., Noninvasive ventilation

weaning in acute hypercapnic respiratory failure due to COPD exacerbation: A real-life observational study (2019) CAN RESPIR J, 2019. **IF: 1.8030**

Fernandez-Simon E., Carrasco-Rozas A., Gallardo E., Figueroa-Bonaparte S., Belmonte I., Pedrosa I., Montiel E., Suarez-Calvet X., Alonso-Perez J., Segovia S., Nunez-Peralta C., Llauger J., Mayos M., Illa I., Barba-Romero M.A., *et al.*, PDGF-BB serum levels are decreased in adult onset Pompe patients (2019) SCI REP-UK, 9 (1). **IF: 4.0110**

Fernandez-Simon E., Carrasco-Rozas A., Gallardo E., Gonzalez-Quereda L., Alonso-Perez J., Belmonte I., Pedrosa-Hernandez I., Montiel E., Segovia S., Suarez-Calvet X., Llauger J., Mayos M., Illa I., Barba-Romero M.A.,

Barcena J., *et al.*, Study of the effect of anti-rhGAA antibodies at low and intermediate titers in late onset Pompe patients treated with ERT (2019) *MOL GENET METAB*, 128 (1-2), 129-136. **IF: 3.6100**

Gasa M., Lopez-Padros C., Monasterio C., Salord N., Mayos M., Vilarrasa N., Fernandez-Aranda F., Montserrat J.M., Dorca J., Anthropometrical phenotypes are important when explaining obstructive sleep apnea in female bariatric cohorts (2019) *J SLEEP RES*, 28 (5). **IF: 3.4320**

Gregori-Pla C., Delgado-Mederos R., Cotta G., Giacalone G., Maruccia F., Avtzi S., Prats-Sanchez L., Martinez-Domen A., Camps-Renom P., Marti-Fabregas J., Durduran T., Mayos M., Microvascular cerebral blood flow fluctuations in association with apneas and hypopneas in acute ischemic stroke (2019) *NEUROPHOTONICS*, 6 (2). **IF: 3.5810**

Mayos M., Penacoba P., Pijoan A.M.P., Santiveri C., Flor X., Juvanteny J., Sampol G., Lloberes P., Aoiz J.I., Bayo J., Grau N., Fortuna A.M., Plaza V., Llauger M.A., Coordinated program between primary care and sleep unit for the management of obstructive sleep apnea (2019) *NPJ PRIM CARE RESP M*, 29 (1), 39-. **IF: 2.8200**

Messaggi-Sartor M., Marco E., Martinez-Tellez E., Rodriguez-Fuster A., Palomares C., Chiarella S., Muniesa J.M., Orozco-Levi M., Barreiro E., Guell M.R., Combined aerobic exercise and high-intensity respiratory muscle training in patients surgically treated for non-small cell lung cancer: A pilot randomized clinical trial (2019) *EUR J PHYS REHAB MED*, 55 (1), 113-122. **IF: 2.1010**

Migliorelli C., Bachiller A., Andrade A.G., Alonso J.F., Mananas M.A., Borja C., Gimenez S., Antonijoan R.M., Varga A.W., Osorio R.S., Romero S., Alterations in EEG connectivity in healthy young adults provide an indicator of sleep depth (2019) *SLEEP*, 42 (6). **IF: 4.5710**

Millares L., Pascual S., Monton C., Garcia-Nunez M., Lalmolda C., Faner R., Casadevall C., Seto L., Capilla S., Moreno A., Castro-Acosta A.A., Alvarez-Martinez C.J., Sibila O., Peces-Barba G., Cosio B.G., Agusti A., Gea J., Monso E., Relationship between the respiratory microbiome and the severity of airflow limitation, history of exacerbations and circulating eosinophils in COPD patients (2019) *BMC PULM MED*, 19 (1). **IF: 2.1840**

Nieto J.C., Zamora C., Porcel J.M., Mulet M., Pajares V., Munoz-Fernandez A.M., Calvo N., Espinosa I., Pascual-Garcia M., Bielsa S., Vidal S., Migrated T lymphocytes into malignant pleural effusions: an indicator of good prognosis in lung adenocarcinoma patients (2019) *SCI REP-UK*, 9 (1). **IF: 4.0110**

Perez de Llano L., Martinez-Moragon E., Plaza Moral V., Trisan Alonso A., Sanchez C.A., Callejas F.J., Vera E., Soto Campos J.G., Martinez Rivera C., Alcazar Navarrete B., Urrutia Landa I., Garcia Rivero J.L., Padilla Galo A., Alvarez *et al.*, Unmet therapeutic goals and potential treatable traits in a population of patients with severe uncontrolled asthma in Spain. ENEAS study (2019) *RESP MED*, 151, 49-54. **IF: 3.2370**

Perez de Llano L., Garcia-Rivero J.L., Urrutia I., Martinez-Moragon E., Ramos J., Cebollero P., Carballeda F., Blanco-Aparicio M., Vennera M.D.C.,

Merino M., Torralba-Garcia Y., Plaza V., A Simple Score for Future Risk Prediction in Patients with Controlled Asthma Who Undergo a Guidelines-Based Step-Down Strategy (2019) *J ALLER CL IMM-PRACT*, 7 (4), 1214-1221.e3. **IF: 7.5500**

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Roca E., Canto E., Nescolarde L., Perea L., Bayes-Genis A., Sibila O., Vidal S., Effects of a polysaccharide-based multi-ingredient supplement on salivary immunity in non-elite marathon runners (2019) *J INT SOC SPORT NUTR*, 16 (1). **IF: 3.8410**

Shoemark A., Cant E., Carreto L., Smith A., Oriano M., Keir H., Perea L., Canto E., Terranova L., Vidal S., Moffitt K., Aliberti S., Sibila O., Chalmers J.D., A point-of-care neutrophil elastase activity assay identifies bronchiectasis severity, airway infection and risk of exacerbation (2019) *EUR RESPIR J*, 53 (6). **IF: 11.8070**

Sibila O., Laserna E., Shoemark A., Keir H.R., Finch S., Rodrigo-Troyano A., Perea L., Loneragan M., Goeminne P.C., Chalmers J.D., Airway bacterial load and inhaled antibiotic response in bronchiectasis (2019) *AM J RESP CRIT CARE*, 200 (1), 33-41. **IF: 16.4940**

Sibila O., Perea L., Canto E., Shoemark A., Cassidy D., Smith A.H., Suarez-Cuartin G., Rodrigo-Troyano A., Keir H.R., Oriano M., Ong S., Vidal S., Blasi F., Aliberti S., Chalmers J.D., Antimicrobial peptides, disease severity and exacerbations in bronchiectasis (2019) *THORAX*, 74 (9), 835-842. **IF: 9.6400**

Valero A., Ribo P., Maiz L., Barbero E., Calle M., Campo C., Ryttila P., Giner J., Plaza V., Asthma patient satisfaction with different dry powder inhalers (2019) *EXPERT REV RESP MED*, 13 (2), 133-138. **IF: 2.6220**

Valero A., Olaguibel J., Delgado J., Plaza V., Alvarez F., Molina J., Mascaros E., Quirce S., Dilemmas and new paradigms in asthma management (2019) *J INVEST ALLERG CLIN*, 29 (1), 15-23. **IF: 3.8020**

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Books or Chapters with ISBN

▶ Vicente Plaza. Todas las respuestas sobre el asma. Editorial RBA Libros SA. Barcelona 2019. ISBN: 978-84-9187-233-7. DL: B-6536-2019.

▶ Vicente Plaza, Jordi Giner. Guía práctica sobre inhaladores. Canal Estrategia Editorial S.L. Madrid 2019. ISBN: 978-84-17524-41-8.

Diffusion Activities

▶ Vicente Plaza Moral (speaker). Asma Meeting Point-2019. Hospital de la Santa Creu i Sant Pau. Barcelona, 10 May 2019.

▶ Vicente Plaza Moral (speaker). Curso teórico-práctico "preceptorship" sobre el manejo del asma no controlada (ANC). Hospital de la Santa Creu i Sant Pau. Barcelona, 28-29 November 2019.

▶ Vicente Plaza Moral (speaker). Impacto de la polipeptomía endoscópica nasal sobre el control, la función pulmonar y la inflamación bronquial del asma grave. Proyecto ATP (Asma Tras Polipeptomía). Reunión de Áreas de la Sociedad Española de Neumología y Cirugía Torácica (SEPAR). Toledo, 7-9 February 2019.

▶ Vicente Plaza Moral (speaker). GEMA-DATA. Informe anual. Reunión de Áreas de la Sociedad Española de Neumología y Cirugía Torácica (SEPAR). Toledo, 7-9 February 2019.

▶ Vicente Plaza Moral (speaker). Asma eosinofílica grave. Más allá de la alergia. XXVI Congress of the Sociedad Valenciana de Neumología. Peñíscola, (Valencia), April 2019.

▶ Vicente Plaza Moral (speaker). Actualización GEMA 4.4. XIII Jornadas de Neumología de Ibiza, Associació Il·lenca de Respiratori (AIRE). Ibiza, May 2019.

▶ Vicente Plaza Moral (speaker). Rasgos tratables en asma. 52 National Congress of the Sociedad Española de Neumología y Cirugía Torácica (SEPAR). Santiago de Compostela, June 2019.

▶ Vicente Plaza Moral (speaker). Asmas neutrofílicas. Causas y mecanismos. 12 Congress of the Asociación Latinoamericana del Tórax (ALAT). Panamá, July 2019.

▶ Vicente Plaza Moral (speaker). ¿Qué es y cómo se hace GEMA? Evento: 12 Congress of the Asociación Latinoamericana del Tórax (ALAT). Panamá, July 2019.

▶ Vicente Plaza Moral (speaker). Satisfacción y adhesión terapéutica del paciente. 12 Congress of the Asociación Latinoamericana del Tórax (ALAT). Panamá, July 2019.

- ▶ David Ramos Barbón (speaker). Breaking News del eosinófilo - Últimas novedades. GSK. Experiencia Nucala. Madrid, 1-2 February 2019.
- ▶ David Ramos Barbón (speaker). La conexión entre respuesta clínica y respuesta biológica. ¿Qué debemos medir y cómo lo debemos medir para estimar la respuesta biológica y relacionarlo con la respuesta clínica? Reunión de Áreas de la Sociedad Española de Neumología y Cirugía Torácica (SEPAR). Toledo, 7-9 February 2019.
- ▶ David Ramos Barbón (moderator) ¿Qué es Fasentra®? DíAZero (Acto de Lanzamiento de Fasentra®, AstraZeneca). Madrid, 22-23 February 2019.
- ▶ David Ramos Barbón (speaker). El asma grave desde el taller: instrumentos y pigmentos (Tratar o intervenir, ¿podemos modificar el curso del asma grave?). AstraZeneca. De Luces y de Sombras. VI Edición de Debates en Asma. Madrid, 26-27 April 2019.
- ▶ David Ramos Barbón (speaker). Tipos de eosinófilos. Características e impacto clínico. ASMA Meeting Point Sant Pau 2019 (National Symposium). Hospital de la Santa Creu i Sant Pau, Barcelona, 10 May 2019.
- ▶ David Ramos Barbón (speaker). Evento: GlaxoSmithKline (GSK). EOS (Evolution Of Science). Featured players or supporting actors? Exploring the many roles of eosinophils (expert consulting workshop). Atlanta, GA, USA, 14-15 November 2019.
- ▶ David Ramos Barbón (speaker). Inmunobiología y fenotipos del asma. Preceptorship Program en Asma no Controlada (international Argentina course). Hospital de la Santa Creu i Sant Pau, Barcelona, 28-29, November 2019.
- ▶ P. Antonio Antón Albisu (speaker). Ventilación mecánica prolongada. Neumoconnect, Sociedad Española de Neumología y Cirugía Torácica (SEPAR). February 2019.
- ▶ P. Antonio Antón Albisu (speaker). Course Ventilación no invasiva para fisioterapeutas. Sociedad Catalanobaleares de Fisioterapia. 2019.
- ▶ P. Antonio Antón Albisu (speaker). Course Insuficiencia respiratoria hipercápnica. Societat Catalana de Pneumologia. 2019.
- ▶ P. Antonio Antón Albisu (speaker). Organización de una unidad de VNI. International Course VNI de Cáceres. Hospital San Pedro de Alcántara. Cáceres, Spain, 15 November 2019.
- ▶ P. Antonio Antón Albisu (speaker). Ventilación de alta intensidad en EPOC. National Congress of the Sociedad Española de Neumología (SEPAR). Ferrol (A Coruña), June 2019.
- ▶ P. Antonio Antón Albisu (speaker). Ventilación mecánica domiciliar en EPOC y Obesidad (Moderador). Reunión de Invierno de la Sociedad Española de Neumología, SEPAR. Málaga, Spain, December 2019.
- ▶ P. Antonio Anton Albisu (speaker). International Symposium Monitorización avanzada de la VNI en diferentes escenarios clínicos. Barcelona 2019 (Accredited by SEPAR, SOCAP and CCFPCS).

Research Group in HIV and AIDS



Coordinator

Domingo Pedrol, Pere (FGS)
pdomingo@santpau.cat

Members

Cadafalch Arpa, Josep (FGS)
Corbacho Pérez, Noemí (IR)
Gutiérrez Macia, María del Mar (IR)
Mateo Garcia, Gracia María (IR)
Millan Revilla, Lucía (IR)
Molas Morena, María Ema (IR)
Muñoz Rodríguez, Jéssica (IR)
Mur Arizon, Isabel (FGS)
Villarroya Terrade, Joan (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.

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 grant-aided 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 research-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 multicenter cardiovascular risk cohort.
- ▶ Study of antiretroviral treatment-dependent and non-treatment-dependent factors in multicenter 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 HIV-1 infection with and without antiretroviral treatment.
- ▶ Participation in multicenter 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 (toxicokinetics)

- ▶ 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.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Microbiology and Infectious Diseases (Dr. Pere Coll)

Active Grants

- ▶ Isabel Mur Arizon. Formación integral en VIH, evaluación de las comorbilidades y de las infecciones de transmisión sexual. CM18/00233. Instituto de Salud Carlos III. Duration: 2019-2021. 53,732 €.
- ▶ Joan Villarroya Terrade. Beca Eduardo Gallego 2018. Fundación Francisco Cobos. Duration: 2018-2019. 24,000 €.
- ▶ Pere Domingo Pedrol. Prevalencia y progresión de la aterosclerosis subclínica en pacientes con infección por VIH: correlación con marcadores de señalización inter-orgánica, disbiosis intestinal y estrés oxidativo. PI17/00498. Instituto de Salud Carlos III. Duration: 2018-2020. 90,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Pere Domingo Pedrol. Contractes per a la intensificació de l'activitat investigadora 2019. INT19/00036. Instituto de Salud Carlos III. Duration: 2020. 30,000 €.
- ▶ Rubén Cereijo Téllez. Papel de la plasticidad adiposa en las alteraciones metabólicas en pacientes con VIH-1. IJC2018-037142-I. Ministerio de Economía y Competitividad. Duration: 2020-2022. 93,000 €.
- ▶ Pere Domingo Pedrol. Role of inter-organ signaling molecules in the fat-liver and gut-liver axes in non-alcoholic fatty liver disease in HIV-infected patients: contribution to the spectrum and progression of the disease. GILEAD 2019-2, Gilead Sciences, S.L.U. Duration: 2019-2021. 45,450 €.
- ▶ Noemí Corbacho Pérez. Beca per infeccions en VIH. Societat Catalana de Malalties Infeccioses i Microbiologia Clínica (SCMI) 2019. Duration: 2019-2020. 18,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 103.615 · Mean Impact Factor: 4.7098

AIDS Study Group (GeSIDA) of the Spanish Society of Infectious Diseases and Clinical Microbiology and the National AIDS Plan. Executive summary of the GeSIDA/National AIDS Plan consensus document on antiretroviral therapy in adults infected by the human immunodeficiency virus (updated January 2018). ENFERM INFECC MICROBIOL CLIN. 37 (3): 195-202. **IF: 1.707**

Amele S., Peters L., Sluzhynska M., Yakovlev A., Scherrer A., Domingo P., Gerstoft J., Viard J.P., Gisinger M., Flisiak R., Bhaghani S., Ristola M., Leen C., Jablonowska E., Wandeler G., Stellbrink H., Falconer K., D'Arminio Monforte A., *et al.*, Establishing a hepatitis C continuum of care among HIV/hepatitis C virus-coinfected individuals in EuroSIDA (2019) HIV MED, 20 (4), 264-273. **IF: 3.7340**

Cairo M., Campderros L., Gavalda-Navarro A., Cereijo R., Delgado-Angles A., Quesada-Lopez T., Giralt M., Villarroya J., Villarroya F., Parkin controls brown adipose tissue plasticity in response to adaptive thermogenesis (2019) EMBO REP, 20 (5). **IF: 8.3830**

Cairo M., Villarroya J. The role of autophagy in brown and beige adipose tissue plasticity (2019) J PHYSIOL BIOCHEM. **IF: 2.5230**

Campderros L., Moure R., Cairo M., Gavalda-Navarro A., Quesada-Lopez T., Cereijo R., Giralt M., Villarroya J., Villarroya F., Brown Adipocytes Secrete GDF15 in Response to Thermogenic Activation (2019) OBESITY, 27 (10), 1606-1616. **IF: 3.9690**

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Gutierrez M.D.M., Mateo M.G., Vidal F., Domingo P., Does choice of antiretroviral drugs matter for inflammation? (2019) EXPERT REV CLIN PHAR, 12 (5), 389-396. **IF: 2.7760**

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Villarroya J., Cereijo R., Giral M., Villarroya F., Secretory proteome of brown adipocytes in response to cAMP-mediated thermogenic activation (2019) FRONT PHYSIOL, 10 (FEB). **IF: 3.2010**

Books or Chapters with ISBN

- ▶ Domingo P; Pomar V. Actualización en la enfermedad meningocócica. Enfermedades Emergentes. 18 (1), 17-22. Barcelona: NEXUS MEDICA EDITORES, 20/03/2019. ISSN 1575-4723

Diffusion Activities

- ▶ Congress VIH/Sida: on estem i cap on anem? Problemes metabòlics associats al VIH i al tractament antiretroviral. Reial Acadèmia de Medicina de Barcelona. Barcelona, 17/12/2019.
- ▶ XI National Congress of Gesida/XIII Reunión Docente de la Red de Investigación en Sida. Grupo de Estudio de SIDA-SEIMC. Madrid, 13/12/2019.
- ▶ Presente y futuro de la infección por VIH. Fundación General de la Universidad Complutense de Madrid, 04/12/2019.
- ▶ Avances en VIH e inflamación. GlaxoSmithKline (GSK). Madrid, 26/11/2019.
- ▶ NAFLD/NASH in people living with HIV. Gilead Sciences, S.L. Madrid, 19/11/2019.
- ▶ From lipoatrophy to lipohypertrophy: back to the future. Grupo de Estudio de SIDA-SEIMC. Madrid, 26/10/2019.
- ▶ Beyond science meeting: new models of care in HIV and HCV. Gilead Sciences, S.L. Belgrad, Serbia, 12/10/2019.
- ▶ II Reunión de Aspectos Clave en Infección por VIH/SIDA. GlaxoSmithKline (GSK). Madrid, 04/10/2019.
- ▶ Comorbilidades y envejecimiento: poblaciones especiales. Janssen-Cilag España. Madrid, 27/09/2019.
- ▶ Perspectivas de presente y futuro: oportunidades de los viejos conocidos en nuevos tratamientos. Janssen-Cilag España. Madrid, 27/09/2019.
- ▶ Ateromatosis e infección por VIH, Gilead Sciences, S.L. Barcelona, 27/06/2019.
- ▶ Perfil de tolerabilidad de los single tablet regimens (STR). Janssen-Cilag España. Madrid, 25/06/2019.
- ▶ Biktarvy: más allá de la indetectabilidad. Gilead Sciences, S.L. London, 20/06/2019.
- ▶ La innovación en VIH-Barcelona. Gilead Sciences, S.L. 10/05/2019.
- ▶ Bictegravir/tenofovir alafenamida/emtricitabina en pacientes de switch-Lleida. Gilead Sciences, S.L. Madrid, 08/05/2019.
- ▶ Immediate ART: is it the best option for everybody, everywhere, at any time? Gilead Sciences, S.L. Madrid, 04/04/2019.
- ▶ Inflammation/immune activation in cART-treated patients. Do drugs matter? Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau. Barcelona, 28/03/2019.
- ▶ Data on BFTAF in special populations. Gilead Sciences, S.L. Madrid, 26/03/2019.
- ▶ Inflammation/immune activation in cART-treated patients Do drugs matter? GlaxoSmithKline. Bilbao, 25/03/2019.
- ▶ Especial debate: las evidencias del cambio. GlaxoSmithKline. Bilbao, 25/03/2019.
- ▶ 16ª Edición POST-CROI 2019. Fundació de Lluita contra la Sida. Badalona, Spain, 14/03/2019.
- ▶ Jornada de Enfermedades de Transmisión Sexual. Fundación Puigvert. Barcelona, 14/01/2019.

AREA 2 · Genetic, Metabolic and Inflammatory Diseases

Genome Instability and DNA Repair Syndromes



Coordinator

Surrallés Calonge, Jordi (FGS)
jsurralles@santpau.cat

Members

Bogliolo, Massimo (CIBERER)
Camps Fajol, Cristina (external entity)
Castells Roca, Laia (UAB)
Minguillón Pedreño, Jordi (UAB)
Molina Romero, Ana (UAB)
Peiró Navarro, Montserrat (UAB)
Pujol Calvet, Roser (CIBERER)

Ramírez de Haro, María José (CIBERER)
Rodríguez Santiago, Benjamín (FGS)
Steigerwald, Daniela (UAB)
Tejero Laguna, Eudald (IR)

Main Lines of Research

- ▶ Genetics and molecular biology of cancer-prone genetic syndromes with a focus in familial breast cancer and Fanconi Anemia. Genetic characterization of Fanconi patients and identification of new genes involved in the disease and into hereditary breast cancer syndrome and its functions.
- ▶ 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 and biological and clinical consequences of DNA repair failure.
- ▶ Fanconi/BRCA pathway in cancer. Implications of Fanconi genes in cancer and their use as therapeutic targets against cancer.

Scientific Challenges

- ▶ Our research interests are cancer-prone genetic syndromes with defective DNA repair, with special focus on Fanconi anemia and familial cancer syndromes. We perform genetic, molecular biology and therapeutic research including gene discovery, mechanisms of DNA repair, gene and cell therapy approaches and cell-based drug screening platforms. A long-term goal is to understand the mechanisms that maintain genome stability and protect us from disease, cancer, and ageing to improve diagnostics and find novel therapeutic strategies.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Isabel Badell, Director of the Unit of Hematology, Oncology and Hematopoietic Stem Cell Transplant, Pediatrics Service, Hospital de la Santa Creu i Sant Pau
- ▶ Csilla Krausz's team, Andrology Department, Fundació Puigvert, Universitat Autònoma de Barcelona, Institut d'Investigacions Biomèdiques de Sant Pau, Barcelona, Spain
- ▶ Pia Gallano's team, Genetics Department, Hospital de la Santa Creu i Sant Pau
- ▶ Enrique Lerma, Anatomic Pathology Department, Hospital de la Santa Creu i Sant Pau

External Collaborations

International Collaborations

- ▶ Detlev Schindler, University of Wursburg, Germany
- ▶ Paolo Radice, Istituto dei Tumore, Milan, Italy
- ▶ Paolo Peterlongo, Istituto dei Tumore, Milan, Italy
- ▶ Jean Soulier, Sant Lous Hospital, Paris, France
- ▶ Fergus Couch, Mayo Clinic, USA
- ▶ Tuna Toptan. University of Pittsburgh, Hillman Cancer Center, Pittsburgh, Pennsylvania
- ▶ Marion G Brusadelli, Brian Turpin, Division of Oncology, Cancer and Blood Diseases Institute, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA
- ▶ David P Witte, Division of Pathology, Cancer and Blood Diseases Institute, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA
- ▶ Eunike Velleuer, Department of Pediatrics, Hospital Neuwerk Maria von den Aposteln, Mönchengladbach, Germany
- ▶ Martin Schramm, Department of Cytopathology, Institute of Pathology, Heinrich Heine University, Düsseldorf, Germany
- ▶ Ralf Dietrich Deutsche Fanconi-Anämie-Hilfe e.V., Unna-Siddinghausen, Germany
- ▶ Ruud H Brakenhoff, Amsterdam UMC, Vrije Universiteit Amsterdam, Otolaryngology - Head and Neck Surgery, Cancer Center Amsterdam, Amsterdam, The Netherlands
- ▶ Patrick S Moore, University of Pittsburgh, Hillman Cancer Center, Pittsburgh, Pennsylvania, USA
- ▶ Susanne I Wells. Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA
- ▶ Jonathan Schwartz, Rocket Pharma, New York
- ▶ Thomas Helleday, Karoliska Institut, Stockholm
- ▶ 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

- ▶ Katharina Keupp, Center for Familial Breast and Ovarian Cancer, Center for Integrated Oncology (CIO), University of Cologne, Faculty of Medicine and University Hospital Cologne, Cologne, Germany, University Hospital of Cologne, Cologne, Germany
- ▶ Lisa Wiesmüller, Department of Obstetrics and Gynecology, Ulm University, Ulm, Germany
- ▶ Publications with >200 international co-authors

National Collaborations

- ▶ Juan A. Bueren, CIEMAT, Madrid
- ▶ Luis A. Pérez Jurado, UPF, Barcelona
- ▶ Joaquín Dopazo, CIPF, Valencia
- ▶ Miquel Àngel Pujana, ICO, L'Hospitalet
- ▶ Csilla Krautz, Fundació Puigvert, Barcelona
- ▶ Cristina Díaz de Heredia, Hospital Vall Hebron, Barcelona
- ▶ Albert Català, Hospital Sant Joan de Déu, Barcelona
- ▶ Judith Balmaña, Hospital Vall Hebron, Barcelona
- ▶ Xose Puente, Universidad de Oviedo
- ▶ Javier Benítez, CNIO, Madrid
- ▶ Diego Arango, VHIR, Barcelona
- ▶ Jose Luís García, GENYO, Granada
- ▶ Pablo Huertas, CABIMER, Sevilla
- ▶ Ramón García-Escudero, CIEMAT, Madrid

Collaborating external institutions of the research group

- ▶ Bellvitge Institute for Biomedical Research (IDIBELL), L'Hospitalet del Llobregat

- ▶ Centro Andaluz de Biología Molecular y Medicina Regenerativa (CABIMER)
- ▶ Universidad de Sevilla
- ▶ Girona Biomedical Research Institute (IDIBGI), Girona
- ▶ Hospital Universitari de la Vall d'Hebron; Vall d'Hebron Institute of Oncology (VHIO); Vall d'Hebron Institute of Research (VHIR); Universitat Autònoma de Barcelona, Barcelona
- ▶ Human Cancer Genetics Program, Spanish National Cancer Research Centre (CNIO), Madrid
- ▶ Unit of Molecular Bases of Genetic Risk and Genetic Testing, Department of Preventive and Predictive Medicine, Fondazione IRCCS
- ▶ Rocket Pharma, New York
- ▶ Fondazione Istituto FIRC di Oncologia Molecolare, Milan
- ▶ Karoliska Institut, Stockholm
- ▶ Cincinnati Children's Hospital Medical Center, Cincinnati
- ▶ Amsterdam UMC, Vrije Universiteit Amsterdam, Otolaryngology, Amsterdam
- ▶ Heinrich Heine University, Düsseldorf, Germany
- ▶ Hospital Neuwerk Maria von den Aposteln, Mönchengladbach, Germany
- ▶ Cancer and Blood Diseases Institute, Cincinnati Children's Hospital Medical Center, Cincinnati
- ▶ University of Pittsburgh, Hillman Cancer Center, Pittsburgh, Pennsylvania
- ▶ Hospital Medical Center, Cincinnati
- ▶ University of Pittsburgh, Hillman Cancer Center, Pittsburgh
- ▶ Sant Louis Hospital, Paris
- ▶ Mayo Clinic, Rochester

Active Grants

- ▶ Jordi Surrallés Calonge. Grup de Síndromes d'Inestabilitat Genòmica i Reparació del DNA. 2017 SGR 01191. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Eudald Tejero Laguna. 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. Duration: 2018-2024. 123,184.80 €.
- ▶ Jordi Surrallés. COFUND Project for a Postdoctoral Fellowship under the European Union's Horizon H2020 research and innovation program under the Marie Skłodowska-Curie grant agreement No 665919 between UAB and the European Commission. P-SPHERE. 2016. Duration: 2017-2020
- ▶ Jordi Surrallés. The mechanism of synthetic lethality between BRCA1/2 and Fanconi anaemia E3 ligase activity. Grant number - GNT1156343. Australian National Health and Medical Research Council (NHMRC). Duration: 2019-2021. 493,739 €.
- ▶ Jordi Surrallés. Nuevo ensayo basado en letalidad sintética para el análisis funcional de variantes de significado incierto en genes impli-

cados en cáncer de mama/ovario familiar. CIBERER Acciones Cooperativas y Complementarias Intramurales (ACCI). Duration: 2018-2019. 60,000 €.

- ▶ Massimo Bogliolo. Análisis de mosaicismo genético mediante NGS. Aplicación en patologías raras y en modelos celulares y animales por edición genética. CIBERER Acciones Cooperativas y Complementarias Intramurales (ACCI). Duration: 2018-2019. 13,218.75 €.
- ▶ Jordi Surrallés. Inestabilidad Genómica. Red2018-102372-T. Redes de investigación del subprograma estatal de generación de conocimiento correspondiente al programa estatal de generación de conocimiento y fortalecimiento científico y tecnológico del sistema de I+D+i. Ministerio de Ciencia, Innovación y Universidades (2019). 22,000 €.
- ▶ Jordi Minguillón. Validació de hits de FANCONINIB: reparació del DNA com a diana terapèutica en càncer. Convocatòria Llabor. AGAUR/FE- DER, SIFECAT: IU68-017261, LLAV 00044. 40,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Jordi Surrallés Calonge. La ruta anemia de Fanconi/BRCA: investigación genética y terapéutica. RTI2018-098419-B-I00. Ministerio de Ciencia, Innovación y Universidades. Duration: 2019-2021. 260,000 €.
- ▶ Jordi Surrallés Calonge. Gefitinib/Afatinib therapy for Head and Neck Squamous Cell Carcinomas in Fanconi anemia. FARF 2019, Fanconi Anemia Research Fund. Duration: 2019-2020. 88,087 €.

- ▶ Jordi Surrallés Calonge. Centro de Investigación Biomédica en Red de Enfermedades Raras. CIBERER, CB06/07/0023, Ministerio de Sanidad y Política Social. Duration: 2019-2020.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ ICREA Academia Award 2018, Duration: 2019-2023. 200,000 €.

Transfer Products

- ▶ Licence Agreement with Applied Biological Materials, Inc. FronCanada 2019
- ▶ Agreement with Mind the Byte SL (Project: Targeting the Fanconi anemia pathway in drug discovery). February 2019.
- ▶ Multi-institutional agreement for National Health and Medical Research Council (NHMRC). Funding schemes. Australia. September 2019.
- ▶ Agreement with Children's Hospital Medical Center Cincinnati Children's Hospital Medical Center. September 2019
- ▶ The group hosts the Laboratory of Diagnosis of Chromosome Fragility of the Universitat Autònoma de Barcelona. <http://safcro.uab.es>. We performe service under invoice or signed agreement to more that 100 Spanish and European public and private hospitals and diagnostic and pharma companies.

Scientific Production

Total Impact Factor: 72.796 · Mean Impact Factor: 12.1327

Figlioli G, Bogliolo M, Catucci I, Caleca L, Lasheras SV, Pujol R, Kiiski JI, Muranen TA, Barnes DR, Dennis J, Michailidou K, Bolla MK, Leslie G, Aalfs CM; ABCBTB Investigators, Adank MA, *et al.* (Surrallés J, Peterlongo P). The FANCM:p.Arg658 truncating variant is associated with risk of triple-negative breast cancer. *NPJ Breast Cancer*. 2019 Nov 1;5:38. eCollection 2019. **IF: 6.23**

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Krausz C., Riera-Escamilla A., Chianese C., Moreno-Mendoza D., Ars E., Rajmil O., Pujol R., Bogliolo M., Blanco I., Rodríguez I., Badell I., Ruiz-Castane E., Surrallés J., From exome analysis in idiopathic azoospermia to the identification of a high-risk subgroup for occult Fanconi anemia (2019) *GENET MED*, 21 (1), 189-194. **IF: 8.6830**

Marin M., Ramirez M.J., Carmona M.A., Jia N., Ogi T., Bogliolo M., Surrallés J., Functional comparison of XPF missense mutations associated to multiple DNA repair disorders (2019) *GENES-BASEL*, 10 (1). **IF: 3.3310**

Río P, Navarro S, Wang W, Sánchez-Domínguez R, Pujol RM, Segovia JC, Bogliolo M, Merino E, Wu N, Salgado R, Lamana ML, Yañez RM, Casado JA, Giménez Y, Román-Rodríguez FJ, *et al.* Successful engraftment of gene-corrected hematopoietic stem cells in non-conditioned patients with Fanconi anemia. *Nat Med*. 2019 Sep;25(9):1396-1401. Epub 2019 Sep 9. **IF: 30.64**

Roman-Rodriguez F.J., Ugalde L., Alvarez L., Diez B., Ramirez M.J., Risueno C., Corton M., Bogliolo M., Bernal S., March F., Ayuso C., Hanenberg H., Sevilla J., Rodriguez-Perales S., Torres-Ruiz R., Surrallés J., Bueren J.A., Rio P., NHEJ-Mediated Repair of CRISPR-Cas9-Induced DNA Breaks Efficiently Corrects Mutations in HSPCs from Patients with Fanconi Anemia (2019) *CELL STEM CELL*, 25 (5), 607-621.e7. **IF: 21.4640**

Diffusion Activities

Presentations at Congresses

- ▶ Surrallés J. Drug screening and repurposing. Fundación Ramón Areces International Symposium on Undiagnosed and Rare Diseases in Children and Adolescents, Barcelona, 2019.
- ▶ Surrallés J. New drugs for head and neck cancer in Fanconi anemia. German FA Family Meeting, Gersted (Germany), May 2019.
- ▶ Surrallés J. Reverse Mosaicism is associated with improved outcomes in Fanconi anemia. 31st Annual Fanconi Anemia Research Fund. Scientific Symposium, Chicago (USA). 19-22 September 2019.
- ▶ Surrallés J. Drug screening and discovery .Undiagnosed and rare diseases in children and adolescents: Translation to clinic and society. International Symposium Fundación Ramón Areces. Barcelona, 27-28 November 2019.

Posters

- ▶ Jordi Minguilón, Águeda Martínez-Barriocanal, Helena Montanuy, José Antonio Casado, Thomas Helleday, Juan Bueren, Diego Arango, Jordi Surrallés. Repositioning the EGFR inhibitors gefitinib and afatinib to treat head and neck squamous cell carcinoma in Fanconi anemia. IX Congreso Internacional de Medicamentos Huérfanos y Enfermedades Raras. Sevilla, 13-15 February 2019.

- ▶ M. Bogliolo, G. Figlioli, I. Catucci, L. Caleca, S. Viz-Lasheras, R. Pujol, J. Kiiski, CIMBA Consortium of Investigators of Modifiers of BRCA1/25, BCAC – The Breast Cancer Association Consortium, P. Radice, E. Hahen, F. Couch, H. Nevanlinna, J. Surrallés, P. Peterlongo. Breast cancer risk magnitude of fancm truncating mutations depends on their gene position. II Congreso Interdisciplinar de Genética Humana. Madrid, 3-5 April 2019.

- ▶ Bogliolo M, Aza-Carmona M, Muñoz Subirana N, Pujol R, Rodríguez-Santiago B, Casado JA, García F, Paprotka T, Bauser C, Dopazo J, Bueren J, Surrallés J. Whole exome sequencing and functional studies for Fanconi anemia diagnostics. European Human Genetics Conference (ESHG). Gothenburg, Sweden, 15-18 June 2019.

Organization of Congresses and Seminars

- ▶ IX International Congress of the Spanish Research Network on Fanconi Anemia. Bilbao, 12-13 December 2019.
- ▶ Fàtima Bosch, Department of Biochemistry & Molecular Biology and Center of Animal Biotechnology & Gene Therapy (CBATEG). Avanços en teràpia gènica per al tractament de malalties metabòliques i/o neurodegeneratives. Universitat Autònoma de Barcelona (UAB). Hospital de la Santa Creu i Sant Pau. Barcelona. 29 May 2019.



AREA 3

Haematological and Oncological D

136 Clinical Oncology

139 Oncogenesis and Antitumour Drugs

144 Haematological Diagnosis

146 Molecular Pathology of Gynaecologic Cancer

148 Ear, Nose and Throat Cancers

150 Oncology/Haematology and Transplantation

iseases



AREA 3 · Haematological and Oncological Diseases

Clinical Oncology



Coordinator

Barnadas Molins, Agustí (FGS)
 abarnadasm@santpau.cat

Members

Alfonso Ruiz, Rosa (IR)
 Arqueros Núñez, Cristina (FGS)
 Arroyo Solera, Irene (CIBERBBN)
 Bell Ramírez, Olga Lidia (IR)
 Calvo Vergès, Nuria (FGS)
 Casanova Bombardo, Clàudia (IR)
 Castells Tello, Diana (IR)
 Cerdà Serdà, Paula (FGS)
 Escuin Borràs, Daniel (IR)
 Galceran Gallagher, Sara (IR)

Gallego Rubio, Óscar Salvador (FGS)

García Belinchon, Mercè (IR)
 García Rodríguez, Laura (IR)
 Garrido González, Lourdes (IR)
 Gisbert Beamud, Alexandra (IR)
 Hernández García, Ricardo (IR)
 Lavernia Rosell, Laia (IR)
 Llobet Busquets, Mireia (IR)
 López Pousa, Antonio (FGS)
 López Sanmartín, Consuelo (FGS)
 Majem Tarruella, Margarita (FGS)
 Maroto Rey, José Pablo (FGS)
 Martín Lorente, Cristina (FGS)
 Martín Richard, Marta (FGS)

Menéndez Cuervo, Dulce María (IR)

Molina Bayona, Sílvia (IR)
 Paez López-Bravo, David (FGS)
 Ramon y Cajal Asensio, Teresa (FGS)
 Ribas Carbonell, Romina (IR)
 Ribera Casellas, Irene (FGS)
 Roca Gimeno, Llara (IR)
 Roca Solà, Marc (IR)
 Salazar Blanco, Juliana (CIBERER)
 Sebio García, Ana (FGS)
 Tibau i Martorell, Ariadna (FGS)
 Tijeras Pérez, Sandra (IR)
 Vergara Albert, Diego (IR)

Main Lines of Research

Clinical Research

- ▶ Development of new therapeutic strategies.
- ▶ Studies to improve tumor staging.
- ▶ Studies to detect residual disease.

Translational Research

- ▶ Personalized anticancer therapy.
- ▶ Studies of predictive and prognostic molecular markers.

Scientific Challenges

- ▶ Consolidate clinical research into cancer.
- ▶ Foster translational research into cancer in cooperation with other internal and external research groups.
- ▶ Consolidate the bank of tumors, DNA and serum for patients with cancer diagnosed and treated in our hospital.
- ▶ Develop new early-stage drugs (phase 0/1 studies).

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Oncogenesis and Antitumour Drugs (Dr. Ramon Mangues).
- ▶ Molecular Pathology of Urologic Cancer (Dr F. Algaba)
- ▶ Genetic Diseases (Dr. J. Surrallés)
- ▶ Breast Cancer (Dr. E. Lerma).

External Collaborations

- ▶ Tumoural Progression Modelling Group at the Biomedical Research Institute (IRB) (Dr. A. Nebreda).
- ▶ Methylation and Resistance to Chemotherapy in Ovarian Cancer (Dr. M. Esteller).
- ▶ CIBERONC Member of the Breast Cancer Program

Active Grants

- ▶ Georgia Anguera Palacios. Identificación de mutaciones que confieren sensibilidad a inhibidores de mTOR en Carcinoma renal de células cromóforas (chRCC), mediante estrategia de casos extremos. SOGUG 2015-2016. Grupo Español de Tratamiento de Tumores Urológicos. Duration: 2015-2019. 18,181.82 €.
- ▶ Ana Sebio García. Evaluación de las alteraciones de la distrofina y proteínas afines como factores pronósticos en pacientes afectos de leiomiomasarcoma. PI17/00143. Instituto de Salud Carlos III. Duration: 2018-2020. 61,500 €.
- ▶ Agustí Barnadas Molins. Grup de recerca clínica en oncologia. 2017 SGR 01084. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Antonio López Pousa. Desarrollo clínico nuevo sistema de liberación local de fármacos. RTC-2017-6347-1. Ministerio de Economía y Competitividad. Duration: 2018-2020. 132,186.25 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Daniel Escuin Borràs. Investigación del papel de los miRNAs y snoRNAs circulares como marcadores surrogados del estatus de los ganglios linfáticos en pacientes con cáncer de mama. PI19/00362. Instituto de Salud Carlos III. Duration: 2020-2022. 109,000 €.
- ▶ Andrés Barba Joaquín. Estudio prospectivo en búsqueda de marcadores genéticos predictivos de respuesta y/o toxicidad a quimioterapia y radioterapia en carcinoma de pulmón de célula pequeña. SCBO 2019, Societat Catalano-Balear d'Oncologia. Duration: 2019-2020, 5,454.55 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 296.6760 · Mean Impact Factor: 7.6071

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Other Publications

- ▶ Barnadas A., Muñoz M., Margelí M., Chacón J. I., Cassinello J., Antolin S., Adrover E., Ramos M., Carrasco E., Jimeno M. A., Ojeda B., González X., González S., Constenla M., Florián J., Miguel A., Llombart A., Lluch A., Ruiz-Borrego M., Colomer R., Del Barco S. On behalf of GEICAM, Spanish Breast Cancer Group. BOMET-QoL-10 questionnaire for breast cancer patients with bone metastasis: the prospective MABOMET GEICAM study. JOURNAL OF PATIENT-REPORTED OUTCOMES (2019) 3:72.

Diffusion Activities

Meeting Organization

- ▶ Fourth Barcelona Breast Cancer Meeting. Barcelona, 9 May 2019.

Communications

- ▶ Salvador J., Ciruelos E., Prat A., Jiménez-Rodríguez B., De la Cruz L., Martínez N., Villanueva R., De Toro R., Anton A., Moreno F., Álvarez I., Gavila J., Quiroga V., Vucente E., De la Haba J., González S., Diaz N., Barnadas A., Cantos B., Delgado I., Bellet M., Perelló M., Martínez Serrano M., Martín M. Interim Results from CompLEEmment-1 (A Phase 3b Study of Ribociclib and Letrozole as First-Line Therapy for Advanced Breast Cancer in an Expanded Population): Spanish Cohort Results ESMO Congress 2019. Barcelona, September 2019.
- ▶ Bujosa A., Tapia JC., Hwang J., Molto C., Templeton AJ, Barnadas A., Amir E, Tibau A. Change in magnitude of clinical benefit, overall survival and quality of life between time of approval and post-marketing among cancer drugs approved by US Food and Drug administration 2006-2015. ESMO Congress 2019. Barcelona, September 2019.

- ▶ Guirado M, Majem M, Massuti B, De las Peñas R, Ortega A, Isla D, Dómine M, Marsé R, Sala MA, Paredes A, Morán T, Vázquez S, Coves J, González Larrriba JL, Sánchez-Torres JM, Vicente D, Farré N, Fernández Fornos L, Valcárcel F, Provencio M. NORA trial (GCEP 15/02): Updated results of the Spanish Lung Cancer Group (SLCG) phase II trial of concurrent chemo-radiotherapy (CT-RT) with cisplatin (P) plus metronomic oral vinorelbine (mOV) for unresectable locally advanced non-small cell lung cancer (LA-NSCLC). ESMO Congress 2019. Barcelona, September 2019.

- ▶ Provencio M, Nadal E, Insa Molla A, García Campelo R, Casal J, Dómine M, Majem M, De Castro J, Martínez-Martí A, Massuti B. Quimioterapia (QT) adyuvante e inmunoterapia (IT) con Nivolumab (NV): alta respuesta patológica completa (RPC) y prometedores resultados de supervivencia libre de progresión (SLP) NADIM. SEOM Congress. Madrid, October 2019.

- ▶ Tapia JC, Molto C, Bujosa A, Templeton AJ, Barnadas A, Amir E, Tibau A. Clinical benefit of breast cancer drugs approved by the United States Food and Drug Administration. San Antonio Breast Cancer Conference. San Antonio, December 2019.

Oncogenesis and Antitumour Drugs



Coordinator
Mangués Bafalluy, Ramon (IR)
rmangués@santpau.cat

Members
Álamo Vargas, Patricia Virginia (CIBERBBN)
Alba Castellón, Lorena (IR)
Arroyo Solera, Irene (CIBERBBN)
Carrasco Díaz, Luis Miguel (IR)
Casanova Rigat, Isolda (CIBERBBN)
Falgas Comamala, Aida (IR)
García Leon, Annabel (IR)

Medina Gutiérrez, Esperanza (IR)
Navas Jiménez, Luis Carlos (IR)
Núñez Amela, Yaiza (IR)
Pallarés López, Manuel Víctor (IR)
Riera Armengol, Pau (IR)
Rioja Blanco, Elisa (IR)
Sala Faig, Rita (IR)
Unzueta Elorza, Ugutz (IR)

Main Lines of Research

- ▶ Development of novel animal models of disseminated disease in solid tumors and hematologic neoplasms for the mechanistic study of metastases and preclinical drug development.
- ▶ Development of protein-only 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 polypeptidic nanoparticles and nanoconjugates.

Scientific Challenges

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

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Drs. Isolda Casanova, Víctor Pallarès, Ugutz Unzueta and Doctoral students Aïda Falgàs and Rita Sala collaborate in the project "Implicación de la vía CXCR4/CXCL12/CXCR7 en la resistencia, recidiva y fenotipo de célula madre tumoral en leucemia mieloide aguda". PI17/01246, IP: Jordi Sierra. Instituto de Salud Carlos III. Duration: 2018-2020. 219,000 €
- ▶ Drs. Irene Arroyo, Lorena Alba-Castellón, Ugutz Unzueta and Doctoral student Rita Sala collaborate with the Otorhinolaryngology Service (led by Drs. Miquel Quer and Xavier León) in the Project Estudio de factores pronóstico en cáncer de cabeza y cuello en el proyecto. PI17/00584, IP: Miquel Quer, 111.000 € (2018-2020) and with the Pharmacy Service in the project SP181117001. Roche Pharma, IP: Maria Antònia Mangués. 30,000 €
- ▶ Dr. Patricia Álamo and Doctoral student Rita Sala collaborate with the research groups of the Pharmacy Service (led by Dr. María Antònia Mangués), the Pathological Anatomy Service (led by Dr. Enrique Lerma and Dr. Alberto Gallardo) and the Medical Oncology Service (led by Drs. Agustí Barnadas and Antonio López-Pousa), and with the IIB-Sant Pau groups headed by Àlex Bayés and Marta Valle in the project "Targeted nanoconjugates for the selective elimination of stem cells in disseminated cancer". PIE15/00028 - IP: Ramon Mangués. Instituto de Salud Carlos III. Duration: 2016-2019. 423,000 €

External Collaborations

National Collaborations

- ▶ Antonio Villaverde, Departament de Microbiologia Aplicada, Universitat Autònoma de Barcelona (UAB)

- ▶ Eduard Batlle, Biomedical Research Institute (IRB) and Barcelona Scientific Park (PCB).
- ▶ Ramon Mangués is a Member of the Executive Committee and Coordinator of Clinical Translation of the Network Consortium for Biomedical Research in Biomaterials, Bioengineering and Nanomedicine (CIBER-BBN).
- ▶ OncoCat. Member of the Catalan Cancer Research Network. Xarxa ConnectEU, Biocat, Generalitat de Catalunya.
- ▶ NanoBioMed. Member of the Catalan Network on Nanobiotechnology, Xarxa Connect-EU. Biocat.

International Collaborations

- ▶ Jason P. Holland, Department of Chemistry, University of Zürich, Switzerland
- ▶ 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).
- ▶ Our group is a Member of the COST Action CA17140. Nano2Clinic. Cancer Nanomedicine - from the bench to the bedside (Nano2Clinic) (<http://www.cost.eu/actions/CA17140>)
- ▶ Ramon Mangués collaborates with the French Institut National du Cancer (INCa), by being 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 ATMP (Advanced Therapy Medicinal Products), EATRIS (European Infrastructure for Translational Medicine) Network.
- ▶ ETP 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).

Active Grants

- ▶ Ramon Mangues Bafalluy. Centro de Investigación Biomédica en Red en Bioingeniería, Biomateriales y Nanomedicina. CIBERBBN. CB06/01/1031. Ministerio de Sanidad y Política Social. Duration: 2006-2020. 697,357.03 €.
- ▶ Ramon Mangues Bafalluy. Prevención de metástasis en cáncer colorrectal mediante terapia dirigida a células madre metastáticas y estromales. PI15/00378. Instituto de Salud Carlos III. Duration: 2016-2019. 172,000 €.
- ▶ Ramon Mangues Bafalluy. Targeted nanoconjugates for the selective elimination of stem cells in disseminated cancer. PIE15/00028. Instituto de Salud Carlos III. Duration: 2016-2020. 423,912 €.
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Note: Total amount granted to PI. It does not include indirect costs.

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- ▶ Ugutz Unzueta Elorza. Improved colorectal cancer therapy by targeting the CXCR4 receptor using functional protein nanoparticles with enhanced cytosolic release. CP19/00028. Instituto de Salud Carlos III. Duration: 2020-2024. 202,500 €.
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Doctoral Theses

- ▶ Laura Sánchez García. Engineering all-in-one protein-based nanoparticles for targeted cancer therapies. Universitat Autònoma de Barcelona. Director: Ugutz Unzueta. Date of defense: 26/02/2019

Patents

- ▶ Ester Vázquez, Antonio Villaverde, Naroa Serna, Juan Cedano, Olivia Cano, Ugutz Unzueta, Ramon Mangues, Patricia Álamo. Universitat Autònoma de Barcelona; Nanoligent S.L., Fundació Privada Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau, Consorcio Centro de Investigación Biomédica en Red, M.P. (CIBER). Scaffold proteins and therapeutic nanoconjugates based on nidogen. EP19383201.1-1111. European Patent. 26/12/2019

- ▶ Antonio Villaverde, Esther Vázquez, Héctor López, Julieta Sánchez, Ramon Mangues, Patricia Alamo. Universitat Autònoma de Barcelona; Fundació Privada Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau. Protein nano- or microparticles as artificial inclusion bodies. PCT/EP2018/069303. European Patent. 17/10/2019
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- ▶ Esther Vázquez, Ugutz Unzueta, Neus Ferrer, Antonio P Villaverde, María Virtudes Céspedes, Isolda Casanova, Ramon Mangues. Universitat Autònoma de Barcelona, Fundació Privada Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau, Centro de Investigación Biomédica en Red en Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN). Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells. US9580468B2. United States of America Patent. 17/08/2019

Transfer Products

- ▶ Ramon Mangues is Founder of NANOLIGENT, SLU. (B-66970088), a Spin-off of the Institut de Recerca Biomèdica de Sant Pau and the Universitat Autònoma de Barcelona, devoted to industrial transfer of protein-based nanoparticles and nanoconjugates for targeted drug delivery of antitumor and antimetastatic agents.
- ▶ License agreement between the Universitat Autònoma de Barcelona, the Fundació Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau and the Centro de Investigación Biomédica en Red with the company Nanoligent SL. 5/08/2018

Scientific Production

Total Impact Factor: 88.201 · Mean Impact Factor: 5.1883

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Diffusion Activities

Dissemination to Society

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- ▶ El Economista. <https://www.eleconomista.es/innovacion-oncologica/noticias/10005997/07/19/Nanotecnologia-para-la-administracion-eficaz-de-medicamentos-.html>
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Scientific Dissemination

Courses

- ▶ Ramon Mangues. Máster en Oncología Molecular 2019-2020, Centro de Estudios Biosanitarios, Madrid
- ▶ Ramon Mangues. Scientific Committee for the organization of the Curso sobre Aspectos Generales y de Investigación Básica del Cáncer de Mama. Universitat Autònoma de Barcelona

Invited Conferences

- ▶ Mangues, Ramon. Genotoxic nanoconjugates for targeted drug delivery and antimetastatic therapy. World Chemistry Forum 2019 (WCF-2019), Analysis, Catalysis, Nanoscience. Forum 2-3: Nanoscience and Nanotechnology: Application of Nanomaterials and Nanotechnology (II). Barcelona, 22-24 May 2019.
- ▶ Mangues, Ramon. Use of nanotechnology in metastasis prevention. HTWCD 2019. Health Tech World Cancer Day 2019. Plataforma Tecnológica Europea sobre Nanomedicina (ETPN); NANOMED. AECC Venue, Barcelona, 1 February, 2019.

- ▶ Villaverde A, Seras-Franzoso J, Unzueta U, Casanova I, Céspedes MV, Sala R, Alamo P, Sánchez-Chardi A, Pesarrodona M, Sánchez-García L, Serna N, Cano-Garrido O, Sánchez JM, López-Laguna H, Mangues R, Vázquez E. 2019. Engineering Bacterial Inclusion Bodies for the Sustained and Remote Release of Tumor-Targeted Protein Drugs. 14th Asian Congress on Biotechnology (ACB2019). Taiwan, China, 1-4 June 2019.
- ▶ Casanova I *et al.* Selective antineoplastic effect of T22-PE24-H6 polypeptidic nanoparticle in CXCR4+ diffuse large B-cell lymphoma cells. 1st COST Action CA17140 Conference. Nano2Clinic, Cancer Nanomedicine - From the bench to the bedside. Riga, Latvia, 15-17 October 2019.

Congress Communications

- ▶ Sánchez-García, Naroa Serna, Patricia Álamo, Rita Salac María Virtudes Céspedes, Mònica Roldan, Alejandro Sánchez-Chardi, Ugutz Unzueta, Isolda Casanova, Ramón Manguesc, Esther Vázquez, An-

- tonio Villaverde. Microbial toxin-based nanoparticles as targeted antitumoral drugs. II Jornada de Microbiologia. Societat Catalana de Biologia. Institut d'Estudis Catalans. Barcelona, 29 November 2019.
- ▶ Eric Voltà-Durán, Olivia Cano-Garrido, Naroa Serna, Hèctor López-Laguna, Laura Sánchez-García, Mireia Pesarrodona, Alejandro Sánchez-Chardi, Ramón Mangues, Antonio Villaverde, Esther Vázquez, Ugutz Unzueta. Controlling self-assembling and tumor cell-targeting through modular protein engineering. NanoBioMed Conf 2019. Barcelona, 19-21 November de 2019.
 - ▶ Volta, Naroa Serna, Hèctor López-Laguna, Laura Sánchez-García, Mireia Pesarrodona, Ramón Mangues, Antonio Villaverde, Esther Vázquez, Ugutz Unzueta. Self-assembling and tumor cell-targeting controlled by modular engineering. Biotechnology Annual Congress (BAC). Madrid, 10-12 July 2019.
 - ▶ Villaverde A, Vázquez E, Céspedes MV, Unzueta U, Casanova I, Mangues R. Engineering protein drugs for precision nanomedicines of cancer. 7th European Congress of Life Sciences EUROBIOTECH, Krakow (Poland), 23-25 September 2019
 - ▶ Falgas I, Pallarès V, Sánchez-García Laura, Serna Naroa, Unzueta Ugutz, Vázquez Esther, Villaverde Antonio, Mangues Ramon, Casanova Isolda. T22-PE nanoparticle in DLBCL. 3rd Scientific Workshop - The Haematological Tumour Microenvironment and Its Therapeutic Targeting. 2019
 - ▶ Falgàs A, Pallarès V, García-León A, Sánchez-García L, Serna N, Céspedes MV, Sierra J, Arroyo I, Gallardo A, Unzueta U, Vázquez E, Villaverde A, Mangues R, Casanova I. Selective antineoplastic effect of T22-PE24-H6 polypeptidic nanoparticle in CXCR4+ diffuse large B-cell lymphoma cells. Jornadas Institut Josep Carreras. Campus Can Ruti, Hospital Trias i Pujol. Badalona. 19 September 2019.
 - ▶ Voltà-Durán E, Cano-Garrido O, Serna N, López-Laguna H, Sánchez-García L, Pesarrodona M, Mangues R, Villaverde A, Vázquez E, Unzueta U. Self-assembling and tumor cell-targeting controlled by modular engineering. XIII Biotechnology Annual Congress of the Federación Española de Biotecnólogos. Madrid, 10-12 July 2019.
 - ▶ Álamo P, Unzueta U, Cabrera C, Gallardo A, Sala R, Medina E, Casanova I, Arroyo-Solera I, Pallarès V, Trias M, Lopez-Pousa A, Vázquez E, Villaverde A, Céspedes MV, Mangues R. Nanoconjugate for CXCR4+ cell-specific targeting in a metastatic colorectal cancer model as therapy for human cancer. 1st COST Action CA17140 Conference. Nano2Clinic, Cancer Nanomedicine - From the bench to the bedside. Riga, Latvia, 15-17 October 2019.
 - ▶ Vázquez E, Unzueta U, Céspedes MV, Serna N, Sánchez-García L, Álamo P, Casanova I, Pallarès V, Díaz R, Sala R, Sánchez-Chardi A, Mangues R, Villaverde A. Protein Nanoparticles for the Precision Medicine of Metastatic Human Cancer. The 14th Asian Congress on Biotechnology (ACB2019). Taiwan, China, 1-4 June 2019.
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 - ▶ Garrido O, Voltà E, Sanchez-Garcia L, Serna N, Saccardo P, Mangues R, Villaverde A, Vázquez E. Controlling the assembling process of histidine-rich protein materials through divalent cations. Suprabio 2019. International Symposium on SupraBiomolecular systems. Universitat Pompeu Fabra, Barcelona, 15-17 May 2019
 - ▶ Unzueta U, Céspedes V, Serna N, Sánchez-García L, Álamo P, Casanova I, Pallarès V, Díaz R, Sala R, Sánchez-Chardi A, Mangues R, Villaverde A, Vázquez EstEher. Protein Nanoparticles for the Precision Medicine of Metastatic Human Cancer. The 14th Asian Congress in Biotechnology. Biotechnology for 20/20 and Beyonds. Taipei, Taiwan, 1-4 July 2019.
 - ▶ Seras-Franzoso J, Unzueta U, Casanova I, Céspedes MV, Sala R, Álamo P, Sánchez-Chardi A, Pesarrodona Mireia, Sánchez-García L, Serna N, Cano-Garrido O, Sánchez J M., López-Laguna H, Mangues R, Vázquez E, Villaverde A. Engineering Bacterial Inclusion Bodies for the Sustained and Remote Release of Tumor-Targeted Protein Drugs. The 14th Asian Congress in Biotechnology. Biotechnology for 20/20 and Beyonds. Taipei, Taiwan, 1-4 July 2019.
 - ▶ Pallarès V, Unzueta U, Falgàs A, Sánchez-García L, García-León A, Arroyo I, Céspedes MV, Vázquez E, Villaverde A, Sierra J, Mangues R, Casanova I. A Novel T22-GFP-Auristatin Nanoconjugate Targets CXCR4-Positive Leukemic Stem Cells and Blocks Dissemination in a Mouse Model of Acute Myeloid Leukemia. 3rd Scientific Workshop - The Haematological Tumour Microenvironment and its Therapeutic Targeting. London, United Kingdom, 24-26 February 2019.
 - ▶ Falgàs A, Pallarès V, García-León A, Sánchez-García L, Serna N, Céspedes MV, Arroyo I, Sierra J, Arroyo-Solera I, Gallardo A, Ugutz Unzueta U, Vázquez E, Villaverde A, Mangues R, Casanova I. Selective delivery of a Pseudomonas toxin to CXCR4+ diffuse large B-cell lymphoma cells leading to a potent antineoplastic effect in a disseminated mouse model. Congress, Tumor Microenvironment 2019 European Society of Hematology ESH 3rd Scientific Workshop. The Hematological Tumor microenvironment and its therapeutic targeting. London, United Kingdom, 24-26 February 2019.

AREA 3 · Haematological and Oncological Diseases

Haematological Diagnosis



Coordinator

Nomdedéu Guinot, Josep Francesc (FGS)
jnomdedeu@santpau.cat

Members

Aljarilla Medina, Alba (FGS)
Blanco, Maria Laura (FGS)
Brell Martínez, Albert (FGS)
Bussaglia Petrillo, Elena Mart (FGS)
Carricondo Morcillo, Maite (FGS)

Cisa Wieczorek, Sabina (IR external)

Espadaler Pare, Montserrat (FGS)

Estivill Riezu, María Camino (FGS)

Fernández Rosales, María Nieves (FGS)

Fuentes Hernández, Francisca (FGS)

Hernández Campos, Carmen (FGS)

Martínez Sánchez, Elisabeth (FGS)

Martínez Valverde, Clara Maria (FGS)

Ortín Quílez, Rosa (FGS)

Payán Pernía, Salvador (FGS)

Pratcorona Canela, Marta (FGS)

Remacha Sevilla, Ángel Francisco (FGS)

Sardà Vidal, Maria Pilar (FGS)

Serra Ferrer, Marta (FGS)

Úbeda Rodenas, Jose (FGS)

Main Lines of Research

- ▶ Hematologic malignancies: diagnosis using morphology, cytogenetics, flow cytometry, and molecular techniques (NGS).
- ▶ RNA-based methods (digital PCR, RNAseq) in hematology. New resequencing platforms.
- ▶ Molecular characterization of acute myeloid leukemia. Biologic and prognostic relevance of driver mutations.
- ▶ Age-related clonal hematopoiesis. Molecular characterization of good and bad responders to inflammatory challenges (Covid-19).
- ▶ Familial leukemias: predisposing alleles.
- ▶ WT1 in hematology: from basic mechanisms to diagnostic applications.
- ▶ Metabolic alterations in leukemic cells.
- ▶ IgVH mutations in CLL.

Scientific Challenges

- ▶ Development of technical tools to study metabolic alterations in leukemic cells.
- ▶ Application of machine learning approaches to malignant and non-malignant hematologic disorders.
- ▶ CRISPR-Cas9 and other genetic resources applied to leukemic-cell models.
- ▶ Animal models in hematology.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Inflammatory Diseases (PI: Silvia Vidal).
- ▶ Oncology / Haematology and Transplantation (PI: Jordi Sierra).
- ▶ Molecular Bases of Disease (PI: Pablo Fuentes).

External Collaborations

- ▶ G. Saglio. Torino University. Italy.
- ▶ G. Gaidano. Novara University. Italy.
- ▶ C. Mecucci. Perugia University. Italy.
- ▶ Patrice Dubreuil. Université Marseille/Aix-en-Provence. France.
- ▶ Prof. Ginés Morata. CSIC. Madrid.

- ▶ Prof. Antonio Zorzano. Universitat de Barcelona.
- ▶ Anna Bigas. IMIM Hospital del Mar. Barcelona.
- ▶ Luciano di Croce. CRG. Barcelona.
- ▶ Pablo Menéndez. Josep Carreras Foundation (Hospital Clínic). Barcelona.
- ▶ Alberto Villanueva, IDIBELL-Bellvitge Biomedical Research Institute. Barcelona.
- ▶ G. Vassiliou. University of Cambridge. Jeffrey Cheah Biomedical Centre. Cambridge. UK.
- ▶ J. Fitzgibbon. Cancer Research UK Barts Centre. London. UK.

Active Grants

- ▶ Josep Francesc Nomdedéu Guinot. Heterogeneidad clonal en leucemia mieloide aguda: caracterización inmunofenotípica, genotípica y mediante generación de xenografts. P116/00940. Instituto de Salud Carlos III. Duration: 2017-2019. 66,500 €.
- ▶ Josep Francesc Nomdedéu Guinot. Grup de Diagnòstic Hematològic. 2017 SGR 00999. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Josep Francesc Nomdedéu Guinot. Bolsa de estancias extranjero incorporación de nuevas tecnologías. SEHH. Duration: 2019.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 42.122 · Mean Impact Factor: 3.8293

Bussaglia E., Anton R., Nomdedeu J.F., Fuentes-Prior P., TET2 missense variants in human neoplasia. A proposal of structural and functional classification (2019) *MOL GENET GENOM MED*, 7 (7). **IF: 2.4480**

de la Guardia R.D., Lopez-Millan B., Roca-Ho H., Bueno C., Gutierrez-Aguera F., Fuster J.L., Anguita E., Zanetti S.R., Vives S., Nomdedeu J., Sackstein R., Lavoie J., Gonzalez-Rey E., Delgado M., Rosu-Myles M., Menendez P., Bone marrow mesenchymal stem/stromal cells from risk-stratified acute myeloid leukemia patients are anti-inflammatory in in vivo preclinical models of hematopoietic reconstitution and severe colitis (2019) *HAEMATOLOGICA*, 104 (2), e54-e58. **IF: 7.5700**

Monter A., Nomdedeu J.F., ClonoSEQ assay for the detection of lymphoid malignancies (2019) *EXPERT REV MOL DIAGN*, 19 (7), 571-578. **IF: 3.0990**

Mora A., Bosch R., Cuellar C., Vicente E.P., Blanco L., Martino R., Ubeda J.M., Sierra J., Moreno C., Nomdedeu J., CD200 is a useful marker in the diagnosis of chronic lymphocytic leukemia (2019) *CYTOM PART B-CLIN CY*, 96 (2), 143-148. **IF: 2.9380**

Onecha E., Linares M., Rapado I., Ruiz-Heredia Y., Martinez-Sanchez P., Cedena T., Pratcorona M., Oteyza J.P., Herrera P., Barragan E., Montesinos P., Vela J.A.G., Magro E., Anguita E., Figuera A., Rianza R., Martinez-Barranco P., Sanchez-Vega B., Nomdedeu J., Gallardo M., Martinez-Lopez J., Ayala R., A novel deep targeted sequencing method for minimal residual disease monitoring in acute myeloid leukemia (2019) *HAEMATOLOGICA*, 104 (2), 288-296. **IF: 7.5700**

Oñate G., Blanco ML, Pratcorona M. Acquisition of Inv(16)(p13q22) in a blast crisis of chronic myeloid leukemia: case report. *MED CLIN (BARC)*. 2019 May 17;152(10):419-420. **IF: 1.2770**

Pujol-Moix N., Martinez-Perez A., Sabater-Lleal M., Llobet D., Vilalta N., Hamsten A., Souto J.C., Soria J.M., Influence of ABO locus on PFA-100 collagen-ADP closure time is not totally dependent on the von wille-

brand factor. Results of a GWAS on gait-2 project phenotypes (2019) *INT J MOL SCI*, 20 (13). **IF: 4.1830**

Ribera J., Granada I., Morgades M., Vives S., Genesca E., Gonzalez C., Nomdedeu J., Escoda L., Montesinos P., Mercadal S., Coll R., Gonzalez-Campos J., Abella E., Barba P., Bermudez A., Gil C., Tormo M., Pedreno M., *et al.*, The poor prognosis of low hypodiploidy in adults with B-cell precursor acute lymphoblastic leukaemia is restricted to older adults and elderly patients (2019) *BRIT J HAEMATOL*, 186 (2), 263-268. **IF: 5.2060**

Ribera J., Zamora L., Morgades M., Vives S., Granada I., Montesinos P., Gomez-Segui I., Mercadal S., Guardia R., Nomdedeu J., Pratcorona M., Tormo M., Martinez-Lopez J., Hernandez-Rivas J.-M., Ciudad J., Orfao A., Gonzalez-Campos J., Barba P., Escoda L., Esteve J., Genesca E., Sole F., Feliu E., Ribera J.-M., Molecular profiling refines minimal residual disease-based prognostic assessment in adults with Philadelphia chromosome-negative B-cell precursor acute lymphoblastic leukemia (2019) *GENE CHROMOSOME CANC*, 58 (11), 815-819. **IF: 2.9400**

Santaliestra M., Garrido A., Carricondo M., Bussaglia E., Pratcorona M., Blanco M.L., Gich I., Hoyos M., Esquirol A., Garcia-Cadenas I., Brunet S., Martino R., Sierra J., Nomdedeu J.F., Bone marrow WT1 levels in patients with myeloid neoplasms treated with 5-azacytidine: Identification of responding patients (2019) *EUR J HAEMATOL*, 103 (3), 208-214. **IF: 2.2170**

Sobas M., Montesinos P., Boluda B., Bernal T., Vellenga E., Nomdedeu J., Gonzalez-Campos J., Chillon M., Holowiecka A., Esteve J., Bergua J., Gonzalez-Sanmiguel J.D., Gil-Cortes C., Tormo M., Salamero O., Manso F., *et al.*, An analysis of the impact of CD56 expression in de novo acute promyelocytic leukemia patients treated with upfront all-trans retinoic acid and anthracycline-based regimens (2019) *LEUKEMIA LYMPHOMA*, 60 (4), 1030-1035. **IF: 2.6740**

Diffusion Activities

- ▶ Josep Nomdedeu. PPM1D in clonal hematopoiesis. Wellcome at the Sanger Institute. Hinxton Genome Campus. July 2019.

AREA 3 · Haematological and Oncological Diseases

Molecular Pathology of Gynaecologic Cancer



Coordinator

Lerma Puertas, Enrique (FGS)
elerma@santpau.cat

Members

Bague Rosell, Silvia (FGS)
Clua González, Agustín (FGS)
Fusté Chisara, Victoria (FGS)
Gallardo Alcañiz, Alberto (FGS)
González Vidal, Alan (FGS)
López Vilaró, Laura (FGS)
Mozos Rocafort, Ana (FGS)
Orellana Fernández, Ruth (FGS)

Sánchez Güerri, Ignacio (FGS)
Szafranska, Justyna (FGS)

Main Lines of Research

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

Scientific Challenges

- ▶ Progress as a productive translational gynecologic 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

Collaborations with other IIB Sant Pau Groups

- ▶ Metabolic Bases of Cardiovascular Risk Group:
 - Collaborator: Dr. Enrique Lerma. Estudio de las alteraciones del metabolismo intracelular del colesterol en el cáncer de mama y carcinoma epitelial de tiroides: Evaluación de estrategias terapéuticas basadas en la HDL. PI16/00139
 - Collaborator: Dr. Victoria Fusté. Adiposity, inflammation and cholesterol deregulation in epithelial thyroid carcinoma. Evaluation of cholesterol-lowering and LXR-based therapies. PI19/00136
- ▶ Oncogenesis and Antitumour Drugs Group (Collaborator: Dr. Alberto Gallardo):
 - Evaluation of nanoparticles in targeted therapy against CXCR4+ cells in *in vitro* and mouse models of Head and Neck Squamous Cell Carcinoma. FIS 2019.
 - Development of a new selective drug with potent anti-metastatic activity. RTC-2017-6125-1.
- Desenvolupament d'un nanoconjugat antimetastàtic dirigit a cèl·lules mare metastàtiques CXCR4+ i l'obtenció de prototipus i a la valorització i transferència dels resultats d'investigació generada per equips de recerca de Catalunya (product). AGAUR 2014. PROD 00055.
- Genotoxic Nanoparticles targeting colorectal cancer stem cells. Marató 416/C/2013-2030. Coordinated project.
- ▶ Neuromuscular Diseases Group. Collaborator: Dr. Alberto Gallardo
- ▶ Chronic Respiratory Diseases Group. Collaborator: Dr. Laura López
- ▶ Clinical Oncology Group (Dr. Agustí Barnadas Molins). Collaborators: Drs. Enrique Lerma, Laura López, Alberto Gallardo
- ▶ Ear, Nose and Throat Cancer Group. Collaborators: Drs. Laura López, Alberto Gallardo, Justyna Szafranska
- ▶ Genome Instability and DNA Repair Syndromes Group (Dr. Jordi Surrallés Calonge)

Active Grants

- ▶ Iñigo Espinosa Mariscal. Papel de los neutrófilos en la invasión miometrial del carcinoma endometrioide de endometrio. PI16/00902. Instituto de Salud Carlos III. Duration: 2017-2019. 71,500 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 39.9240 · Mean Impact Factor: 3.9924

Arroyo-Solera I, Pavón MÁ, León X, López M, Gallardo A, Céspedes MV, Casanova I, Pallarès V, López-Pousa A, Mangues MA, Barnadas A, Quer M, Mangues R. Effect of serpinE1 overexpression on the primary tumor and lymph node, and lung metastases in head and neck squamous cell carcinoma. *HEAD NECK*. 2019 Feb;41(2):429-439. doi: 10.1002/hed.25437. Epub 2018 Dec 12. PubMed PMID:30548470. **IF: 2.4420**

Caballero A, Novelli S, Mozos A, Muret PG, Sierra J, Briones J. Silent T-cell receptor cutaneous T-cell lymphoma associated to a clonal plasma cell proliferation. *HEMATOL REP*. 2019 Feb 19;11(1):7841. doi: 10.4081/hr.2019.7841. eCollection 2019 Feb 19. **IF: 0.920**

Castel P, Bagué S, Granell E, Guerrero Vara R, Baselga J, Baselga E. A novel vascular tumour characterized by coexisting HRAS and GNAQ activating mutations. *BR J DERMATOL*. 2019 Apr;180(4):927-928. Epub 2018 Dec 13. **IF: 6.7140**

Falgàs A, Pallarès V, Unzueta U, Céspedes MV, Arroyo-Solera I, Moreno MJ, Gallardo A, Mangues MA, Sierra J, Villaverde A, Vázquez E, Mangues R, Casanova I. A CXCR4-targeted nanocarrier achieves highly selective tumor uptake in diffuse large B-cell lymphoma mouse models. *HAEMATOLOGICA*. 2019 Jun 27. [Epub ahead of print] PubMed PMID: 31248974. **IF: 7.5700**

Martin-Broto J, Hindi N, Cruz J, Martínez-Trufero J, Valverde C., De Sande L.M., Sala A., Bellido L., De Juan A., Rubio-Casadevall J., Diaz-Beveridge R., Cubedo R., Tendero O., Salinas D., Gracia I., Ramos R., Bague S., Gutierrez A., Duran-Moreno J., Lopez-Pousa A., Relevance of Reference Centers in Sarcoma Care and Quality Item Evaluation: Results from the Prospective Registry of the Spanish Group for Research in Sarcoma (GEIS) (2019) *ONCOLOGIST*, 24 (6), e338-e346. **IF: 5.2520**

Matías-Guiu X, Fusté V, Iglesias L, Balañá C, Concha Á, de la Cruz-Merino L, Nieto B, Pané M, Sanz J, Losa F. 2018 Consensus statement by the

Spanish Society of Pathology and the Spanish Society of Medical Oncology on the diagnosis and treatment of cancer of unknown primary. *REV ESP PATOL*. 2019 Jan - Mar;52(1):33-44. Epub 2018 Oct 10. Review. Spanish. **IF: 0.11**

Mendez-Lara K.A., Farre N., Santos D., Rivas-Urbina A., Metso J., Sanchez-Quesada J.L., Llorente-Cortes V., Errico T.L., Lerma E., Jauhainen M., Martin-Campos J.M., Alonso N., Escola-Gil J.C., Blanco-Vaca F., Julve J., Human ApoA-I overexpression enhances macrophage-specific reverse cholesterol transport but fails to prevent inherited diabetes in mice (2019) *INT J MOL SCI*, 20 (3). **IF: 4.1830**

Pavón MA, Arroyo-Solera I, León X, Téllez-Gabriel M, Virós D, Gallardo A, Céspedes MV, Casanova I, Lopez-Pousa A, Barnadas A, Quer M, Mangues R. The combined use of EFS, GPX2, and SPRR1A expression could distinguish favorable from poor clinical outcome among epithelial-like head and neck carcinoma subtypes. *HEAD NECK*. 2019 Jun;41(6):1830-1845. Epub 2019 Jan 16. PubMed PMID: 30652380. **IF: 2.4420**

Revilla G., Pons M.P., Baila-Rueda L., Garcia-Leon A., Santos D., Cenarro A., Magalhaes M., Blanco R.M., Moral A., Ignacio Perez J., Sabe G., Gonzalez C., Fuste V., Lerma E., Faria M.S., de Leiva A., Corcoy R., Carles Escola-Gil J., Mato E., Cholesterol and 27-hydroxycholesterol promote thyroid carcinoma aggressiveness (2019) *SCI REP-UK*, 9 (1). **IF: 4.0110**

Santiago A, Sanchez E, Clark A, Pozuelo M, Calvo M, Yañez F, Sarrabayrouse G, Perea L, Vidal S, Gallardo A, Guarner C, Soriano G, Manichanh C. Sequential Changes in the Mesenteric Lymph Node Microbiome and Immune Response during Cirrhosis Induction in Rats. *mSystems*. 2019 Feb 19;4(1). eCollection 2019 Jan-Feb. PubMed PMID: 30801032; PubMed Central PMCID: PMC6381228. **IF: 6.280**

AREA 3 · Haematological and Oncological Diseases

Ear, Nose and Throat Cancers



Coordinator

Quer Agustí, Miquel (FGS)
mquer@santpau.cat

Members

Casasayas Plass, Maria (FGS)
De Juan Beltrán, Julia (FGS)
García Lorenzo, Jacinto (FGS)
Gras Cabrerizo, Juan Ramon (FGS)
Kolanczak, Katarzyna Alicja (FGS)
Leon Vintró, Xavier (FGS)
López Vilas, Montserrat (FGS)
Montserrat Gili, Joan Ramon (FGS)

Orus Dotu, César (FGS)
Pujol Olmo, Albert (FGS)
Venegas Pizarro, María del Prado (FGS)

Main Lines of Research

- ▶ Genetic and molecular predictors of response to head and neck cancer (with the Oncogenesis and Antitumor Drugs group).
- ▶ Molecular mechanisms of inflammation in head and neck cancer (with the Inflammation Laboratory).
- ▶ Sinonasal endoscopic surgery: innovations in skull base techniques.
- ▶ Internal ear: aspects related to severe deafness, cochlear implants and otoneurological surgery of tumors.

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

Collaborations with other IIB Sant Pau Groups

- ▶ Angiology, Vascular Biology and Inflammation (Dr. Lluís Vila).
- ▶ Oncogenesis and Antitumour Drugs (Dr. Ramon Mangués).
- ▶ Translational Molecular Oncology (Dr. Matilde Parreño).

External Collaborations

- ▶ Catalan Institute of Oncology: Epidemiology (Dr. X. Bosch).
- ▶ Catalan Institute of Oncology: Oncology (Dr. Ricard Mesia).
- ▶ Hospital Joan XXIII de Tarragona: Head and Neck Cancer (Dr. F.J. Avilés).
- ▶ Hospital Central de Asturias: Head and Neck Cancer (Dr. C. Suárez).

Active Grants

- ▶ Miquel Quer Agustí. Émbolos tumorales circulantes hCXCR4/SerpinE1 en el pronóstico del cáncer de cabeza y cuello. PI17/00584. Instituto de Salud Carlos III. Duration: 2018-2020. 2,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Xavier Leon Vintró. 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. Duration: 2020-2022. 104,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Victoria Montoro Martínez. El papel de la laringectomía total en el siglo XXI. Universitat Autònoma de Barcelona. Directors: M. Quer, M. López, X. León. Date of defense: 26/09/2019.
- ▶ Lidia Sánchez-Porro Gil. Efecto de la transfusión perioperatoria en la viabilidad de los colgajos libres microquirúrgicos. Universitat Autònoma de Barcelona. Directors: X. León, S. López, J. Macià. Date of defense: 12/04/2019
- ▶ Laura Samara Piñol. Adaptación y validación de dos cuestionarios específicos para la evaluación de la calidad de vida en pacientes pediátricos con patología adenoamigdalas. Universitat Autònoma de Barcelona. Directors: M. Rosell, F. Larrosa, X. León. Date of defense: 20/05/2019
- ▶ Ehtaih Sham Mohamed. Shape modified radial artery adipo-facio-cutaneous perforator flap. An observational anatomical vascular analysis & prospective randomized control clinical study. Universitat Autònoma de Barcelona. Directors: J. Macià, X. León. Date of defense: 05/07/2019

Scientific Production

Total Impact Factor: 28.1200 · Mean Impact Factor: 2.3433

- Arroyo-Solera I., Pavon M.A., Leon X., Lopez M., Gallardo A., Cespedes M.V., Casanova I., Pallares V., Lopez-Pousa A., Mangues M.A., Barnadas A., Quer M., Mangues R., Effect of serpinE1 overexpression on the primary tumor and lymph node, and lung metastases in head and neck squamous cell carcinoma (2019) HEAD NECK-J SCI SPEC, 41 (2), 429-439. **IF: 2.4420**
- Boscolo-Rizzo P., Schroeder L., Sacchetto V., Holzinger D., Da Mosto M.C., Tirelli G., Dal Cin E., Mantovani M., Menegaldo A., Del Mistro A., Romeo S., Dei Tos A.P., Niero M., Rigo S., Dyckhoff G., Hess J., Alemany L., Quer M., Leon X., Polesel J., Pawlita M., Bertorelle R., Absence of disruptive TP53 mutations in high-risk human papillomavirus-driven neck squamous cell carcinoma of unknown primary (2019) HEAD NECK-J SCI SPEC, 41 (11), 3833-3841. **IF: 2.4420**
- Bossi P., Alfieri S., Strojan P., Takes R.P., Lopez F., Makitie A., Saba N.F., Rodrigo J.P., Bradford C., Suarez C., Zafereo M., Forastiere A.A., Vermorken J.B., Quer M., Sanabria A., Simo R., de Bree R., Rinaldo A., Ferlito A., Prognostic and predictive factors in recurrent and/or metastatic head and neck squamous cell carcinoma: A review of the literature (2019) CRIT REV ONCOL HEMAT, 137, 84-91. **IF: 5.0120**
- Casasayas M., Sansa A., Garcia-Lorenzo J., Lopez M., Orus C., Pelaez X., Quer M., Leon X., Pharyngocutaneous fistula after total laryngectomy: multivariate analysis of risk factors and a severity-based classification proposal (2019) EUR ARCH OTO-RHINO-L, 276 (1), 143-151. **IF: 1.7500**
- Gras-Cabrerizo J.R., Martel-Martin M., Montserrat-Gili J.R., Pardo-Munoz L., Prats-Morera L., Adema-Alcover J.M., Massegur-Solench H., Endoscopic medial maxillectomy with preservation of inferior turbinate: Assessing results by acoustic rhinometry (2019) J CRANIOFAC SURG, 30 (4), 996-999. **IF: 0.7850**
- Hellquist H., Paiva-Correia A., Vander Poorten V., Quer M., Hernandez-Prera J.C., Andreassen S., Zbaren P., Skalova A., Rinaldo A., Ferlito A., Analysis of the Clinical Relevance of Histological Classification of Benign Epithelial Salivary Gland Tumours (2019) ADV THER, 36 (8), 1950-1974. **IF: 3.2600**
- Leon X., Lopez M., Garcia J., Casasayas M., Rovira C., Quer M., Indications and results of extended total laryngectomy with en-bloc resection of overlying cervical skin (2019) EUR ARCH OTO-RHINO-L, 276 (11), 3179-3184. **IF: 1.7500**
- Lop J., Garcia J., Lopez M., Taberna M., Mena M., Alemany L., Quer M., Leon X., Competing mortality in oropharyngeal carcinoma according to human papillomavirus status (2019) HEAD NECK-J SCI SPEC, 41 (5), 1328-1334. **IF: 2.4420**
- Lopez F., Suarez C., Vander Poorten V., Makitie A., Nixon I.J., Strojan P., Hanna E.Y., Rodrigo J.P., de Bree R., Quer M., Takes R.P., Bradford C.R., Shaha A.R., Sanabria A., Rinaldo A., Ferlito A., Contemporary management of primary parapharyngeal space tumors (2019) HEAD NECK-J SCI SPEC, 41 (2), 522-535. **IF: 2.4420**
- Pavon M.A., Arroyo-Solera I., Leon X., Tellez-Gabriel M., Viros D., Gallardo A., Cespedes M.V., Casanova I., Lopez-Pousa A., Barnadas A., Quer M., Mangues R., The combined use of EFS, GPX2, and SPRR1A expression could distinguish favorable from poor clinical outcome among epithelial-like head and neck carcinoma subtypes (2019) HEAD NECK-J SCI SPEC, 41 (6), 1830-1845. **IF: 2.4420**
- Simo R., Nixon I.J., Vander Poorten V., Quer M., Shaha A.R., Sanabria A., Alvarez F.L., Angelos P., Rinaldo A., Ferlito A., Surgical management of intrathoracic goitres (2019) EUR ARCH OTO-RHINO-L, 276 (2), 305-314. **IF: 1.7500**
- Sumarroca A., Rodriguez-Bauza E., Lop-Gros J., Garcia J., Lopez M., Quer M., Leon X., Repair of post-laryngectomy pharyngocutaneous fistulas using a pectoralis major flap. Reparo de fistulas faringocutaneas pós-laringectomia utilizando retalho do músculo peitoral maior (2019) BRAZ J OTORHINOLAR, 85 (3), 351-356. **IF: 1.6030**

Other Publications

- ▶ Amilibia Cabeza E, Holgado Pérez S, Pérez Grau M, Moragues Pastor C, Roca-Ribas Serdà F, Quer Agustí M. Hearing in Paget's disease of bone. ACTA OTORRINOLARINGOL ESP. 2019 Mar - Apr;70(2):89-96.
- ▶ León X, López M, García J, Rovira C, Casasayas M, Quer M. Patients with locally advanced hypopharyngeal carcinoma. Results over a 30-year period. ACTA OTORRINOLARINGOL ESP. 2019 Nov - Dec;70(6):315-326.
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Diffusion Activities

- ▶ M. Quer (invited speaker). Key note lecture: Benign parotid tumors surgical options. Round Table on Salvage surgery in H&N tumors. 5th Congress of European ORL-HNS 2019. Brussels, 29 June - 3 July 2019. International.
- ▶ M. Quer, X. León, J. García, M. López. Hands-On Training Course in Surgical Anatomy of the Neck, Larynx and Parotid Gland. Directed by: Drs. Quer and Mirapeix. Unitat d'Anatomia i Embriologia of UAB and Servei d'Otorrinolaringologia of Hospital de la Santa Creu i Sant Pau. Barcelona-Bellaterra, 6-8 February 2019.
- ▶ M. Quer (speaker). Opciones quirúrgicas en disfagia orofaríngea. 12º Curso sobre Evaluación y Tratamiento de la Disfagia Orofaríngea. Directed by: Drs. H. Bascuñana and G. Garmendia. Madrid, 21-22 March 2019.

AREA 3 · Haematological and Oncological Diseases

Oncology/Haematology and Transplantation



Coordinator

Sierra Gil, Jordi (FGS)
jsierra@santpau.cat

Members

Abril García, Cintia (IR)
Álvarez Fernández, Carmen (IR)
Barata Badiella, Anna (IR)
Briones Meijide, Javier (FGS)
Brunet Mauri, Maria Salut (FGS)
Caballero González,
Ana Carolina (FGS)
Cuellar García, Carolina (IR)
De Rueda Gamboa,
María Jéssica (IR)

Escribà García, Laura (IR)
Esquirol Sanfeliu, Albert (FGS)
García Cádenas, Irene (FGS)
Garrido Díaz, Anna (IR)
Granell Gorrochategui, Miguel
(FGS)
Hoyos Colell, Montserrat (IR)
Jiménez Gómez, Iñaki (IR)
Klein González, Nela (FGS)
López Pardo, Jordi (FGS)
Louro Iglesias, Alberto (IR)
Martino Bofarull, Rodrigo (FGS)
Miqueleiz Álamos, Sara (FGS)
Monter Rovira, Anna (FGS)
Montserrat Torres, Rosanna (IR)

Mora Raya, Alba (IR)
Moreno Atanasio, Carolina (FGS)
Novelli Canales, Silvana Ana
Rina (FGS)
Núñez Amela, Yaiza (IR)
Pallarés López, Manuel Víctor (IR)
Payán Pernía, Salvador (FGS)
Pujol Fernández, Paula (IR)
Rodríguez Fernández, Diana (IR)
Rosal Muntadas-Prim, María
Josefa (IR)
Saavedra Gerosa, Silvana Daniela
(FGS)
Tchatzou, Theopisti (IR)

Main Lines of Research

- ▶ Study of the molecular and cellular pathophysiology of hematologic cancers, particularly focusing on AML, CLL, and aggressive lymphomas.
- ▶ Study of the prognostic value of clinical and biological parameters in hematologic malignancies, including NGS characterization of large cohorts of patients.
- ▶ Design of new modalities of chemotherapy, biotherapy and drug treatment targeting molecular mechanisms.
- ▶ Design of new modalities of hematopoietic stem-cell transplantation and cell treatments, including CAR-T cell therapy.
- ▶ Psychological intervention and quality of life in patients with hematologic malignancies.

Scientific Challenges

- ▶ Identify new prognostic parameters for risk and therapeutic stratifications.
- ▶ Molecularly characterize acute myeloid leukemia and determine the prognostic value of known genes and other genes of uncertain significance (with the Hematology Laboratory).
- ▶ Evaluate targeted therapy in cell lines and animal models (with the Oncogenesis and Antitumor Drugs group).
- ▶ Reduce toxicity and increase availability of allogeneic transplants.
- ▶ Model leukemia and lymphoma in animals to better understand cell physiopathology and test new drugs (with the Oncogenesis and Antitumor Drugs group).
- ▶ Preclinical (mice) and clinical studies on immunotherapy for lymphoproliferative diseases. Development of noncommercial CAR-T cell therapies.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Oncogenesis and Antitumor Drugs (Dr. Ramon Mangues).
- ▶ Haematological Diagnosis (Dr. Josep Nomdedéu).
- ▶ Microbiology and Infectious Diseases (Dr. Pere Coll).

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, M. Granell, S. Brunet.
- ▶ Spanish CETLAM acute myeloid leukaemia and myelodysplasia group hospitals: S. Brunet, coordinator.
- ▶ 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). J. Sierra, member of the Nomination and Scientific Working Groups Committee.
- ▶ European Blood and Marrow Transplantation Group.

Active Grants

- ▶ Javier Briones Meijide. Terapia génica 2.0: nueva generación de vectores virales episomales de alta bioseguridad y su desarrollo pre-industrial. RTC-2015-3393-1. Ministerio de Economía y Competitividad. Duration: 2015-2019. 112,138.60 €.
- ▶ Javier Briones Meijide. Advancecat: aceleradora per al desenvolupament de teràpies avançades a Catalunya. COMRDI15-1-0013. BIOCAT. Duration: 2016-2019. 39,927.96 €.

- ▶ Javier Briones Meijide. Células T de memoria “STEM” transducidas con un receptor quimérico antígeno-específico (CAR) dirigido al antígeno BCMA en linfoma de Hodgkin. PI15/01383. Instituto de Salud Carlos III. Duration: 2016-2020. 51,500 €.
- ▶ Javier Briones Meijide. Memory stem T cells with optimized chimeric antigen receptors targeting CD30 for the treatment of peripheral T cells lymphomas. DJCLS 10R/2016. Fundació Josep Carreras. Duration: 2017-2020. 135,000 €.
- ▶ Carolina Moreno Atanasio. Anàlisi de l'expressió i funció del FcyRIIb en cèl·lules B normals i en leucèmia limfàtica crònica. Conveni CELLEX-2. Fundació CELLEX. Duration: 2015-2019. 118,181.82 €.
- ▶ Jordi Sierra Gil. Red de Terapia Celular (TerCel). RD16/0011/0028. Instituto de Salud Carlos III. Duration: 2017-2021. 3,945 €.
- ▶ Manuel Víctor Pallarés López. Nanoconjugados para la terapia dirigida a células de leucemia mieloide aguda que expresan CXCR4, receptor implicado en adhesión al estroma y quimiorresistencia. FEHH 2016. Fundación Española de Hematología y Hemoterapia. Duration: 2017-2019. 72,000 €.
- ▶ Jordi Sierra Gil. EURE-CART EUROpean Endeavour for Chimeric Antigen Receptor Therapies. H2020-SC1-PM09-EURE-CART. European Union. Duration: 2017-2020. 195,552 €.
- ▶ Jordi Sierra Gil. Estudio post-autorización prospectivo de terapia adaptada al riesgo en la leucemia mieloide aguda y síndromes mielodisplásicos de alto riesgo: importancia del perfil genómico y de la enfermedad residual mínima en la asignación del tratamiento. SLT002/16/00433. Departament de Salut. Duration: 2017-2019. 222,472.60 €.
- ▶ Carmen Álvarez Fernández. Inmunoterapia mediante linfocitos T de memoria STEM con receptores antígeno-específicos (CARs) en linfoma de Hodgkin. AIO 2017. Asociación Española Contra el Cáncer. Duration: 2017-2019. 85,000 €.
- ▶ Jordi Sierra Gil. Implicación de la vía CXCR4/CXCL12/CXCR7 en la resistencia, recidiva y fenotipo de célula madre de la leucemia mieloide aguda. PI17/01246. Instituto de Salud Carlos III. Duration: 2018-2020. 73,000 €.
- ▶ Jordi Sierra Gil. Grup de Diagnòstic i Tractament de les Neoplàsies Hematològiques. 2017 SGR 1395. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020. 35,200 €.
- ▶ Javier Briones Meijide. Modulació farmacològica y diseño de CARs duales inmunoestimuladores para inmunoterapia con células T de memoria stem con alta eficacia antitumoral. PI18/01023. Instituto de Salud Carlos III. Duration: 2019-2021. 92,000 €.
- ▶ Yaiza Núñez Amela. Desarrollo de nanopartículas para la entrega dirigida de fármacos a células madre leucémicas CXCR4+. FI18/00268. Instituto de Salud Carlos III. Duration: 2019-2023. 82,400 €.
- ▶ Silvana Ana Rina Novelli Canales. ATAC-seq as a reliable and fast method for peripheral T-cell lymphoproliferation subclassification. FEHH-CRIS 2019. Fundación Española de Hematología y Hemoterapia. Duration: 2019-2020. 45,000 €.
- ▶ Nela Klein González. Células T CAR modificadas genéticamente con receptores quiméricos coestimuladores para incrementar su eficacia antitumoral. FEHH 2018. Fundación Española de Hematología y Hemoterapia. Duration: 2019-2020. 36,000 €.
- ▶ Javier Briones Meijide. Avaluació clínica dels MTA tipus CAR-TCELL. Convenio BST 2018. Banc de Sang i Teixits. Duration: 2018-2021. 82,066 €.
- ▶ Javier Briones Meijide. Generació de limfòcits T memòria “STEM” modificats amb receptors quimèrics antígen-específic (CARs) per immunoteràpia adoptiva en limfoma. LA CAIXA 2018. Fundació La Caixa. Duration: 2019-2022. 1,818,181.80 €.
- ▶ Jordi Sierra Gil. Estudio post-autorización prospectivo de terapia adaptada al riesgo en la leucemia mieloide aguda y síndromes mielodisplásicos de alto riesgo: importancia del perfil genómico y de la enfermedad residual mínima en la asignación del tratamiento. SLT002/16/00433-01. Departament de Salut. Duration: 2017-2019. 133,701.60 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Carolina Moreno Atanasio. Nuevas estrategias para monitorizar la enfermedad mínima residual (EMR) en la Leucemia Linfática Crónica. PI19/00753. Instituto de Salud Carlos III. Duration: 2020-2022. 82,000 €.
- ▶ Javier Briones Meijide. Non-invasive tumor immunoglobulin gene next generation sequencing from circulating tumor DNA in diffuse large B cell lymphoma: prognostic implications and assessment of tumor response. GILEAD 2019-1, Gilead Sciences, S.L.U. Duration: 2019-2021. 45,450 €.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Alba Mora Raya. New biological markers for the diagnosis and prognosis of chronic lymphocytic leukemia. Universitat Autònoma de Barcelona. Director: Carolina Moreno Atanasio. Date of defense: 28/11/2019.

Scientific Production

Total Impact Factor: 216.636 · Mean Impact Factor: 5.5547

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- ▶ Coutre SE, Byrd JC, Hillmen P, Barrientos JC, Barr PM, Devereux S, Robak T, Kipps TJ, Schuh A, Moreno C, Furman RR, Burger JA, O'Dwyer M, Ghia P, Valentino R, Chang S, Dean JP, James DF, O'Brien SM. Long-term safety of single-agent ibrutinib in patients with chronic lymphocytic leukemia in 3 pivotal studies. (2019) *BLOOD ADV* Jun 25;3(12):1799-1807.
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- ▶ Rashidi A, Hamadani M, Zhang MJ, Wang HL, Abdel-Azim H, Aljurf M, Assal A, Bajel A, Bashey A, Battiwalla M, Beitinjaneh AM, Bejanyan N, Bhatt VR, Bolaños-Meade J, Byrne M, Cahn JY, Cairo M, Ciurea S, Copelan E, Cutler C, Daly A, Diaz MA, Farhadfar N, *et al.* Outcomes of haploidentical vs matched sibling transplantation for acute myeloid leukemia in first complete remission. (2019) *BLOOD ADV* Jun 25;3(12):1826-1836.
- ▶ Yeshurun M, Weisdorf D, Rowe JM, Tallman MS, Zhang MJ, Wang HL, Saber W, de Lima M, Sandmaier BM, Uy G, Kamble RT, Cairo MS, Cooper BW, Cahn JY, Ganguly S, Camitta B, Verdonck LF, Dandoy C, Diaz MA, Savani BN, George B, Liesveld J, *et al.* The impact of the graft-versus-leukemia effect on survival in acute lymphoblastic leukemia. (2019) *BLOOD ADV* Feb 26;3(4):670-680.

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- ▶ Martino R. Other Life-Threatening Infections. In: Carreras E, Dufour C, Mohty M, Kröger N, editors. *The EBMT Handbook: Hematopoietic Stem Cell Transplantation and Cellular Therapies* [Internet]. 7th ed. Cham (CH): Springer; 2019. Chapter 39. PMID: 32091817.

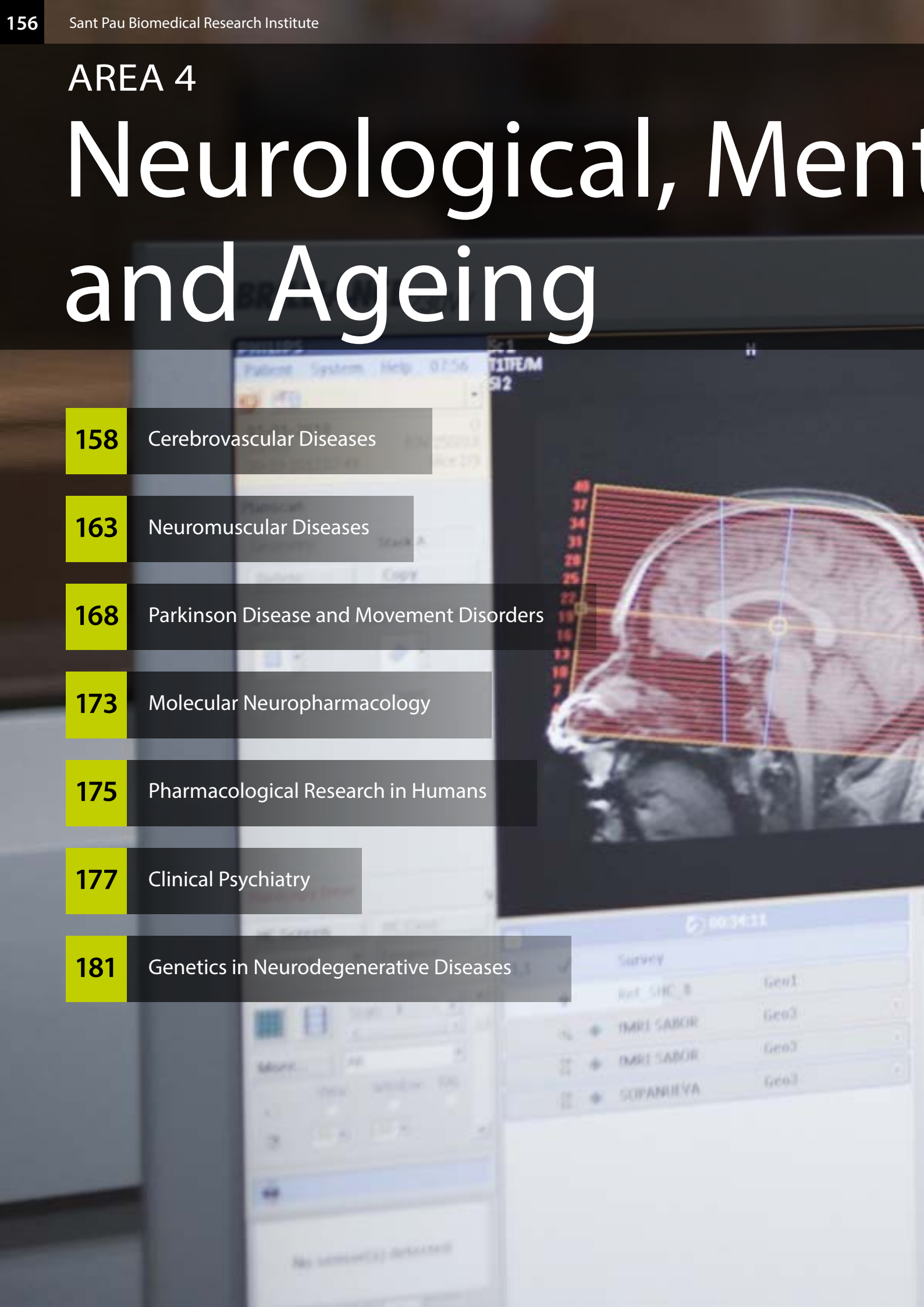
Diffusion Activities

- ▶ Jordi Sierra. Medicina de Precisión. Cáncer Hematológico: de la Investigación Clínica al Acceso de Medicamentos. Madrid, Spain, 6 February, 2019.
- ▶ Jordi Sierra. Leucemia Mieloide Aguda: Terapéutica adaptada el riesgo. Perspectivas en Oncología VII. Porto, Portugal, 7-9 February 2019
- ▶ Jordi Sierra. Papel del Trasplante Alogénico en 2019. Puesta al día en Hematología 4ª Edición. Pamplona, Spain, 14-15 March 2019.
- ▶ Irene García-Cadenas, Rodrigo Martino, Albert Esquirol, Anna Bosch, Laura Martínez-Martínez, JM Portos, Silvana Saavedra, Rahi Awol, Salut Brunet, Cándido Juárez, Jordi Sierra. Fecal calprotectin as a useful tool in the differential diagnosis of new onset diarrhea after allogeneic stem cell transplantation. Poster. 45th Annual Meeting of the European Society for Blood and Marrow Transplantation. Frankfurt, Germany, 24-27 March 2019. Published in: Bone Marrow Transplantation volume 54, pages144-619(2019).
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- ▶ Rahinatu Awol, Irene García-Cadenas, Rodrigo Martino, Albert Esquirol, Silvana Saavedra, Silvana Novelli, Ana Garrido, Jordi Lopez, Miquel Granell, Carolina Moreno, Javier Briones, Salut Brunet, Jordi Sierra. Incorporating post-transplant cyclophosphamide-based prophylaxis as standard-of-care in HLA matched sibling or unrelated donor transplantation for patients with an increased risk OF GVHD. 45th Annual Meeting of the European Society for Blood and Marrow Transplantation. Oral communication. Frankfurt, Germany, 24-27 March 2019. Published in: Bone Marrow Transplantation volume 54, pages16-141(2019)
- ▶ Marta Pratcorona, Christophe Peczynski, Myriam Labopin, Dietrich Beelen, Christoph Schmid, Jean Henry Bouhris, Xavier Poiré, Arnold Ganser, Pavel Jindra, Jorge Sierra, Johanna Tischer, Mar Tormo, Johan Maertens, Marina Díaz-Beyá, Jürgen Finke, Audrey Mailhol, Mohamad Mohty, Jordi Esteve, Arnon Nagler. 45th Annual Meeting of the European Society for Blood and Marrow Transplantation. Favourable outcome after allogeneic hematopoietic cell transplantation in first complete remission for AML with MLL (KMT2A) partial tandem duplication: An analysis by the ALWP. Oral communication. Frankfurt, Germany, 24-27 March 2019. Published in: Bone Marrow Transplantation volume 54, pages16-141(2019).
- ▶ Jordi Sierra. Hematology-Personalised Treatment and Personalised Prevention. 7th Annual Presidency Conference: "Forward as one: Healthcare Innovation and the need for policymaker engagement". Brussels (Belgium), 9 April 2019.
- ▶ Jordi Sierra. Acute Leukemias: FLT3-AML. XI International Florence Meeting on Hematology: Focus on treatment in difficult scenarios. Florence, Italy, 4-5 April 2019.
- ▶ Jorge Sierra. Current state of development of CAR T-cells in Europe: The Spanish example. CAR T cells Workshop. Paris, France, 15 April 2019.
- ▶ Carol Moreno. Opciones de tratamiento de la LLC en 2019. Hematology Medical Education: Optimizando el tratamiento de la LLC y MW en 2019. Barcelona, Spain, 13 May 2019.
- ▶ Bosch-Vilaseca, A.; García-Cadenas, I.; Esquirol, A.; Awol, R.; Saavedra, S.; Briones, J.; Brunet, S.; Sierra, J.; Martino, R. Severe infections in allogeneic stem cell transplant recipients receiving post-transplant cyclophosphamide as GVHD prophylaxis: haploidentical vs matched related or unrelated donor transplantation. Poster. 24th European Hematology Association Congress. Amsterdam, Holland 13-16 June 2019. Published in: HemaSphere. 3(S1):329, June 2019.
- ▶ Oñate, G.; Bataller, A.; Garrido, A.; Esteve, J.; Arnan, M.; Vives, S.; Coll, R.; García, A.; Salamero, O.; de Llano, M.P. Queipo; Aljarilla, A.; Brunet, S.; Nomdedeu, J.; Sierra, J.; Pratcorona, M. Impact of DNMT3A mutational status in molecular measurable residual disease clearance in acute myeloid leukemia with mutated NPM1. Poster. 24th European Hematology Association Congress. Amsterdam, Holland, 13-16 June 2019. Published in: HemaSphere. 3(S1):447-448, June 2019.
- ▶ Jordi Sierra. Management of young AML (outside transplant). 2nd Annual Meeting of the International Academy for Clinical Hematology (IACH). Paris, France, 19-21 September 2019.
- ▶ Carol Moreno. Clinical Assessment of CLL. XVIII International Workshop on CLL. Edinburgh, Scotland, 20-23 September 2019.
- ▶ Jordi Sierra. Co-organizer. Foro SANOFI de Debate en Hematología. Barcelona, Spain 28th September 2019.
- ▶ Jordi Sierra. Advances in the Treatment of AML: The role of maintenance with FLT3 inhibitors. 8ª Actualización en el tratamiento de la Leucemia Mieloide Aguda. Madrid, Spain, 4-5 October 2019.
- ▶ Carol Moreno. Patología Linfoide, Leucemias Linfocíticas, Linfomas e Inmunoterapia: Leucemia Linfática Crónica. Jornada en Inmunoterapia y Hemopatías. Barcelona, Spain, 11 October 2019.



AREA 4

Neurological, Mental and Ageing

- 
- The background image features a computer monitor displaying a brain scan on the right side and a software interface on the left. The brain scan shows a sagittal view of a human head with a red grid overlay and a yellow circle highlighting a specific area. The software interface includes a menu bar with 'Patient', 'System', and 'Help' options, and a table with columns for 'Survey', 'Ref. SIC', and 'Geo'. The table contains several rows of data, including 'IMRI SABOR' and 'SOPANIEVA'.
- 158 Cerebrovascular Diseases
 - 163 Neuromuscular Diseases
 - 168 Parkinson Disease and Movement Disorders
 - 173 Molecular Neuropharmacology
 - 175 Pharmacological Research in Humans
 - 177 Clinical Psychiatry
 - 181 Genetics in Neurodegenerative Diseases

tal Disorders

184 Neurobiology of Dementia

192 Neuroradiology

194 Addictive Behaviours

197 Molecular Physiology of the Synapse

200 Stroke Pharmacogenomics and Genetics



AREA 4 · Neurological, Mental Disorders and Ageing

Cerebrovascular Diseases



Coordinator

Martí Fàbregas, Joan (FGS)
jmarti@santpau.cat

Members

Bosch de Basea Gómez, Ana (IR)
Camps Renom, Pol (FGS)
Delgado Mederos, Raquel (FGS)
Fischer, Jonas Benedikt (IR-external)
Giovannella, Martina (external entity)
Guisado Alonso, Daniel (IR)
Jimenez Xarrie, Elena (IR)

Marín Bueno, Rebeca (IR)
Martínez Domeño, Alejandro (FGS)
Maruccia, Federica (external entity)
Montoliu Núñez, Lara (external entity)
Navarro Roman, Marta (IR)
Prats Sánchez, Luis Antonio (FGS)
Puig Grifol, Núria (IR)

Main Lines of Research

- ▶ Brain neurorepair after stroke.
- ▶ Role of statins in ischemic and hemorrhagic stroke.
- ▶ Intracerebral hemorrhage: Prevention of cerebral hemorrhage with anticoagulants, prevention and treatment of hematoma growth, etiological classification, multicenter registry.
- ▶ Endothelial progenitor cells in stroke.
- ▶ Reperfusion therapies: Benefits and risks of intravenous thrombolysis and mechanical thrombectomy, collateral circulation in acute ischemic stroke.
- ▶ Noninvasive monitoring of cerebral flow with applied optic methods.
- ▶ Vulnerability of the atherosclerotic plaque.
- ▶ Stroke and infection with COVID19.
- ▶ Participation in clinical trials.

Scientific Challenges

- ▶ Enhance cooperation with other groups in the framework of Spanish stroke research.
- ▶ Spanish research network (RETICS/INVICTUS PLUS) and also intrahospital and extra-hospital cooperation.
- ▶ To obtain funding from FIS, European community calls, regional authorities and private companies.
- ▶ Increase the number of contracted and grant-aided researchers and professionally develop existing researchers.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Neuroradiology.
- ▶ Thrombosis and Haemostasis.
- ▶ Cardiovascular Biochemistry.
- ▶ Neurobiology of Dementia.
- ▶ Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases.
- ▶ Stroke Pharmacogenomics and Genetics
- ▶ Genomics of Complex Diseases
- ▶ Clinical Epidemiology and Healthcare Services
- ▶ Regulatory Mechanisms of Cardiovascular Remodelling
- ▶ Nuclear Medicine

External Collaborations

- ▶ Dr. García-Verdugo, Universidad de Valencia, Spain.
- ▶ Dr. Carles Arús, Facultat de Ciències, Universitat Autònoma de Barcelona, Spain.

- ▶ Dr. Turgut Durduran, Instituto de Ciencias Fotónicas, Castelldefels, Barcelona, Spain.
- ▶ Dr. Tomás Sobrino, Hospital General Universitario, Santiago de Compostela, Spain.
- ▶ Dr. Blanca Fuentes, Hospital La Paz, Madrid, Spain.
- ▶ Dr. Ángel Chamorro, Hospital Clínico de Barcelona, Spain.
- ▶ Dr. Antonio Dávalos, Hospital Germans Trias i Pujol, Badalona, Spain.
- ▶ Dr. Jaume Roquer, Hospital del Mar, Barcelona, Spain
- ▶ Dr. Francesc Purroy, Hospital Arnau de Vilanova, Lleida, Spain.
- ▶ RETICS (cooperative health research network) / INVICTUS (ictus research)

Clinical trials

- ▶ SWITCH
- ▶ RESPECT-ESUS
- ▶ NAVIGATE-ESUS
- ▶ CONVINCENCE

- ▶ Dra. Jennifer Linn (SUSPECT study), University of Rochester, New York
- ▶ Dr. David Werring (HERO and CROMIS-2 study, Microbleeds consortium), National Hospital for Neurology and Neurosurgery, London.
- ▶ Dr. Peter Kelly (BIOVASC study, CONVINCe study), Mater University Hospital, Dublin.
- ▶ Dr. Ashkan Soamanesh (ENRICH-AF trial)

Active Grants

- ▶ Joan Martí Fàbregas. Estudio de la progresión y la vulnerabilidad de la aterosclerosis carotídea: influencia del recuento de Células Endoteliales Progenitoras y del control de factores de riesgo vascular. PI15/00884. Instituto de Salud Carlos III. Duration: 2016-2019. 106,500 €.
- ▶ Joan Martí Fàbregas. REgenerative Stem cell therapy for STroke in Europe - RESSTORE. PHC-15-2015. Unió Europea. Duration: 2015-2020. 389,58 €.
- ▶ Joan Martí Fàbregas. Red de Enfermedades Vasculares Cerebrales. INVICTUS PLUS. RD16/0019/0010. Instituto de Salud Carlos III. Duration: 2017-2021. 125,020 €.
- ▶ Raquel Delgado Mederos. Cerebral blood flow-guided early rehabilitation intervention after stroke: a pilot randomized trial. MARATO 20170930. Fundació La Marató de TV3. Duration: 2018-2021. 118,500 €.
- ▶ Elena Jiménez Xarrie. Biomarcadors lipoproteics per determinar la inflamació de la placa carotídea en l'íctus isquèmic. MARATO 20171610. Fundació La Marató de TV3. Duration: 2018-2021. 158,060 €.
- ▶ Joan Martí Fàbregas. Malalties Vasculares Cerebrals. 2017 SGR 00665. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Daniel Guisado Alonso. Evaluación multidisciplinar del pronóstico neurológico tras una muerte súbita cardiaca. CM18/00065. Instituto de Salud Carlos III. Duration: 2019-2021. 53,732 €.
- ▶ Joan Martí Fàbregas. Registre multicèntric de pacients amb hemorràgia intracerebral a Catalunya (HIC-CAT). Dades sobre els circuits assistencials i avaluació del pronòstic en funció del temps fins a l'ingrés i del tipus de centre on es fa l'assistència. Fundació Ictus. Duration: 2019-2020. 57,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Joan Martí Fàbregas. 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. Duration: 2020-2022. 122,000 €.
- ▶ Pol Camps / Sonia Benítez González. Lipoproteínas modificadas y marcadores inflamatorios asociados con vulnerabilidad de placa carotídea e ictus isquémico. PI19/00421. Instituto de Salud Carlos III. Duration: 2020-2022, 108,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Prize to the scientific career in ICTUS, awarded by the Grupo de Estudio de Enfermedades Cerebrovasculares de la Sociedad Española de Neurología. November 2019.

Scientific Production

Total Impact Factor: 352.272 · Mean Impact Factor: 11.3636

Ahmed N, Audebert H, Turc G, Cordonnier C, Christensen H, Sacco S, Sandset EC, Ntaios G, Charidimou A, Toni D, Pristipino C, Köhrmann M, Kuramatsu JB, Thomalla G, Mikulik R, Ford GA, Martí-Fàbregas J, Fischer U, Thoren M, *et al.* Consensus statements and recommendations from the ESO-Karolinska Stroke Update Conference, Stockholm 11-13 November 2018. *Eur Stroke J.* 2019 Dec;4(4):307-317. Epub 2019 Sep 2. **IF: 1.77**

Bornstein NM, Saver JL, Diener HC, Gorelick PB, Shuaib A, Solberg Y, Thackeray L, Savic M, Janelidze T, Zarqua N, Yarnitsky D, Molina CA; ImpACT-24B investigators. An injectable implant to stimulate the sphenopalatine ganglion for treatment of acute ischaemic stroke up to 24 h from onset (ImpACT-24B): an international, randomised, double-blind, sham-controlled, pivotal trial. *Lancet.* 2019 Jul 20;394(10194):219-229. Epub 2019 May 24. **IF: 59.102**

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Carrera D., Gorchs M., Querol M., Abilleira S., Ribo M., Millan M., Ramos A., Cardona P., Urrea X., Rodríguez-Campello A., Prats-Sánchez L., Purroy F., Serena J., Canovas D., Zaragoza-Brunet J., Krupinski J.A., Ustrell X., Saura J., Garcia S., Mora M.A., Jimenez X., Davalos A., Perez De La Ossa N., Revalidation of the RACE scale after its regional implementation in Catalonia: A triage tool for large vessel occlusion (2019) *J NEUROINTERV SURG*, 11 (8), 751-756. **IF: 3.9250**

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Other Publications

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Diffusion Activities

Dissemination (Communications to Congresses)

- ▶ Sarah Lee, Adam MacLellan, Sebastián F Ameriso, Antonio Arauz, Karl G Häusler, Marcel Arnold, Lee A Birnbaum, Joan Martí-Fàbregas, Verónica V Olavarría, Amanda Taylor, Kanjana S Perera. Longitudinal Study of Young Patients with Embolic Stroke of Undetermined Source (ESUS). International Stroke Conference. Honolulu, May 2019.
- ▶ Clara Gregori-Pla, Rickson C. Mesquita, Christopher G. Favilla, David R. Busch, Igor Blanco, Lisa Kobayashi Frisk, Pol Camps-Renom, Michael T. Mullen, Joan Martí-Fàbregas, Luís Prats-Sánchez, Alejandro Martínez-Domeño, Raquel Delgado-Mederos, John A. Detre, Arjun G. Yodh, Turgut Durduran. A mild orthostatic challenge shows impairment of cerebrovascular autoregulation on the ipsilesional hemisphere of ischemic stroke patients. Diffuse Optical Spectroscopy and Imaging Conference. Munich, June 2019.
- ▶ Clara Gregori-Pla, Rickson C. Mesquita, Christopher G. Favilla, David R. Busch, Igor Blanco, Lisa Kobayashi Frisk, Pol Camps-Renom, Michael T. Mullen, Joan Martí-Fàbregas, Luís Prats-Sánchez, Alejandro Martínez-Domeño, Raquel Delgado-Mederos, John A. Detre, Arjun G. Yodh, Turgut Durduran. A mild orthostatic challenge shows impairment of cerebrovascular autoregulation on the ipsilesional hemisphere of ischemic stroke patients. *Brain* 2019.
- ▶ Sarah Lee, Adam MacLellan; Sebastian F Ameriso; Antonio Arauz; Karl G Häusler; Marcel Arnold; Lee A Birnbaum; Joan Martí-Fàbregas; Verónica V Olavarría; Amanda Taylor, Kanjana S Perera. Longitudinal Study of Young Patients With Embolic Stroke of Undetermined Source (ESUS). International Stroke Conference. Honolulu, February 2019.
- ▶ Xucla T, Prats-Sánchez L, Martí-Fàbregas J. Limitation of therapeutic effort in acute intracerebral hemorrhage: Do we apply it correctly? World Intracerebral Hemorrhage 2019. Granada, 19-21 May 2019.
- ▶ Peter J Kelly, P Camps-Renom, N Gianno, J Martí-Fàbregas, JC Baron, S Cronin, SB Coutts, E Dolan, A Fernández-Leon, S Foley, J Harbison, G Horgan, J McCabe, C McDonnell, J McNulty, V Sharma, D Williams, M Marnane, M O'Connell, S Murphy. A simple clinical score (SCAIL) including plaque inflammation-related metabolism on 18FDG-PET and stenosis severity identifies patients with carotid stenosis and early recurrent stroke. European Stroke Organization. Milan, 23-25 May 2019.
- ▶ P. Camps-Renom, L. Prats-Sánchez, F. Casoni, J.M. González-de-Echávarri, P. MarreroGonzález, I. Castrillón, R. Marin, E. Jiménez-Xarrié, R. Delgado-Mederos, A. Martínez-Domeño, D. Guisado-Alonso, J. Martí-Fàbregas. Carotid plaque neovascularization detected with contrast-enhanced ultrasound predicts ischemic stroke recurrence. European Stroke Organization. Milan, 23-25 May 2019.
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- ▶ Martinez-Majander, G. Ntaios, Y.Y. Liu, P. Ylikotila, H. Joensuu, J. Saarinen, K. Perera, J. Martí-Fàbregas, A. Chamorro, S. Rudilosso, L. Prats-Sánchez, S. Berkowitz, H. Mundl, E. Themeles, M. Tiainen, A. Demchuk, R.G. Hart, T. Tatlisumak. Cancer and antithrombotic treatment with rivaroxaban versus aspirin in the navigate esus trial N. European Stroke Organization, Milan, 23-25 May 2019.
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- ▶ J. Martí-Fàbregas. Left atrial appendage closure effectiveness in patients with prior intracranial hemorrhage after long-term follow-up. European Stroke Organization, Milan, 23-25 May 2019.
- ▶ L. Prats-Sánchez, P. Camps-Renom, A. Martínez-Domeño, R. Delgado-Mederos, T. Xuclà, M. Guasch, D. Guisado-Alonso, J. Martí-Fàbregas. Frequency, risk factors and outcome of normotensive patients with a deep supratentorial intracerebral hemorrhage. European Stroke Organization. Milan, 23-25 May 2019.
- ▶ L. Prats-Sánchez, A. Izquierdo, M. Caballero-Ávila, E. Juanola, A. Martínez-Domeño, P. Camps-Renom, R. Delgado-Mederos, D. Guisado-Alonso, J. Martí-Fàbregas. Long term outcome of patients with spontaneous intracerebral hemorrhage and hyperintense dwi lesions. European Stroke Organization. Milan, 23-25 May 2019.
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- ▶ Jonas B. Fischer, Lisa Kobayashi Frisk, Izaskun Belmonte Jimeno, Anna Bosch De Basea Gomez, Marta Navarro Roman, Udo M. Weigel, Daniel Guisado Alonso, Joan Martí-Fàbregas, Raquel Delgado-Mederos and Turgut Durduran. Pulsatile hemodynamic parameters as a biomarker of cerebral health during the first mobilization of stroke patients. FNIRS UK 2019.
- ▶ Marta Caballero, Luis Prats-Sánchez, Pol Camps-Renom, Alejandro Martínez Domeño, Raquel Delgado-Mederos, Daniel Guisado-Alonso, Luís Martínez, Sònia Abilleira, Joan Martí-Fàbregas. On són tractats els pacients amb hemorràgia intracerebral? XXIII Annual Meeting of the Societat Catalana de Neurologia. Barcelona, 9-10 May 2019.
- ▶ Izquierdo Tapiz, Artur A. Izquierdo-Tapiz, L. Prats-Sánchez, P. Camps-Renom, A. Martínez-Domeño, R. Delgado-Mederos, T. Xuclà, M. Guasch, D. Guisado-Alonso, J. Martí-Fàbregas. Frequency, risk factors and outcome of normotensive patients with a deep supratentorial intracerebral hemorrhage. XXIII Annual Meeting of the Societat Catalana de Neurologia, Barcelona, 9-10 May 2019.
- ▶ Juanola Mayos, Eduard, Carbayo A, Freixa X, Llull L, Agudelo V, Arzamendi Aizpurua D, Millán-Álvarez X, Martínez-Domeño A, Camps-Renom P, Prats-Sánchez L, Delgado-Mederos R, Martí-Fàbregas J. Left atrial appendage closure effectiveness in patients with prior intracranial hemorrhage after long-term follow-up. XXIII Annual Meeting of the Societat Catalana de Neurologia. Barcelona, 9-10 May 2019.
- ▶ Elena Muiño, Natalia Cullèll, Caty Carrera, Nuria P Torres-Aguila, Jara Cárcel-Márquez, Jonathan González-Sánchez, Ferran Olmos, E. Espejo, Álvaro March, Ramón Pujol, Carolina Soriano, Gemma Romeral, Olga Maisterra, Jurek Krupinski, Joan Martí-Fàbregas, Joan Montaner, Jaume Roquer, Israel Fernández-Cadenas. Els nivells d'TGFB β es troben disminuïts en les biòpsies de pell de pacients amb Cadasil. XXIII Annual Meeting of the Societat Catalana de Neurologia. Barcelona, 9-10 May 2019.
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- ▶ Daniel Guisado Alonso, Pol Camps Renom, Luis Prats Sánchez, Alejandro Martínez Domeño, Raquel Delgado Mederos, Elena Jiménez Xarrié, Ignasi Gich Saladich, Jordi Branera Pujol, Óscar Ayo Martín, et al. Circulación colateral ("colateroma") en ictus isquémico agudo con oclusión de gran vaso: Un estudio de los factores clínicos, radiológicos, plasmáticos y genéticos relacionados. III Annual Congress INVICTUS PLUS. Santiago de Compostela, 7-8 November 2019.
- ▶ Martí-Fàbregas J, Medrano-Martorell S, Merino E, Prats-Sánchez L, Marín R, Delgado-Mederos R, Martínez-Domeño A, Camps-Renom P, Jiménez-Xarrié E, Zedde M, Gómez-Choco M, Lara L, Boix A, et al.; Grupo de investigación del estudio HERO. Los marcadores radiológicos de microangiopatía cerebral avanzada ayudan a predecir el riesgo de hemorragia intracerebral en pacientes tratados con anticoagulantes

- orales. III Annual Congress INVICTUS PLUS. Santiago de Compostela, 7-8 November 2019.
- ▶ Nuria P Torres-Aguila; Caty Carrera; Elena Muiño; Natalia Cullell; Jara Cárcel-Márquez; Jonathan González-Sánchez; Cristina Gallego-Fabrega; Anna Penalba-Morenilla; Alejandro Bustamante; *et al.* Un estudio de genoma completo en 6.979 casos y controles descubre un nuevo locus asociado con ictus isquémico de tipo lacunar. III Annual Congress INVICTUS PLUS. Santiago de Compostela, 7-8 November 2019.
 - ▶ Natalia Cullell, Carolina Soriano-Tárraga, Cristina Gallego-Fábrega, Jara Cárcel, Caty Carrera, Nuria P Torres-Águila, Jonathan González-Sánchez, Elena Muiño, Manel Esteller, Manuel Castro de Moura, *et al.* Estudio de epigenome-wide association (EWAS) y mendelian randomization en el riesgo de ictus isquémico. III Annual Congress INVICTUS PLUS. Santiago de Compostela, 7-8 November 2019.
 - ▶ Francisco Purroy, Glòria Arqué, Joan Martí, Jorge Pagola, Ana Rodríguez. Remote ischemic preconditioning, a new neuroprotective paradigm in acute ischemic stroke. III Annual Congress INVICTUS PLUS. Santiago de Compostela, 7-8 November 2019.
 - ▶ Jara Cárcel-Márquez, Natalia Cullell, Caty Carrera, Elena Muiño, Cristina Gallego-Fabrega, Jonathan González-Sánchez, Joan Martí-Fàbregas, Joan Montaner, Carlos Cruchaga, Jin-Moo Lee, Dipender Gill, Guillaume Pare, Marina Mola, Jordi Jiménez, Jaume Roquer, Israel Fernández-Cadenas. Estudio genético para determinar si los niveles de metaloproteinasas son causa o consecuencia del ictus isquémico. III Annual Congress INVICTUS PLUS. Santiago de Compostela, 7-8 November 2019.
 - ▶ Juanola Mayos, E.; Carbayo, Á.; Freixa, X.; Martínez Domeño, A.; Llull, L.; Agudelo Montañez, V.H.; Arzamendi Aizpurua, D.; Camps Renom, P.; Prats Sánchez, L.; Delgado Mederos, R.; Martí Fabregas, J. Efectividad del cierre de la orejuela en pacientes con hemorragia intracraneal después del seguimiento a largo plazo. LXXI Annual Meeting of the SEN. Sevilla, 19-23 November 2019.
 - ▶ Xuclà Ferrarons, T.; Prats Sánchez, L.; Guasch Jimenez, M.; Caballero Ávila, M.; Izquierdo Tapiz, A.; Martínez Domeño, Á.; Delgado Mederos, R.; Camps Renom, P.; Guisado Alonso, D.; Martí Fàbregas, J. Limitación del esfuerzo terapéutico en pacientes con hemorragia intracerebral: ¿La aplicamos correctamente? LXXI Annual Meeting of the SEN. Sevilla, 19-23 November 2019.
 - ▶ Campo Caballero, D.; de la Riva Juez, P.; de Arce, A.M.; Purroy, F.; Fuentes, B.; Arenillas, J.F.; Krupinski, J.; Gómez Choco, M.; Palomeras, E.; Martínez, M.; Martí Fàbregas, J.; Castillo, J.; Ustrell, X.; Tejada, J.; Masjuan, J.; Garcés, M.; Serena, J. Tratamiento de reperfusión en el ictus isquémico agudo por disección espontánea cerebral y cervical: descripción de los resultados de un estudio nacional multicéntrico. LXXI Annual Meeting of the SEN. Sevilla, 19-23 November 2019.
 - ▶ Ruiz Barrio, I.; Vesperinas Castro, A.; Tauron Ferrer, M.; Camps Renom, P.; Martínez Domeño, A.; Prats Sánchez, L.; Guisado Alonso, D.; Rivilla Lizano, M.T.; Martí Fabregas, J.; Delgado Mederos, R. Rendimiento diagnóstico y pronóstico del estudio neurosonológico preoperatorio en pacientes sometidos a cirugía cardiaca. LXXI Annual Meeting of the SEN. Sevilla, 19-23 November 2019.
 - ▶ Vesperinas Castro, A.; Ruiz Barrio, Í.; Tauron Ferrer, M.; Camps Renom, P.; Martínez Domeño, A.; Prats Sánchez, L.; Rivilla Lizano, M.T.; Guisado Alonso, D.; Martí Fàbregas, J.; Delgado Mederos, R. Riesgo de ictus de la cirugía cardiaca en una cohorte contemporánea. LXXI Annual Meeting of the SEN. Sevilla, 19-23 November 2019.

Scientific Dissemination

- ▶ Predictors of intracerebral hemorrhage in ischemic stroke treated with fibrinolysis. World Intracerebral Hemorrhage 2019. Granada, 19-21 May 2019.
- ▶ Highlights of the European Stroke Organization Conference. Barcelona, 12 June 2019.
- ▶ Hemorragia encefálica hipertensiva, Hemorragia por trombolíticos y anticoagulantes, Tratamiento de la Hemorragia encefálica. Invited conferences in the Diplomado de Neurología. Universidad Católica de Santiago de Chile, 6 September 2019.
- ▶ Hemorragia cerebral y hemorragia subaracnoidea. Curso de Residentes del Grupo de Estudio de Enfermedades Cerebrovasculares de la Sociedad Española de Neurología. Bilbao, October 2019.
- ▶ III Meeting of the Neurología Crítica. Ponencia: ¿Es la hemorragia intracerebral una entidad trabale? Madrid, October 2019.
- ▶ Importancia clínica de los microbleeds. Symposium Retos en el Manejo de la Anticoagulación en el Paciente Mayor Neurológico. LXXI Reunión Anual de la Sociedad Española de Neurología. Sevilla, November 2019.

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Coordinator

Illà Sendra, Maria Isabel (FGS)
iilla@santpau.cat

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Carrasco Rozas, Ana (IR)
Cayuela Villanueva, Paula (IR)

De Luna Salva, Noemí (CIBERER)
Díaz Manera, Jorge Alberto (FGS)
Fernández Simón, Esther (IR)
Gallardo Vigo, Eduard (IR)
Llauger Rosselló, Jaume (FGS)
Lleixa Rodríguez, Maria Cinta (IR)
López Díaz, Víctor (IR)
Martín Aguilar, Lorena (IR)
Navas Madroñal, Miquel (IR)
Pascual Goñi, Elba (IR)

Pedrosa Hernández, Irene (FGS)
Piñol Jurado, Patricia (IR)
Querol Gutiérrez, Luis Antonio (FGS)
Reyes Leiva, David (IR)
Rojas García, Ricardo (FGS)
Suárez Calvet, Xavier (IR)
Turón Sans, Joana (FGS)
Vidal Fernández, Maria Nuria (IR)

Main Lines of Research

Accreditation after audit as CSUR-ENM center (2016), ERN-NMD center (2016), XUEC center (2019) for rare neuromuscular diseases. ISO certification for the study of specific autoantibodies in ENM. (All reviewed annually).

A) Autoimmune neuromuscular diseases (myasthenia and neuropathies)

- ▶ 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.
- ▶ Analysis of the innate immunity in inflammatory myopathies.
- ▶ Analysis of the impact of new immunomodulating therapies on IgG4 mediated Neuromuscular Diseases (NMD).
- ▶ Functional aspects of immune system cells (response to ligands, production of antibodies, etc).
- ▶ Phase I to III clinical trials in autoimmune neuromuscular diseases.
- ▶ 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.

B) Muscular dystrophy, dysferlinopathy and inflammatory myopathies

- ▶ 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 mechanisms in inflammatory myopathies (DM, necrotizing myopathies).
- ▶ Clinical trials in muscular dystrophies and metabolic muscle diseases.

C) Amyotrophic lateral sclerosis

- ▶ Gene profile of ALS patients in Spain.
- ▶ Biomarkers profile in different phenotypes of ALS.
- ▶ Cell models 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 developed 2D and 3D cell based assays to understand the effect of autoantibodies in myasthenia gravis.
- ▶ Advance in the knowledge of the pathogenetic mechanisms of inflammatory myopathies (DM, necrotizing myopathies).
- ▶ Search for new antigens and develop diagnostic tests with new biomarkers in immune-mediated neuropathies and myasthenia gravis.
- ▶ Implement new diagnostic and disease follow-up methods for muscular dystrophies resulting from dysferlinopathy and other myopathies research (biomarkers (miRNA, secretome), MRI, etc).
- ▶ Advance in the knowledge of the pathogenetic mechanisms involved in dysferlin deficiency and other 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.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Genetics in Neurodegenerative Diseases (J. Clarimon)
- ▶ Neurobiology of Dementia (A. Lleó)
- ▶ Genetic Diseases (P. Gallano)
- ▶ Inflammatory Diseases (C. Juárez)

External Collaborations

- ▶ Jerome Devaux. CNRS, Institut de Neurosciences de Montpellier, U1051R1, France.
- ▶ Xavier Navarro. Departament de Medicina, Institut de Neurociències, Universitat Autònoma de Barcelona, Spain.
- ▶ R. Martí, Elena Garcia Arumí, Tomás Pinós. CIBERER CB 06/07/015. Institut de Recerca Vall d'Hebron. Barcelona, Spain.

- ▶ Vilchez JJ. CIBERER CB 06/05/ 091. Hospital La Fe, Valencia, Spain.
- ▶ Al Chalabi A. King's College, London, UK
- ▶ Benveniste, O. Hôpital Salpêtrière, Paris, France.
- ▶ Nagaraju, K; Jaiswal, J. Children's Hospital, Washington DC, USA.
- ▶ Mouly, V. Institut de Myologie, Paris, France.
- ▶ Pinal I. National Institutes of Health, Bethesda, MD, USA.
- ▶ Lundberg I. Karolinska Institute, Stockholm, Sweden.
- ▶ Dalmau J. IDIBAPS, Barcelona.
- ▶ Selva-O'Callaghan A. Hospital Vall d'Hebron, Barcelona.
- ▶ Bart Jacobs. Erasmus Medical Center, Rotterdam, Netherlands.
- ▶ Simon Rinaldi. Oxford University, UK.
- ▶ Filip Eftimov. Amsterdam Medical Center, Netherlands.

Active Grants

- ▶ Maria Isabel Illa Sendra. Centro de Investigación Biomédica en Red de Enfermedades Neurodegenerativas. CIBERER. CB06/05/0030. Ministerio de Sanidad y Política Social. Duration: 2006-2020. 519,789.22 €.
- ▶ Eduard Gallardo Vigo. Influencia de factores inmunológicos y no inmunológicos en la patogenia de las miopatías inflamatorias. PI15/01597. Instituto de Salud Carlos III. Duration: 2016-2019. 91,500 €.
- ▶ Ricardo Rojas García. Identificación de biomarcadores diagnósticos en pacientes con Esclerosis Lateral Amiotrófica. PI15/01618. Instituto de Salud Carlos III. Duration: 2016-2019. 91,500 €.
- ▶ Luis Antonio Querol Gutiérrez. Identificación de autoanticuerpos en neuropatías inflamatorias y caracterización del fenotipo celular implicado en su desarrollo. PI16/00627. Instituto de Salud Carlos III. Duration: 2017-2019. 76,500 €.
- ▶ Maria Isabel Illa Sendra. Estudios moleculares y celulares en Miastenia Gravis: Correlaciones clínicas y terapéuticas. PI16/01440. Instituto de Salud Carlos III. Duration: 2017-2020. 111,500 €.
- ▶ Maria Isabel Illa Sendra. Aproximaciones terapéuticas en distrofias musculares mediante modelos celulares y animales. GEMIO 2016. Fundació Isabel Gemio. Duration: 2016-2020. 160,908.99 €.
- ▶ Eduard Gallardo Vigo. Recerca en Malalties Neuromusculars. 2017 SGR 01727. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Noemí de Luna Salva. Activación de la inmunidad innata en células deficientes en disferlina: nuevas dianas terapéuticas. F. Ramón Areces 2016. Fundació Ramón Areces. Duration: 2017-2019.
- ▶ Luis Antonio Querol Gutiérrez. ¿Identificació d'autoanticossos en neuropaties inflamatòries i caracterització del fenotip cel·lular implicat en el seu desenvolupament?. SLT006/17/00131. Departament de Salut. Duration: 2018-2019. 82,200.33 €.
- ▶ Rodrigo Álvarez Velasco. Contractes Río Hortega 2018. CM18/00063. Instituto de Salud Carlos III. Duration: 2019-2020. 53,732 €.
- ▶ Jorge Alberto Díaz Manera. Avances en técnicas de imagen y terapia en distrofias musculares: evaluación y tratamiento de la fibrosis. PI18/01525. Instituto de Salud Carlos III. Duration: 2019-2021. 107,000 €.
- ▶ Xavier Suárez Calvet. Nuevos aspectos fisiopatogénicos en la dermatomiositis. CD18/00195. Instituto de Salud Carlos III. Duration: 2019-2022. 80,598 €.
- ▶ Luis Antonio Querol Gutiérrez. Disease-Specific biomarkers in inflammatory neuropathies. GBS 2018. GBS CIDP Foundation International. Duration: 2018-2019. 25,000 €.
- ▶ Eduard Gallardo Vigo. SANOFI/GENZYME. GZ-2015-11342. Search of biomarkers in Pompe's Disease. Duration: 2017-2020. 134,920 €.
- ▶ Luis Antonio Querol Gutiérrez. Instituto Grifols, S.A. Molecular biomarkers of IVlg response in chronic inflammatory demyelinating polyradiculoneuropathy. Duration: 2019-2020. 95,000 €
- ▶ Jorge Alberto Díaz Manera. PDGF como nuevo biomarcador y diana terapéutica en pacientes con distrofia muscular. PI15/01822. Instituto de Salud Carlos III. Duration: 2016-2019. 92,565 €.
- ▶ Jorge Alberto Díaz Manera. Effect of Nintedanib in muscle fibrosis in a mouse model of sarcoglycanopathy and in the function of human and FAP cells. AFM 22525. Duration: 2019-2020. 49,200 €.
- ▶ Jorge Alberto Díaz Manera. Nintedanib as an antifibrotic drug in two murine models of muscle dystrophy. Boehringer Ingelheim. Duration: 2019-2020. 66,300 €.
- ▶ Jorge Alberto Díaz Manera. Caracterización del papel de los precursores fibroadipogénicos en el proceso degenerativo de las distrofias musculares. ACCI86 CIBERER. Duration: 2019-2020. 40,700 €.
- ▶ Luis Antonio Querol Gutiérrez. Detección de neurofilamentos en pacientes con enfermedades neuroinmunológicas raras. ACCI87 CIBERER. Duration: 2019-2020. 35,500 €.
- ▶ Ricardo Rojas García. Improving diagnostic yield and discovering novel genes causing hereditary spastic paraplegias and motor neuropathies using. ACCI85 CIBERER. Duration: 2019-2020. 5,000 €.
- ▶ Noemí de Luna Salva. Nueva aproximación farmacológica para el tratamiento la enfermedad de McArdle y otras glucogenosis minoritarias y actualización del registro europeo. ACCI77 CIBERER. Duration: 2019-2020. 13,800 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Lorena Martín Aguilar. Contratos Río Hortega 2019. CM19/00042. Instituto de Salud Carlos III. Duration: 2020-2021. 53,732 €.
- ▶ Luis Antonio Querol Gutiérrez. Biomarcadores diagnósticos y de daño tisular en neuropatías autoinmunes. PI19/01407. Instituto de Salud Carlos III. Duration: 2020-2022. 102,000 €.
- ▶ Ricardo Rojas García. 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. Duration: 2020-2022. 102,000 €.
- ▶ Maria Isabel Illa Sendra. 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. Duration: 2020-2022. 80,000 €.

- ▶ Jorge Alonso Pérez. Contratos Río Hortega 2019. CM19/00178. Instituto de Salud Carlos III. Duration: 2020-2022, 53,732 €.
- ▶ Rodrigo Álvarez Velasco. Desenvolupament d'un model tridimensional de teixit muscular humà in vitro per a la seva aplicació diagnòstica i terapèutica en la miastenia gravis. SLT008/18/00207. Departament de Salut. Duration: 2019-2021. 93,941.52 €.
- ▶ Elena Cortés Vicente. Contratos Juan Rodés 2019. JR19/00037. Instituto de Salud Carlos III. Duration: 2020-2024. 180,000 €.

- ▶ Jorge Alberto Díaz Manera. Effect of Nintedanib in muscle fibrosis in a mouse model of sarcoglycanopathy and in the function of human and mouse FAP cells. AFM 22525, The French Muscular Dystrophy Association (AFM-Téléthon). Duration: 2019-2020. 49,200 €.
- ▶ Eduard Gallardo Vigo. Aproximaciones terapéuticas en distrofias musculares mediante modelos celulares y animales. GEMIO 2019. Fundació Isabel Gemio. Duration: 2019-2022. 136,363.65 €.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Patricia Piñol Jurado. Papel del factor de crecimiento derivado de plaquetas BB en la distrofia muscular de Duchenne en humanos y estudio de nintedanib como tratamiento de un modelo murino de déficit de distrofia. Universitat Autònoma de Barcelona. Directors: Eduard Gallardo, Jordi Díaz. Date of defense: 05/11/2019.

Patents

- ▶ T. Pinós, N. De Luna, E. Gallardo, R. Martí, Compounds for treating a glycogen storage disease, EP19382320.0, European, 26/04/2019.
- ▶ J. Díaz, Boehringer Ingelheim, Nintedanib for use in methods for the treatment of muscular dystrophy, EP17163355.5, European, 01/10/2017.
- ▶ RH Brown, MF Ho, I ILLA, E Gallardo, Blood-based assay for dysferlinopathies, US7172858 B2, USA, Canada, Japan, 06/02/2007.

Scientific Production

Total Impact Factor: 152.808 · Mean Impact Factor: 5.0936

Alonso-Jimenez A., Kroon R.H.M.J.M., Alejandre-Monforte A., Nunez-Peralta C., Horlings C.G.C., Van Engelen B.G.M., Olive M., Gonzalez L., Verges-Gil E., Paradas C., Marquez C., Garibaldi M., Gallano P., Rodriguez M.J., *et al.*, Muscle MRI in a large cohort of patients with oculopharyngeal muscular dystrophy (2019) *J NEUROL NEUROSUR PS*, 90 (5), 576-585. **IF: 8.2720**

Andersen H., Mantegazza R., Wang J.J., O'Brien F., Patra K., Howard J.F., Mazia C.G., Wilken M., Barroso F., Saba J., Rugiero M., Bettini M., Chaves M., Vidal G., Garcia A.D., DeBleecker J., Van denAbeeke G., deKoning K., DeMey K., *et al.*, Eculizumab improves fatigue in refractory generalized myasthenia gravis (2019) *QUAL LIFE RES*, 28 (8), 2247-2254. **IF: 2.4880**

Carrasco-Rozas A., Fernandez-Simon E., Lleixa M.C., Belmonte I., Pedrosa-Hernandez I., Montiel-Morillo E., Nunez-Peralta C., Llauger Rossello J., Segovia S., De Luna N., Suarez-Calvet X., Illa I., Diaz-Manera J., Gallardo E., Identification of serum microRNAs as potential biomarkers in Pompe disease (2019) *ANN CLIN TRANSL NEUR*, 6 (7), 1214-1224. **IF: 4.6560**

Carreno-Gago L., Blazquez-Bermejo C., Diaz-Manera J., Camara Y., Gallardo E., Marti R., Torres-Torronteras J., Garcia-Arumi E., Identification and characterization of new RNASEH1 mutations associated with PEO syndrome and multiple mitochondrial DNA deletions (2019) *FRONT GENET*, 10 (JUN). **IF: 3.5170**

Carrera-García L., Natera-de Benito D., Lleixà C., Ortez C., Colomer J., Nascimento A., Saiz A., Dalmau J., Querol L., Armangué T. Chronic inflammatory demyelinating polyneuropathy associated with contactin-1 antibodies in a child. (2019) *NEUROL NEUROIMMUNOL NEUROINFLAMM*. Sep. 6(5). **IF: 7.353**

Chardon J.W., Diaz-Manera J., Tasca G., Bonnemann C.G., Gomez-Andres D., Heerschap A., Mercuri E., Muntoni F., Pichiecchio A., Ricci E., Walter M.C., Hanna M., Jungbluth H., Morrow J.M., Torron R.F., Udd B., Vissing J., Yousry T., Quijano-Roy S., Straub V., Carlier R.Y., MYO-MRI diagnostic protocols in genetic myopathies (2019) *NEUROMUSCULAR DISORD*, 29 (11), 827-841. **IF: 2.6120**

Dominguez-Gonzalez C., Hernandez-Lain A., Rivas E., Hernandez-Voth A., Sayas Catalan J., Fernandez-Torron R., Fuiza-Luces C., Garcia Garcia J., Moris G., Olive M., Miralles F., Diaz-Manera J., Caballero C., Mendez-Ferrer B., *et al.*, Late-onset thymidine kinase 2 deficiency: A review of 18 cases (2019) *ORPHANET J RARE DIS*, 14 (1), 100-. **IF: 3.6870**

Duchateau L., Martin-Aguilar L., Lleixa C., Cortese A., Dols-Icardo O., Cervera-Carles L., Pascual-Goni E., Diaz-Manera J., Calegari I., Franciotta D., Rojas-Garcia R., Illa I., Clarimon J., Querol L., Absence of pathogenic

mutations in CD59 in chronic inflammatory demyelinating polyradiculoneuropathy (2019) *PLOS ONE*, 14 (2). **IF: 2.7760**

Fernandez-Simon E., Carrasco-Rozas A., Gallardo E., Figueroa-Bonaparte S., Belmonte I., Pedrosa I., Montiel E., Suarez-Calvet X., Alonso-Perez J., Segovia S., Nunez-Peralta C., Llauger J., Mayos M., Illa I., Barba-Romero M.A., *et al.*, PDGF-BB serum levels are decreased in adult onset Pompe patients (2019) *SCI REP-UK*, 9 (1). **IF: 4.0110**

Fernandez-Simon E., Carrasco-Rozas A., Gallardo E., Gonzalez-Quereda L., Alonso-Perez J., Belmonte I., Pedrosa-Hernandez I., Montiel E., Segovia S., Suarez-Calvet X., Llauger J., Mayos M., Illa I., Barba-Romero M.A., Barcena J., *et al.*, Study of the effect of anti-rhGAA antibodies at low and intermediate titers in late onset Pompe patients treated with ERT (2019) *MOL GENET METAB*, 128 (1-2), 129-136. **IF: 3.6100**

Fernandez-Simon E., Diaz-Manera J., Gallardo E., De Luna N. Diagnosis of dysferlinopathies. (2019) *JOURNAL OF NEUROLOGY AND NEUROSURGERY* 10(4) 10. **IF: 0.854**

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Illan-Gala I, Pegueroles J, Montal V, Alcolea D, Vilaplana E, Bejanin A, Borrego-Ecija S, Sampedro F, Subirana A, Sanchez-Saudinos M-B, Rojas-García R, Vanderstichele H, Blesa R, Clarimon J, Antonell A, Llado A, Sanchez-Valle R, Fortea J, Lleó A., APP-derived peptides reflect neurodegeneration in frontotemporal dementia (2019) ANN CLIN TRANSL NEUR, 6 (12), 2518-2530. **IF: 4.6560**

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E., Juarez C., Illa I., Querol L., Clinical and laboratory features of anti-MAG neuropathy without monoclonal gammopathy (2019) SCI REP-UK, 9 (1). **IF: 4.0110**

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Diffusion Activities

▶ VIII Curso de Formación en Enfermedades Neuromusculares. Unitat de Malalties Neuromusculars. Hospital de la Santa Creu i Sant Pau and Institut de Recerca Sant Pau. May 2019.

▶ Diaz-Manera, J. Muscle MRI as an outcome measure. 24th International Annual Congress of the World Muscle Society (WMS). Copenhagen, Denmark. 1-5 October 2019. NEUROMUSCULAR DISORDERS; 29 (1): S121-S121. Abstract: I.9.

Communications to Congresses

▶ Alonso-Perez, J; Leon-Hernandez, J., *et al.* Canary Islands: clinical data from a long homogenous cohort of OPMD patients with (GCN)15 expansion. 24th International Annual Congress of the World Muscle Society (WMS). Copenhagen, Denmark. 1-5 October 2019. NEUROMUSCULAR DISORDERS; 29 (1): S140-S140. Abstract: P.251.

▶ Alonso-Perez, J.; Segovia-Simon, S.; Dominguez-Gonzalez, C., *et al.* Spanish Pompe registry: baseline characteristics of first 49 patients with adult onset of Pompe disease. 24th International Annual Congress of the World Muscle Society (WMS). Copenhagen, Denmark. 1-5 October 2019. NEUROMUSCULAR DISORDERS; 29 (1): S197-S197. Abstract: P.395.

▶ Alonso-Perez, J.; Nacimiento-Osorio, A.; Ortez-Gonzalez, C., *et al.* European collaboration on clinical and genetic heterogeneity of sarcoglycanopathies. 24th International Annual Congress of the World Muscle Society (WMS). Copenhagen, Denmark. 1-5 October 2019. NEUROMUSCULAR DISORDERS; 29 (1): S101-S101. Abstract: P.179.

▶ Dominguez-Gonzalez, C.; Badosa, C.; Madruga-Garrido, M.; *et al.* Growth differentiation factor 15 is a valuable biomarker of therapeutic response for TK2 deficient myopathy. 24th International Annual Congress of the World Muscle Society (WMS). Copenhagen, Denmark. 1-5 October 2019. NEUROMUSCULAR DISORDERS; 29 (1): S38-S38. Abstract: O.2.

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2019. NEUROMUSCULAR DISORDERS; 29 (1): S156-S156. Abstract: P.306.
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 - ▶ Legarda Campo, M.; Payan-Pernia, S.; Querol, L., *et al.* Role of the determination of homocysteine and metalmalonic acid in neurological disorders. 61st National Congress of the Spanish Society of Hematology and Hemotherapy. Valencia, Spain. 24-26 October 2019. HAEMATOLOGICA; 104 (3): 79. Abstract: CO-101.
 - ▶ Verghese, A.; Hiew, F. L.; Chia, Y. K., *et al.* Visual pathway demyelination in neurofascin-155 IGG4-positive combined central and peripheral demyelination. World Congress of Neurology (WCN). Emirates Neurol Soc, Dubai, United Arab Emirates. 27-31 October 2019. JOURNAL OF THE NEUROLOGICAL SCIENCES; 405 (S); UNSP 104821. Abstract: WCN19-0314.
 - ▶ Carreno-Gago, L.; Blazquez-Bermejo, C.; Diaz-Manera, J. Gallardo E; *et al.* Identification and characterization of new RNASEH1 mutations associated with PEO syndrome and multiple mtDNA deletions. 52nd Conference of the European Society of Human Genetics (ESHG). Gothenburg, Sweden. 15-18 June 2019. EUROPEAN JOURNAL OF HUMAN GENETICS; 27 (2): 1348-1349. Abstract: P06.38A.

AREA 4 · Neurological, Mental Disorders and Ageing

Parkinson Disease and Movement Disorders



Coordinator

Kulisevsky Bojarski, Jaime (FGS)
jkulisevsky@santpau.cat

Members

Aracil Bolanos, Ignacio (IR)
Bejr-Kasem Marco, Helena (IR)
Campolongo Perillo, Antonia (IR)
Gironell Carrero, Alexandre (FGS)
Horta Barba, Andrea (IR)

Izquierdo Barrionuevo, Cristina (IR)

Marín Lahoz, Juan (IR)
Martínez Horta, Saül Indra (IR)
Pagonabarraga Mora, Javier (FGS)
Pascual Sedano, Berta Marta (FGS)
Pérez González, Rocío (CIBERNED)
Pérez Pérez, Jesus (FGS)

Rivas Asensio, Elisa M. (CIBERNED)

Ruíz Martínez, Fernando (IR)
Sampedro Santaló, Frederic Vicenç (IR)
Tejero Álvarez, Elisabet (IR)

Main Lines of Research

Cognitive impairment, behavioral dysfunctions and other non-motor symptoms in Parkinson disease (PD)

- ▶ Study of the neural correlates of cognitive performance, mild cognitive impairment, dementia and behavioral alterations (apathy, visual hallucinations and impulse control disorders) in PD using neurophysiological techniques (event-related brain potentials), structural, functional and molecular neuroimaging.
- ▶ Characterization of the neurodegenerative process underlying cognitive impairment in PD through the study of cortical atrophy patterns related to genetic and biomarker indicators.
- ▶ Development and validation of PD-specific tools for cognitive and functional assessment to detect subtle changes in cognitive performance and treatment response.
- ▶ Prospective follow-up study of cognition and mood in PD patients with deep-brain stimulation of the subthalamic nucleus.
- ▶ Identification of blood-based, cognitive and neurophysiological biomarkers of cognitive deterioration in PD.
- ▶ Identification of genetic and neurophysiological biomarkers of apathy and impulse control disorders in PD.
- ▶ Data science applied to large PD databases such as PPMI.
- ▶ Surgery and treatments of continuous infusion of intraduodenal levodopa.
- ▶ Study of the effects of continuous infusion of intraduodenal levodopa on cognition and mood.
- ▶ Follow-up and etiologic study of weight loss in patients treated with continuous infusion of intraduodenal levodopa.

Huntington's disease (HD)

- ▶ Characterization of the natural course HD in large and international cohort and studies (Enroll-HD).

- ▶ Study of the neural correlates of clinical progression, cognitive performance, mild cognitive impairment, dementia and behavioral alterations in HD using neurophysiological techniques (event-related brain potentials), structural, functional and molecular neuroimaging.
- ▶ Identification of potential neuroimaging, blood-based, muscular tissue, CSF and clinical biomarkers of disease progression in premanifest and manifest HD.
- ▶ Study of the prevalence and neural substrates of behavioral alterations in premanifest and manifest HD.
- ▶ Development and validation of HD-specific tools for cognitive and functional assessment to detect subtle changes in cognitive performance and treatment response.
- ▶ Study of the effect of intermediate alleles and homozygosity 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.

Progressive supranuclear palsy (PSP)

- ▶ Development of a PSP-specific cognitive rating scale.
- ▶ Development of a standardized eye-movement evaluation.
- ▶ Study of the neural correlates of clinical progression, cognitive performance and behavioral alterations in PSP using structural and functional neuroimaging.

Essential tremor

- ▶ Molecular neuroimaging in essential tremor.
- ▶ Clinical, neurophysiological and neuroimaging assessment of patients with FXTAS (fragile X-associated tremor/ataxia syndrome).

Scientific Challenges

1. Parkinson's Disease (PD)

A. 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.

B. Cognition

- ▶ DuoCog: randomized, double-blind, crossed study (immediate levodopa vs. intraduodenal in cognition and mood).

C. 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.

D. 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's 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 Disease and other Movement Disorders' Laboratory

- ▶ Identification of molecular signatures and biomarker analysis in HD and PD.
- ▶ Optimization of exosome isolation from human biological fluids.
- ▶ Molecular studies of exosomes in cellular models of HD.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Neuroradiology.
- ▶ Nuclear Medicine.
- ▶ Psychiatry.

External Collaborations

- ▶ Cognition and Brain Plasticity Group. Bellvitge Health Science Campus at the University of Barcelona adscribed to the Department of Basic Psychology (Faculty of Psychology, University of Barcelona) and the IDIBELL (Institut d'Investigació Biomèdica de Bellvitge).
- ▶ Computational Neuroscience Group, Departament de Tecnologies de la Informació i les Comunicacions, University Pompeu Fabra, Barcelona.
- ▶ Functional Genomics of Neurodegenerative Diseases Group. Neuroscience Institute, University of Barcelona.

- ▶ Professor Olaf Blanke, Laboratory of Cognitive Neuroscience. École Polytechnique Fédérale de Lausanne (EPFL), Switzerland.
- ▶ Centro de Investigación Biomédica en Red de Enfermedades neurodegenerativas (CIBERNED), Instituto de Salud Carlos III.
- ▶ International Movement Disorders Society (MDS). Task Force for Developing Rating Scales in Parkinson's Disease (Subcommittee for Cognitive Evaluation).
- ▶ MDS Task Force for Mild Cognitive Impairment in Parkinson's Disease.
- ▶ MDS Task Force for Evidence Based Medicine in Huntington's Disease.
- ▶ Spanish Coordinator of the European Huntington Disease Network and the ENROLL Study (Cure for Huntington's Disease International - CHDI).
- ▶ Coordination of the Cognitive Phenotype Working Group of the European Huntington's Disease Network (EHDN).

Active Grants

- ▶ Jaime Kulisevsky Bojarski. Huntington's Disease Network. EHDN. Duration: 2010-2021. 199,560 €.
- ▶ Jaime Kulisevsky Bojarski. Centro de Investigación Biomédica en Red de Enfermedades Neurodegenerativas. CIBERNED. CB06/05/0047. Ministerio de Sanidad y Política Social. Duration: 2006-2020. 902,569.93 €.
- ▶ Javier Pagonabarraga Mora. Marcadores en sangre y neurofisiológicos de la progresión del deterioro cognitivo en la enfermedad de Par-

kinson. PI14/02058. Instituto de Salud Carlos III. Duration: 2015-2019. 54,500 €.

- ▶ Jaime Kulisevsky Bojarski. Correlatos anatómico-funcionales de los trastornos del control de impulsos y apatía en la enfermedad de Parkinson. PI15/00962. Instituto de Salud Carlos III. Duration: 2016-2020. 61,500 €.
- ▶ Jesús Pérez Pérez. Contratos Juan Rodés 2016. JR16/00034. Instituto de Salud Carlos III. Duration: 2017-2020. 135,000 €.

- ▶ Jesús Pérez Pérez. 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. Duration: 2018-2020. 97,000 €.
- ▶ Helena Bejr-Kasem Marco. Contractes de formació en recerca "Río Hortega" 2017. CM17/00209. Instituto de Salud Carlos III. Duration: 2018-2019. 53,732 €.
- ▶ Jaime Kulisevsky Bojarski. Grup de Trastorns del Moviment de l'Hospital de la Santa Creu i Sant Pau. 2017 SGR 00935. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Jaime Kulisevsky Bojarski. Desarrollo de un medicamento para el tratamiento de los movimientos coreicos asociados a la enfermedad de Huntington. RTC-2017-6354-1. Ministeri d'Economia i Competitivitat. Duration: 2018-2020. 96,672 €.
- ▶ Jaime Kulisevsky Bojarski. Historia natural y correlatos neuronales de los síntomas psicóticos en pacientes con enfermedad de Parkinson. PI18/01717. Instituto de Salud Carlos III. Duration: 2019-2021. 77,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Ignacio Aracil Bolaños. Contratos Río Hortega 2019. CM19/00156. Instituto de Salud Carlos III. Duration: 2020-2021. 53,732 €.
- ▶ Javier Pagonabarraga Mora. Disfunció de xarxes neuronals en el desenvolupament de trastorns cognitius, conductuals i psiquiàtrics en la malaltia de Parkinson i altres Trastorns del Moviment. SLT008/18/00088. Departament de Salut. Duration: 2019-2021. 160,427.87 €.
- ▶ Frederic Vicens Sampedro Santaló. Contractes de tècnics bioinformàtics de recolçament als IIS 2019. CA19/00007. Instituto de Salud Carlos III. Duration: 2020-2021. 53,732 €.
- ▶ Saül Indra Martínez Horta. Neurobiological mechanisms subserving the differential expression and rate of progression of cognitive impairment in Huntington's disease. HDSA 2019. Huntington's Disease Society of America. Duration: 2019-2021. 111,389.46 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 190.545 · Mean Impact Factor: 5.6042

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Santos-Garcia D., de Deus Fonticoba T., Suarez Castro E., Aneiros Diaz A., Paz Gonzalez J.M., Feal Panceiras M.J., Garcia Sancho C., Jesus S., Mir P., Aguilar M., Pastor P., Hernandez Vara J., de Fabregues-Boixar O., Puente V., *et al.*, High ultrasensitive serum C-reactive protein may be related to freezing of gait in Parkinson's disease patients (2019) *J NEURAL TRANSM*, 126 (12), 1599-1608. **IF: 2.9030**

Vollstedt E.-J., Kasten M., Klein C., Aasly J., Adler C., Ahmad-Annuar A., Albanese A., Alcalay R.N., Al-Mubarak B., Alvarez V., Andree-Munoz B., Annesi G., Appel-Cresswell S., Arkadir D., Armasu S., Barber T.R., Bardien S., *et al.*, Using global team science to identify genetic parkinson's disease worldwide (2019) *ANN NEUROL*, 86 (2), 153-157. **IF: 9.4960**

Other Publications

▶ Gironell A, Marin-Lahoz J. Primary Orthostatic Tremor: Experience of Perampanel Use in 20 Patients. *TREMOR OTHER HYPERKINET MOV (N.Y.)*. 2019 Oct 14;9.

▶ Gironell A. Holmes' Tremor or Functional Tremor: Neuropsychological Criteria can Help Diagnosis. *CLIN NEUROPHYSIOL PRACT*. 2019 Jan 25; 4:9-10

Diffusion Activities

Dissemination Activities to Society

▶ Parkinson's Disease Open House Days (for patients and families). Unitat de Trastorns del Moviment, Servei de Neurologia, Hospital de la Santa Creu i Sant Pau. Barcelona, Spain, 28 May 2019. Organizers.

▶ Antonia Campolongo, Cristina Izquierdo. Speakers in Reunión Desafío de Enfermería en Duodopa. Madrid, Spain, 8 May 2019.

▶ Berta Pascual. Workshop Manejo de diferentes perfiles del paciente con Duodopa: Terapia dual Duodopa + estimulación cerebral profunda (síntomatología motora). 6º Desafío Nacional de Enfermedad de Parkinson Avanzada. 9 November 2019.

▶ Jaime Kulisevsky, co-organizer and lecturer. XV Reunión Neurología al Día; Lecture: Enfermedad de Parkinson. Barcelona, Spain, 24 May 2019; and Madrid, Spain, 31 May 2019.

▶ Jaime Kulisevsky. Enfermedad de Parkinson. Col·legi de Censors Jurats de Comptes de Catalunya. Barcelona, Spain, 3 May 2019.

▶ Jaime Kulisevsky. De la normalidad al deterioro cognitivo en la enfermedad de Parkinson – avances fisiopatológicos y posibilidades terapéuticas. Jornada Emoción y Cognición en la Enfermedad de Parkinson. Hospital Universitario HM Puerta del Sur. Móstoles, Madrid, Spain, 2019.

▶ Saül Martínez Horta. El cerebro emocional en la enfermedad de Parkinson. Associació Catalana de la Malaltia de Parkinson. Barcelona, Spain, 2019.

▶ Andrea Horta Barba. El papel de las asociaciones de pacientes en la investigación científica y tecnológica. Caixa Forum. Madrid, Spain, 2019.

▶ Andrea Horta Barba. Importancia de la coordinación española como parte de la red internacional sobre la enfermedad de Huntington. Jornada de la Asociación de la Enfermedad de Huntington. Gran Canaria, Spain, 1 February 2019.

- ▶ Saül Martínez Horta. Neuropsicología en la enfermedad de Huntington. Jornada de la Asociación de la Enfermedad de Huntington. Gran Canaria, Spain, 1 February 2019.
- ▶ Helena Bejr-Kasem. Neuropsicología de las alucinaciones. Aportaciones desde la enfermedad de Parkinson. Col·legi de Neuropsicologia de Catalunya, Barcelona, Spain, 2019.
- ▶ Saül Martínez Horta. Course Evaluación neuropsicológica en trastornos del movimiento. III Jornada de la Sociedad Gallega de Neuropsicología. Santiago de Compostela, Spain, 4 April 2019.
- ▶ Ignacio Aracil Bolaños. Resonancia magnética funcional: deterioro cognitivo y alteraciones neuropsiquiátricas en la enfermedad de Parkinson. Colegio de Médicos de Asturias. Oviedo, Spain, 25 October 2019.
- ▶ Antonia Campolongo, coordinator and lecturer. Curso Sináptica en Enfermería. Lecture: Enfermería y tratamiento farmacológico. Sevilla, Spain, 27 May 2019.
- ▶ Jaime Kulisevsky, organizer. Curso teórico-práctico sobre el tratamiento de la Disonía y otros Trastornos del Movimiento con Toxina Botulínica tipo A. Hospital de la Santa Creu i Sant Pau, Barcelona, Spain; 10-11 December 2019.

Scientific Dissemination Activities

- ▶ Jaime Kulisevsky. Chairperson; Movement disorders 2 (Oral session); Results from the BIPARK-1 double-blind experience on the efficacy of opicapone in Parkinson's disease patients with 'early' motor fluctuations (Poster). 5th Congress of the European Academy of Neurology. Oslo, Finland, 29 June 2019.
- ▶ Jaime Kulisevsky. Cohort of Patients with Parkinson's Disease in Spain - COPPADIS Meeting (Presenter and Session Chair); What should be the main therapeutic target in Huntington's Disease? (Presenter and Session Chair); Treating Psychosis early improves long-term outcomes (Presenter). 13th World Congress on Controversies in Neurology. Madrid, Spain, 6 April 2019.
- ▶ Jaime Kulisevsky. Hallucinations in Parkinson's Disease: neuroanatomical Correlates (Oral presentation); Clinical aspects and therapeutic strategies in Parkinson's disease (Co-chair). 14th International Conference on Alzheimer's and Parkinson's Diseases (AD/PD 2019). Lisbon, Portugal, 30 March 2019.
- ▶ Javier Pagonabarraga. Dementia with Lewy bodies: A distinct and complex clinical entity (Oral presentation); Visual Hallucinations Pathophysiology (Oral presentation). 2019 World Congress in Geriatric Medicine. Newcastle, Australia, 9 September 2019.
- ▶ Saül Martínez-Horta. Actividad Paranormal en Trastornos del Movimiento (Oral presentation). LXXI Annual Meeting of the Sociedad Española de Neurología (SEN). Sevilla, Spain, 29 November 2019.
- ▶ Ignacio Aracil, Frederic Sampedro, Juan Marín, Helena Bejr-Kasem, Saül Martínez, Andrea Horta, Javier Pagonabarraga, Jaime Kulisevsky. Redes neurocognitivas en la enfermedad de Parkinson: diferencias en la afectación funcional y estructural en el deterioro cognitivo leve. Poster presentation. LXXI Annual Meeting of the Sociedad Española de Neurología (SEN). Sevilla, Spain, 29 November 2019.
- ▶ Andrea Horta, Javier Pagonabarraga, Saül Martínez, Frederic Sampedro, Ignacio Aracil, Jesús Pérez, Juan Marín, Berta Pascual, Helena Bejr-Kasem, Antonia Campolongo, Cristina Izquierdo, Jaime Kulisevsky. Correlatos neuronales de apatía en la Parálisis Supranuclear Progresiva (PSP) tipo síndrome de Richardson (PSP-RS). Poster presentation. LXXI Annual Meeting of the Sociedad Española de Neurología (SEN). Sevilla, Spain, 29 November 2019.
- ▶ Helena Bejr-Kasem, Javier Pagonabarraga, Saül Martínez, Frederic Sampedro, Juan Marín, Andrea Horta, Ignacio Aracil, Jesús Pérez, Berta Pascual, Jaime Kulisevsky. Cambios corticales predictores del desarrollo de alucinaciones visuales en pacientes con enfermedad de Parkinson 'de novo'. Poster presentation. LXXI Annual Meeting of the Sociedad Española de Neurología (SEN). Sevilla, Spain, 29 November 2019.
- ▶ Helena Bejr-Kasem, Javier Pagonabarraga, Saül Martínez, Frederic Sampedro, Juan Marín, Andrea Horta, Ignacio Aracil, Jesús Pérez, Berta Pascual, Jaime Kulisevsky. The role of dysfunctional attentional processing in isolated minor hallucinations in Parkinson's disease. Poster presentation. International Congress of Parkinson's disease and movement disorders (MDS Congress). Nice, France, 23 September 2019.
- ▶ Andrea Horta, Javier Pagonabarraga, Saül Martínez, Berta Pascual, Juan Marín, Jesús Pérez, Ignacio Aracil, Helena Bejr-Kasem, Antonia Campolongo, Cristina Izquierdo, Frederic Sampedro, Jaime Kulisevsky. Neuropsychiatric symptoms in early to advanced patients with the Richardson's syndrome variant of progressive supranuclear palsy. Poster presentation. International Congress of Parkinson's disease and movement disorders (MDS Congress). Nice, France, 23 September 2019.
- ▶ Javier Pagonabarraga, Berta Pascual. Puzzle resolution as cognitive test in Parkinson's disease. Poster presentation. International Congress of Parkinson's disease and movement disorders (MDS Congress). Nice, France, 23 September 2019.
- ▶ Ignacio Aracil, Frederic Sampedro, Juan Marín, Andrea Horta, Saül Martínez, Jesús Pérez, Alex Gironell, Cristina Izquierdo, Antonia Campolongo, Berta Pascual, Helena Bejr-Kasem, Javier Pagonabarraga, Jaime Kulisevsky. Neural correlates of Level-1 and Level-2 diagnostic criteria for Mild Cognitive Impairment in Parkinson's disease. Poster presentation. International Congress of Parkinson's disease and movement disorders (MDS Congress). Nice, France, 23 September 2019.
- ▶ Saül Martínez, Frederic Sampedro, Jesús Pérez, Andrea Horta, Javier Pagonabarraga, Jaime Kulisevsky. "Grey-matter volume changes underpinning irritability and aggression in early manifest Huntington's disease". Poster presentation. International Congress of Parkinson's disease and movement disorders (MDS Congress). Nice, France, 23 September 2019.
- ▶ Juan Marín, Frederic Sampedro, Saül Martínez, Javier Pagonabarraga, Jaime Kulisevsky; Depression as a risk factor for impulse compulsive disorders in Parkinson's disease: a prospective survival study. Poster presentation. International Congress of Parkinson's disease and movement disorders (MDS Congress). Nice, France, 23 September 2019.
- ▶ Training Program in Neurology: Update in Movement Disorders in a European Centre of Excellence. Spain. Organized by Unitat de Trastorns del Moviment, Servei de Neurologia, Hospital de la Santa Creu i Sant Pau. Barcelona, 22 March 2019.

AREA 4 · Neurological, Mental Disorders and Ageing

Molecular Neuropharmacology



Coordinator

Pol Rigau, Olga (IR)
opol@santpau.cat

Members

Batallé Melgarejo, Gerard (UAB)
Bai, Xue (UAB)
Cabarga Abascal, Laura (UAB)
Cazuza, Rafael Alves (external entity)

Main Lines of Research

Chronic pain is a major clinical problem due to the low efficacy of conventional treatments and their numerous side effects.

Chronic pain is also accompanied by affective disorders such as depression, anxiety and memory deficits, which exert a negative influence on the perception of pain, creating a vicious circle that contributes to the impairment in the quality of life of patients. At present, the treatment of chronic pain and associated emotional disorders poses a major challenge.

Our main objective is to find new treatments that effectively relieve chronic pain and the associated comorbidities by using pharmacological, molecular and genetic techniques.

Our main lines of research are:

- ▶ New strategies for the treatment of chronic pain. To identify new drugs capable of alleviating inflammatory, osteoarthritis, and/or neuropathic pain in different preclinical pain models and to investigate the precise mechanisms underlying their effects.
- ▶ New therapies for the emotional disorders associated with chronic

ic pain. Investigation of the role played by different gaseous neurotransmitters in the modulation of anxiety- and depressive-like behaviors and/or the cognitive deficits accompanying persistent chronic pain.

- ▶ Neuropharmacology of opioids and cannabinoids. Establishment of 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.
- ▶ New stratagems for the treatment of diabetic neuropathy. Identification of new approaches to inhibit oxidative stress and neuropathy, two of the major complications associated with diabetes, by evaluating the therapeutic action of specific molecules in different preclinical models of diabetes.

Scientific Challenges

- ▶ Identification of new pharmacological compounds that effectively abolish chronic pain with few side effects and which can be used in clinical practice and/or be patentable. Evaluation of the analgesic, antidepressant and/or anxiolytic effects of hydrogen sulfide donors in animals with chronic pain; the mechanism of action of these compounds in specific areas of the central and peripheral nervous systems; and their effects on the functional disability linked with chronic osteoarthritis pain.
- ▶ Oxidative stress is one of the principal mechanisms involved in the development and maintenance of chronic pain. Identification of new antioxidant compounds as potential therapeutic targets and to evaluate their effects on proinflammatory signals and plasticity changes provoked by nerve injuries, chemotherapeutic agents or metabolic disorders.
- ▶ Study of the interaction between carbon monoxide and other gaseous neurotransmitters at the molecular and behavioral levels.

Evaluation of the effects of these combinations on the modulation of nociceptive responses, emotional disorders and locomotory activity.

- ▶ Evaluation of the neurotrophic and antioxidant mechanisms implicated in the modulation of inflammatory pain in the central nervous system and study of the role played by the activation of the heme oxygenase 1/carbon monoxide signaling pathway in pain aversion.
- ▶ Expansion of knowledge of the molecular mechanisms involved in the analgesic effects of opioids and cannabinoids. Enhancement of the analgesic actions of μ - and δ -opioid receptor agonists and cannabinoid 2 receptor agonists in chronic pain through their coadministration with specific activators of gaseous neurotransmitters and to evaluate their effects on the emotional and/or cognitive disorders associated with chronic pain.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Metabolic Bases of Cardiovascular Risk (PI: Francisco Blanco)

External Collaborations

- ▶ Prof. Christie Ramos Andrade Leite-Panissi. University of São Paulo, Brazil.
- ▶ Prof. Gianfranco Balboni. University of Cagliari. Italy.
- ▶ Prof. Roberto Motterlini. INSERM U955. University Paris-Est. France.
- ▶ Prof. Lydia Giménez-Llort. Universitat Autònoma de Barcelona, Spain
- ▶ Prof. Carles Sindreu. Universitat de Barcelona. Spain

Active Grants

- ▶ Olga Pol Rigau. Nuevas estrategias en el tratamiento de la neuropatía diabética. PI14/00927. Instituto de Salud Carlos III. Duration: 2015-2019. 71,500 €.
- ▶ Olga Pol Rigau. Nuevos enfoques para el tratamiento del dolor crónico y comorbilidades asociadas. PI18/00645. Instituto de Salud Carlos III. Duration: 2019-2021. 97,000 €.
- ▶ Rafael Alvez Cazuza. HO-CO pathway activation and NOS2 depletion in inflammatory pain aversiveness and nociception: possible role of μ - and δ -opioid receptors modulation. 88887.368311/2019-00. Fundação CAPES. Programa Institucional de Internacionalização. Duration: 2019-2020. 7,800 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 13.7160 · Mean Impact Factor: 4.5720

Moreno P, Cazuza R.A., Gomes-Mendes J., Diaz A.F., Polo S., Leanez S., Leite-Panissi C.R.A., Pol O., The effects of cobalt protoporphyrin IX and tricarbonyldichlororuthenium (II) dimer treatments and its interaction with nitric oxide in the locus coeruleus of mice with peripheral inflammation (2019) INT J MOL SCI, 20 (9). **IF: 4.1830**

Polo S., Diaz A.F., Gallardo N., Leanez S., Balboni G., Pol O., Treatment with the delta opioid agonist UFP-512 alleviates chronic inflammatory and

neuropathic pain: Mechanisms implicated (2019) FRONT PHARMACOL, 10 (MAR). **IF: 3.8450**

Díaz A.F., Polo S., Gallardo N., Leáñez S., Pol O., Analgesic and antidepressant effects of oltipraz on neuropathic pain in mice by modulating microglial activation (2019) J CLIN MED, 8, 890. **IF: 5.688**

Diffusion Activities

Courses, Conferences, Communications to Congresses

- ▶ Batallé G, Cabarga L, Pol O. The antinociceptive and antidepressant effects of slow-releasing hydrogen sulfide donors in animals with chronic osteoarthritic pain. 11th Congress of the European Pain Federation (EFIC). Valencia, Spain. 2019.
- ▶ Cabarga L, Batallé G, Pol O. Effects of treatment with hydrogen sulfide-releasing molecules on the nociceptive and depressive-like responses accompanying persistent neuropathic pain in mice. 11th Congress of the European Pain Federation (EFIC). Valencia, Spain, 2019.
- ▶ Ferreira-Chamorro P, Redondo A, Riego G, Pol O. 5-fluoro-2-oxindole treatment inhibited neuropathic pain and the emotional disorders associated and enhanced the local antinociceptive effects of morphine. 11th Congress of the European Pain Federation (EFIC). Valencia, Spain, 2019.
- ▶ Polo S, Díaz AF, Gallardo N, Leáñez S, Balboni G, Pol O. El tratamiento con el agonista opiode delta UFP-512 alivia el dolor inflamatorio y neuropático, y la depresión asociada al dolor crónico. XVI Congress of the Sociedad Española del Dolor. Zaragoza, Spain, 2019.
- ▶ Díaz AF, Polo S, Gallardo N, Leáñez S, Pol O. Efectos analgésicos y antidepressivos del tratamiento con oltipraz en animales con dolor neuropático. XVI Congress of the Sociedad Española del Dolor. Zaragoza, Spain, 2019.
- ▶ Méndez-Lara KA, Santos D, Farré N, Leáñez S, Blanco-Vaca F, Pol O, Julve J. L'administració de CORM-2 remet la neuropatía diabètica però empitjora la dislipèmia en un model de ratolí de diabetes mellitus tipus 1. Congress of the Societat Catalana de Diabetis. Barcelona, Spain, 2019.

Master Theses Directed

- ▶ Laura Cabarga Abascal. Effects of treatment with slow-releasing hydrogen sulfide donors in the nociceptive and emotional disorders accompanied chronic neuropathic pain. Universitat Autònoma de Barcelona. Director: Olga Pol Rigau
- ▶ Gerard Batallé Melgarejo. The antinociceptive and antidepressant effects of the repeated administration of slow-releasing hydrogen sulfide donors in animals with chronic osteoarthritis pain. Universitat Autònoma de Barcelona. Director: Olga Pol Rigau

AREA 4 · Neurological, Mental Disorders and Ageing

Pharmacological Research in Humans



Coordinator

Antonijoan Arbós, Rosa Maria (FGS)
rantonijoana@santpau.cat

Members

Ballester Verneda, Maria Rosa (IR)
Castillo Ocaña, Marta (IR)
Claramunt Giralt, Judit (IR)
Clos Batet, Susana (IR)

Coma Bolta, Sonia (IR)

Funes Ungria, Maria Àngels (IR)

García Gea, Consuelo (IR)

Garrido Sánchez, Maria Teresa (IR)

Gich Saladich, Ignasi Josep (FGS)

Giménez Badia, Sandra (FGS)

Gomis Pulgar, Ana María (IR)

González Cuadros, Mireia (IR)

Martínez Bonifacio, David (IR)

Martínez Colomer, Juan (IR)

Martínez Domínguez, Pura (IR)

Martínez Martínez, Maria Isabel (IR)

Mercader Seguí, Esteve (IR)

Molina Perelló, Pol (IR)

Mora Amargós, Sara (IR)

Puntes Rodríguez, Montserrat (IR)

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 and strengthen leadership in this field in Spain, consolidate relationships with the pharmaceutical industry on a national level and strengthen and extend relations abroad with multinational enterprises and industries from other sectors.
- ▶ Broaden the range of questions to address in research projects along the lines of the neuro-physio-pharmacology of sleep/wake states, focusing on pharmacotherapeutic objectives and also on physiopathologic objectives in related fields, such as dreams.
- ▶ Develop neurophysiologic recording performance in ambulatory conditions, simplifying participation of volunteers without lowering the quality of the data obtained (non-negotiable element of their application as a research variable).
- ▶ Promote dissemination of our activity with a dual objective: to return knowledge generated to society and demystify research in humans, bringing it closer to the community in order to foster participation in clinical trials (particularly in specific sectors of the populations, such as the elderly).
- ▶ Set up educational activities related to our two main research lines: the application of good clinical practices in clinical research into sleep medicine and its medical (pathology, and treatment) and social (quality of life, prevention of accident risk) consequences.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Parkinson Disease and Movement Disorders
- ▶ Sant Pau Memory Unit
- ▶ Neurobiology of Dementia
- ▶ Clinical Psychiatry
- ▶ Chronic Respiratory Diseases
- ▶ Pituitary Gland Disorders
- ▶ Oncology/Haematology and Transplantation
- ▶ Ageing Institute

External Collaborations

- ▶ Phase I-II clinical trials for national and international pharmaceutical companies.
- ▶ Scientific advisement and study designs about clinical trials for national and international pharmaceutical companies.
- ▶ Collaborations with pharmaceutical departments of Universities.

Active Grants

- ▶ Rosa Maria Antonijoan Arbós. Desarrollo de una combinación de sensibilizantes de la acción de la insulina y antiandrógenos para el tratamiento del síndrome de ovario poliquístico en adolescentes y mujeres jóvenes. RTC-2016-5671-1. Ministerio de Economía y Competitividad. Duration: 2016-2019. 100,796 €.
- ▶ Rosa Maria Antonijoan Arbós. I+D Fase 1 de nuevos inhibidores de quinasas como medicamentos para enfermedades que cursan en el

eje de inflamación, fibrosis y cáncer. RTC-2017-6403-1. Ministerio de Economía y Competitividad. Duration: 2018-2020. 240,660 €.

- ▶ Rosa Maria Antonijoan Arbós. Investigación y desarrollo fase I de nuevos inhibidores de quinasas como medicamentos para enfermedades que cursan en el eje de inflamación, fibrosis y cáncer. RTC-2018-6403-1. 260,107.50 €

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 32.4050 · Mean Impact Factor: 3.6005

Anaya R, Rodriguez M, Gil JM, Moral V, Millan A, Vilalta N, Delgado CE, Antonijoan RM, Reguant F, Guilabert P, Blanco D, Mateo J, Merchán-Galvis A, Martínez-Zapata MJ; AFFEct study group. Evaluation of a strategy to shorten the time to surgery in patients on antiplatelet therapy with a proximal femur fracture (AFFEct Study): Study protocol for a multicenter randomized controlled clinical trial. *Medicine (Baltimore)*. 2019 May;98(19):e15514. **IF: -**

Bolibar I, Gich I, Angles A, Romero J.M., Escudero J.R., Variability of revascularization techniques among Catalan hospitals and impact on leg salvage in patients with peripheral arterial disease (2019) *INT ANGIOL*, 38 (1), 54-61. **IF: 1.2790**

Ferreri L, Mas-Herrero E, Zatorre R.J., Ripolles P, Gomez-Andres A., Ali-cart H., Olive G., Marco-Pallares J., Antonijoan R.M., Valle M., Riba J., Rodriguez-Fornells A., Dopamine modulates the reward experiences elicited by music (2019) *P NATL ACAD SCI USA*, 116 (9), 3793-3798. **IF: 9.5800**

Garcia-Patterson A., Balsells M., Yamamoto J.M., Kellett J.E., Sola I., Gich I., van der Beek E.M., Hadar E., Castaneda-Gutierrez E., Heinonen S., Hod M., Laitinen K., Olsen S.F., Poston L., Rueda R., Rust P., van Lieshout L., Schelkle B., Murphy H.R., Corcoy R., Usual dietary treatment of gestational diabetes mellitus assessed after control diet in randomized controlled trials: subanalysis of a systematic review and meta-analysis (2019) *ACTA DIABETOL*, 56 (2), 237-240. **IF: 2.9960**

Marti-Fabregas J., Medrano-Martorell S., Merino E., Prats-Sanchez L., Marin R., Delgado-Mederos R., Martínez-Domene A., Camps-Renom P,

Jimenez-Xarrie E., Zedde M., Gomez-Choco M., Lara L., Boix A., Calleja A., De Arce-Borda A.M., *et al.*, MRI predicts intracranial hemorrhage in patients who receive long-term oral anticoagulation (2019) *NEUROLOGY*, 92 (21), e2432-e2443. **IF: 8.6890**

Migliorelli C., Bachiller A., Andrade A.G., Alonso J.F., Mananas M.A., Borja C., Gimenez S., Antonijoan R.M., Varga A.W., Osorio R.S., Romero S., Alterations in EEG connectivity in healthy young adults provide an indicator of sleep depth (2019) *SLEEP*, 42 (6). **IF: 4.5710**

Morral A., Urrutia G., Gich I., Ruiz R., Bonfill X., Radial extracorporeal shock wave device appearance does not influence clinical outcomes: A randomized controlled trial (2019) *J REHABIL MED*, 51 (3), 201-208. **IF: 1.9070**

Santaliestra M., Garrido A., Carricondo M., Bussaglia E., Pratcorona M., Blanco M.L., Gich I., Hoyos M., Esquirol A., Garcia-Cadenas I., Brunet S., Martino R., Sierra J., Nomdedeu J.F., Bone marrow WT1 levels in patients with myeloid neoplasms treated with 5-azacytidine: Identification of responding patients (2019) *EUR J HAEMATOL*, 103 (3), 208-214. **IF: 2.2170**

Sisinni L., Gich I., Torrent M., Badell I., Subsequent malignancies after long-term follow-up of pediatric hematopoietic stem cell transplantation Neoplasias malignas secundarias después de un trasplante de progenitores hematopoyéticos en edad pediátrica (2019) *AN PEDIATR*, 90 (3), 157-164. **IF: 1.1660**

Diffusion Activities

- ▶ XXX Congress of the Sociedad Española de Farmacología Clínica:
 - Poster: Serious adverse events in healthy volunteers identified during clinical trials.
 - Communication: Safety, tolerability and pharmacokinetics of single and multiple doses of ORY-2001, an epigenetic drug targeting LSD1 and MAO-B.

AREA 4 · Neurological, Mental Disorders and Ageing

Clinical Psychiatry



Coordinator

Portella Moll, Maria Jesús (IR)
mportella@santpau.cat

Members

Alemany Santamaría, Carlo (FGS)
Allende Leal, Saiko (CIBERSAM)
Almenta Gallego, David (FGS)
Alonso Solís, Anna (IR)
Álvarez Martínez, Enric (FGS)
Carceller Sindreu, Maria del Mar (FGS)

Carmona Farrés, Cristina (FGS)
Casellas Pujol, Elisabet (FGS)
Corripio Collado, Iluminada (FGS)
De Diego Adeliño, Francisco Javier (FGS)
Díaz Pérez, Anna Maria (FGS)
Draganov, Metodi (IR-external)
Fernández Vidal, Aina (FGS)
Grasa Bello, Eva Maria (CIBERSAM)
Jubero Urgell, Miriam (IR)

Marín Martínez, Eduardo David (IR-external)
Pascual Mateos, Juan Carlos (FGS)
Pérez Blanco, Josefina (FGS)
Puigdemont Campos, Maria Dolors (FGS)
Roldan Bejarano, Alejandra (FGS)
Soler Ribaudi, Joaquín (FGS)
Tiana Sastre, Thais (FGS)
Vicent Gil, Muriel (IR)

Main Lines of Research

- ▶ Psychotic disorders (first episodes and persistent hallucinations).
- ▶ Affective disorders (major depression and validation of scales).
- ▶ Borderline personality disorder.

Scientific Challenges

- ▶ Foster research that reduces the healthcare, social and personal costs of mental illness by exploring areas such as epidemiology, etiopathogenesis, pathophysiology, prevention and treatment.
- ▶ Foster research into mental health therapies.
- ▶ Foster research to improve quality of life of patients with mental disorders.

Research into Psychotic Disorders

- ▶ Neuroimaging studies in first psychotic episodes.
- ▶ Study of environmental, biological and genetic factors in psychosis.
- ▶ Efficacy and effectiveness studies of antipsychotic drugs.
- ▶ Efficacy and effectiveness study of psychotherapy for hallucinations.
- ▶ Study of treatment resistance in schizophrenia.

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 Personality Disorders

- ▶ Clinical trials on 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.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Addictive Behaviours.
- ▶ Neuroradiology.
- ▶ Neurosurgery.
- ▶ Pituitary Gland Disorders.
- ▶ Pharmacological Research in Humans (CIM Sant Pau).
- ▶ Pain and Neuroscience.
- ▶ Genetics.
- ▶ Internal Medicine.

External Collaborations

- ▶ Hospital Clínic de Barcelona, Psychiatry Department.
- ▶ Hospital Parc Taulí, Sabadell, Psychiatry Department.
- ▶ Universidad Complutense de Madrid, Medicine-Pharmacology Department.
- ▶ Hospital Universitario de la Princesa, Madrid, Psychiatry Department.
- ▶ Universidad de Valencia, Medicine-Psychiatry Department.
- ▶ Leipzig University, Medicine-Psychiatry Department.
- ▶ Universidad de Cádiz, Medicine-Pharmacology Department.
- ▶ Hospital Benito Menni – FIDMAG, Barcelona, Psychiatry Department.
- ▶ University of Oxford, Medicine-Psychiatry Department.

Active Grants

- ▶ Francisco Javier de Diego Adeliño. Estudio longitudinal de predicción precoz de la respuesta en depresión con la combinación multimodal de biomarcadores epigenéticos, neurocognitivos y clínicos. PI16/00302. Instituto de Salud Carlos III. Duration: 2017-2021. 86,500 €.
- ▶ Enric Álvarez Martínez. Efectos de un análogo de la Ayahuasca sobre el reprocesamiento emocional en pacientes con Trastorno Límite de la Personalidad. PI16/00078. Instituto de Salud Carlos III. Duration: 2017-2020. 46.500 €.
- ▶ María Jesús Portella Moll. Contratos "Miguel Servet II" 2016. CPII16/00020. Instituto de Salud Carlos III. Duration: 2017-2020. 101,250 €.
- ▶ María Jesús Portella Moll. RIDEM: Rehabilitación Integral para Depresión Mayor. Estudio de eficacia de un programa de rehabilitación integral. PI17/00056. Instituto de Salud Carlos III. Duration: 2018-2020. 47,000 €.
- ▶ María Jesús Portella Moll. Grup de Recerca en Trastorns Psiquiàtrics de Sant Pau. 2017 SGR 1343. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020. 16,250 €.
- ▶ María Jesús Portella Moll. Marcadors transdiagnòstics dels símptomes cognitius en els trastorns afectius. SLT006/17/00177. Departament de Salut. Duration: 2018-2020. 63,213.33 €.
- ▶ María Jesús Portella Moll. Marcadors transdiagnòstics dels símptomes cognitius en els trastorns afectius. SLT006/17/00177-01. Departament de Salut. Duration: 2018-2020. 27,203.17 €.
- ▶ Juan Carlos Pascual Mateos. Autolesió no suïcida en adolescents i adults joves a Catalunya: prevalença, característiques i implicacions clíniques. SLT006/17/00159. Departament de Salut. Duration: 2018-2020. 750 €.
- ▶ Eva María Grasa Bello. Cognició social i baixos nivells cognitius en persones amb primers episodis psicòtics en comparació amb esquizofrènia crònica i controls sans. SLT006/17/00231. Departament de Salut. Duration: 2018-2020. 1,550 €.
- ▶ María del Mar Carceller Sindreu. Contractes predoctorals de formació en investigació en salut 2014. FI14/00201. Instituto de Salud Carlos III. Duration: 2015-2019. 82,400 €.
- ▶ Iluminada Corripio. Programa de intervenció y tipificació neurobiològica de la Esquizofrenia Resistent- AMA DABLAM. Duration: 2017-2019.
- ▶ Iluminada Corripio, Eva Grasa, Anna Alonso. e-MOTIPH; Smart and innovative e-mental health solution to manage and patients with schizophrenia. IP: Joan Escudero (Pulso). Grant number: 12470. Duration: 2018-2021.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Iluminada Corripio Collado. Estimulación Cerebral Profunda: hacia una nueva intervención para la recuperación del paciente con esquizofrenia resistente al tratamiento. PI19/00242. Instituto de Salud Carlos III. Duration: 2020-2022. 85,000 €.
- ▶ Joaquín Soler Ribaudi. 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. Duration: 2020-2022. 20,800 €.
- ▶ Alejandra Roldán Bejarano. Contratos Río Hortega 2019. CM19/00043. Instituto de Salud Carlos III. Duration: 2020-2022. 53,732 €.
- ▶ Francisco Javier de Diego Adeliño. DePREDIgen - Estudio longitudinal de predicción precoz de la respuesta en depresión con la combinación multimodal de biomarcadores epigenéticos, neurocognitivos y clínicos. SLT008/18/00092. Departament de Salut. Duration: 2019-2021. 165,909.04 €.
- ▶ Carlo Alemany Santamaria. sAPPTisfacció: Creació d'una plataforma digital per l'avaluació de la satisfacció dels usuaris i cuidadors d'hospitalització psiquiàtrica domiciliària. SCPSPM 2019. Societat Catalana de Psiquiatria i Salut Mental. Duration: 2019-2021. 2,608.70 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Ultreya: Efectos del peregrinaje en el Camino de Santiago sobre el bienestar psicológico y la salud mental. Award Camino de Santiago 2019.
- ▶ Carlo Alemany Santamaria. sAPPTisfacció: Creació d'una plataforma digital per a l'avaluació de la satisfacció dels usuaris i cuidadors d'hospitalització psiquiàtrica domiciliària. Award Fundació Vila Saborit and Societat Catalana de Psiquiatria i Salut Mental 2019.
- ▶ Amoretti S, Cabrera B, Torrent C, Mezquida G, Lobo A, González-Pinto A, Parellada M, Corripio I, Vieta E, de la Serna E, Butjosa A, Contreras F, Sarró S, Penadés R, Sánchez-Torres AM, Cuesta M, Bernardo M; PEPsGroup. Cognitive reserve as an outcome predictor: first-episode affective versus non-affective psychosis. Acta Psychiatr Scand. 2018;138(5):441-455. Award for the best publication of 2018. Fundació Vila Saborit and Societat Catalana de Psiquiatria i Salut Mental 2019.

Doctoral Theses

- ▶ María del Mar Carceller. Alteraciones cerebrales en la depresión mayor como factores del curso de la enfermedad: hallazgos transversales y longitudinales en la sustancia blanca en pacientes con un primer episodio depresivo. Universitat Autònoma de Barcelona. Directors: Maria J. Portella, Javier de Diego, Enric Álvarez. Date of defense: 24/05/2019.
- ▶ Cristina Carmona. La Teràpia Dialèctica Conductual i l'entrenament en mindfulness en el Trastorn Límit de la Personalitat: efectes clínics, mecanismes neurobiològics i problemes de la teràpia. Universitat Autònoma de Barcelona. Directors: Juan Carlos Pascual, Joaquim Soler, Enric Álvarez. Date of defense: 15/05/2019.

Scientific Production

Total Impact Factor: 117.746 · Mean Impact Factor: 4.2052

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Almenta D., García-Barrachina M., Vidal A.F., Puidgemont D., Grasa E.M., Carceller M., Carmona C., Duran-Sindreu S., Portella M., De Diego-Adeliño F.J., 18 What Treatment Would You Prefer if You Were Experiencing a

Psychotic Episode? Survey of a Population of Psychiatrists (2019) CNS SPECTRUMS, 24 (1), 182-183. **IF: 3.9400**

Arranz M.J., Gonzalez-Rodriguez A., Perez-Blanco J., Penades R., Gutierrez B., Ibanez L., Arias B., Brunet M., Cervilla J., Salazar J., Catalan R., A pharmacogenetic intervention for the improvement of the safety profile of antipsychotic treatments (2019) TRANSL PSYCHIAT, 9 (1). **IF: 5.1820**

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- Carceller-Sindreu M., Serra-Blasco M., de Diego-Adelino J., Vives-Gilbert Y., Vicent-Gil M., Via E., Puigdemont D., Alvarez E., Perez V., Portella M.J., Altered white matter volumes in first-episode depression: Evidence from cross-sectional and longitudinal voxel-based analyses (2019) *J AFFECT DISORDERS*, 245, 971-977. **IF: 4.0840**
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Books or Chapters with ISBN

- ▶ Pérez V, Puigdemont D, Mora L, Álvarez P, de Diego J. Depresión mayor unipolar y resistencia al tratamiento. In: *Depresiones Bipolares y Unipolares: Qué hacer en los pacientes que no responden suficientemente a los tratamientos habituales*. Ed. Panamericana, 2019. ISBN 978-84-91-10451-3
- ▶ Grasa E, Corripio I. Aplicaciones del Protocolo Unificado para el tratamiento transdiagnóstico de la disregulación emocional. (Coord. Jorge Osma). Alianza Editorial, 2019. 978-8491817260
- ▶ De Diego J. Monoterapia o Politerapia en el tratamiento de la depresión. In: *Controversias en farmacia psiquiátrica: Monoterapia vs Politerapia en Esquizofrenia y Depresión*. Esmon Comunicación, 2019. ISBN: 978-84-09-10368-3

Diffusion Activities

Teaching

- ▶ Coordinators and teachers in Máster Oficial en Iniciació a la Recerca en Salut Mental. Universitat Autònoma de Barcelona, Universidad de Cantabria, Universitat de Barcelona, Universidad Complutense de Madrid, Universidad de Cádiz, CIBERSAM. From 2013.

Congresses and Seminars

- ▶ MJ Portella, *et al.* Association of Inflammatory Genes in Treatment Response in Major Depressive Disorder. 74th Annual Meeting of the Society of Biological Psychiatry, Chicago, 18 May 2019.
- ▶ González S, Gawron L, Casellas E, Raventós B, Miquel S, Martín-Blanco A, Pousa E. Dime tus esquemas y te diré tu especialidad. Closing Day of the Societat Catalana de Psiquiatria i Salut Mental 2018-2019. Sitges, 31 May 2019.
- ▶ De Diego J. El arte de prescribir. VII Congreso SEMERGEN Aragón. Zaragoza, 23 November 2019.
- ▶ J de Diego-Adeliño; A Ávila-Parcet; J Real; D Puigdemont; MJ Portella; A Fernández-Vidal. Neutrophil-lymphocyte index correlates with severity and suicidal intentionality in suicide attempts. 32nd ECNP Congress. Copenhagen, 10 September 2019.
- ▶ Aina Avila-Parcet; Jonatan Real; Daniel Sáez; Thaïs Tiana; Laura Calvo; David Almenta; Maria J. Portella; Javier De Diego-Adeliño; Aina Fernández-Vidal. New biomarkers in suicidal behavior: neutrophil-lymphocyte index. 26th International Symposium on Current Issues and Controversies in Psychiatry. Barcelona, 26 April 2019.
- ▶ Mar Carceller-Sindreu; Aina Avila-Parcet; Carlo Alemany; Victor Serrano; Muriel Vicent-Gil; Ximena Golberg; Dolors Puigdemont; Javier De Diego-Adeliño; Maria J. Portella. Predictors and mediators of naturalistic course of major depression: a preliminary path-analytic study. 26th International Symposium on Current Issues and Controversies in Psychiatry. Barcelona, 26 April 2019.
- ▶ Javier de Diego. Conocer mejor la depresión para combatirla. Congreso Europeo de Farmacia - INFARMA 2019. Col·legi Oficial de Farmacèutics de Barcelona, 19 March 2019.
- ▶ Javier de Diego. Monoterapia o politerapia en el tratamiento de la depresión. Jornada sobre Controversias en Farmacia Psiquiátrica. Sociedad Española de Farmacia Hospitalaria. Madrid, 24 January 2019.
- ▶ FD Rabelo-Da-Ponte, S. Amoretti, AR Rosa, B Cabrera, G Mezquida, JM Cuesta, M Parellada, A González-Pinto, I Corripio, E Vieta, M Bernardo. Cognitive cluster trajectories in first-episode psychosis. 32nd ECNP Congress. Copenhagen, 7 September 2019.
- ▶ A Roldán, A Keymer, I Corripio, B Cabrera, A Lobo, A Gonzalez-Pinto, C Llorente, MJ Portella, E Vieta, I Baeza, P García-Portilla, A Butjosa, F Contreras, G Mezquida, AM Sánchez-Torres, M Bernardo, MJ Cuesta, PEPs group. First episode psychosis outcome trajectories: The role of functioning and neurocognition. 32nd ECNP Congress. Copenhagen, 7 September 2019.
- ▶ S Amoretti, AR Rosa, B Cabrera, G Mezquida, JM Cuesta, M Parellada, A González-Pinto, I Corripio, E Vieta. Relationship between cognitive reserve and functional outcome in first-episode psychoses: a mediation analysis. 32nd ECNP Congress. Copenhagen, 7 September 2019.
- ▶ J Sanjuan, MJ Castro-Bleda, S España-Boquera, G Garcia-Martí, JM Carot, I Corripio, P Soldevila-Matias, L Martí-Bonmati, JM Rubio, B Crespo-Facorro. Individualized diagnosis of psychosis based on machine learning from functional magnetic resonance data using an emotional auditory paradigm. Congress of the Schizophrenia-International-Research-Society (SRIS). Orlando, USA, 01 April 2019.

- ▶ E Grasa, A Alonso-Solís, K Rubinstein, ACaspi, K Farkas, Z Unoka, S Ochoa, E Huerta-Ramos, J Seppälä, E Jääskeläinen, C Almazán, JC Mendivelso, A Triantafyllou, P Kokkinakis, S Van Der Graaf, C Jewell, J Berdún, E Reixac, I Corripio. Results of the m-RESIST feasibility study. A Mobile therapeutic attention for treatment-resistant schizophrenia. International Conference on Integrated Care. San Sebastián, 1 April 2019.
- ▶ I Corripio, E Pomarol-Clotet, P McKenna, S Sarró, A Roldan. Deep brain stimulation: first trial in treatment-resistant schizophrenia. Brain Stimulation Conference. Vancouver, Canadá, 24 February 2019.

Other

- ▶ Participation of the Unitat de Prevenció del Suïcidi in the Monographic Session on the Prevention of Juvenile Suicide. Comissió de Polítiques de Joventut, Parlament de Catalunya. 11 June 2019.
- ▶ Aina Fernández. Participation in the session "El suïcidi: factors de risc i prevenció". La Medicina al teu abast. Dia Mundial de la Salut Mental. Hospital de la Santa Creu i Sant Pau. 26 November 2019.
- ▶ Thaïs Tiana. Participation in the post-function colloquium of the play "Psicosi de les 4.48" (Sarah Kane). Sala Becket, 10 November 2019.
- ▶ Thaïs Tiana. Taller d'ACT: Acceptació i compromís. Col·legi Oficial de Psicologia de Catalunya, Secció de Psicologia Clínica, de la Salut i Psicoteràpia. March 2019.
- ▶ Fernández A. Caminando por el proceso de duelo: Primeros pasos. Después del Suicidio Asociación de Supervivientes. December 2019. Available: http://www.despresdelsuicidi.org/wp-content/uploads/2020/02/dsas_05_cast_digital.pdf
- ▶ Portella MJ. Conference. L'autisme, més enllà d'una diferència. Escola de Pares i Mares del Penedès, January 2019. Available: <https://www.rtvvilafranca.cat/2019/01/lautisme-ha-centrat-una-conferencia-organitzada-per-lescola-de-pares-i-mares-del-penedes/>
- ▶ Portella MJ. Dissemination to the public: El cervell autista una visió neuropsicològica. Societat Catalana de Neuropsicologia, November 2019. Available: https://www.youtube.com/watch?v=5de8Jgp2ee4&feature=emb_title
- ▶ Portella MJ. L'espectre autista explicat per una mare neurocientífica. Fundació Friends Asperger, 16. November 2019. Available: https://fundaciofriends.org/xerrada-nov-16-lespectre-autista-explicat-per-una-mare-neurocientifica/?fbclid=IwAR3wS2nznZ84AQ_r47Fv3FaSUBbu81udq7z-duSyiGaSOsvwJm8TK2mEDYY
- ▶ Portella MJ. El Trastorn de l'Espectre Autista (TEA) en primera persona. Dia mundial de conscienciació sobre l'autisme. Vilanova i la Geltrú, 6 April 2019.

Appearances in the Media

- ▶ Aina Fernández: <https://www.elperiodico.com/es/sanidad/20190119/hablemos-del-suicidio-unos-3500-espanoles-se-quitan-la-vida-cada-ano-7235435>
- ▶ Enric Álvarez: <https://www.barcelonasalut.es/2019/11/30/la-ciencia-de-la-salud-t2-episodio-9-depresion/>
- ▶ Javier de Diego: <https://www.redaccionmedica.com/secciones/psiquiatria/-aun-no-hemos-conseguido-dar-a-la-depresion-la-entidad-medica-que-merece--3785>

AREA 4 · Neurological, Mental Disorders and Ageing

Genetics in Neurodegenerative Diseases



Coordinator

Clarimon Echavarría, Jordi (IR)
jclarimon@santpau.cat

Members

Cervantes González, Alba (UAB)
Cervera Carles, Laura (IR)
Dols Icardo, Oriol (IR)
López Pernas, Gema (UAB)

Main Lines of Research

- ▶ Use of state-of-the-art genomic strategies to study the genetic architecture of complex diseases caused by neurodegenerative processes, including Alzheimer disease and other dementias, Parkinson disease, and amyotrophic lateral sclerosis (ALS).
- ▶ Cloning and evaluation of novel genes associated with neurodegenerative disorders through genomic analyses in families with a Mendelian pattern of inheritance.
- ▶ Study of the relationship between biomarkers and endophenotypes at the individual genetic background.
- ▶ Evaluation of the effect of novel genes related to neurodegenerative disorders in the Spanish population through multicenter collaborative studies.

Scientific Challenges

- ▶ Assemble a research team of excellence in the international field of genetics of neurodegenerative disorders.
- ▶ Increase our capacity for funding through EU support.
- ▶ Develop a comprehensive genomic database from well-characterized Spanish patients of European origin suffering from neurodegenerative disorders.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Neurobiology of Dementia.
- ▶ Parkinson Disease and Movement Disorders.
- ▶ Neuromuscular Diseases.

External Collaborations

National and international consortiums

- ▶ European Early-Onset Dementia Consortium (EU-EOD).
- ▶ European Alzheimer Disease Initiative (EADI).
- ▶ International Genomics of Alzheimer Project (IGAP).
- ▶ International Parkinson's Disease Genetic Consortium (IPDGC).
- ▶ International Frontotemporal Dementia Genomics Consortium (IFGC).
- ▶ Dementia Genetics Spanish Consortium (DEGESCO).
- ▶ CIBER-Neurodegenerative Diseases (CIBERNED).

international centers

- ▶ Dr. John Hardy, University College of London, UK.
- ▶ Dr. Andrew Singleton, National Institute of Health, USA.
- ▶ Dr. Jean-Charles Lambert, Research director at INSERM. Lille, France.
- ▶ Dr. Alfredo Ramírez, University of Bonn, Germany.
- ▶ Dr. Ekaterina Rogaeva, University of Toronto, Canada.
- ▶ Dr. Mikko Hiltunen, Kuopio University, Finland.
- ▶ Dr. Martin Ingelsson, Uppsala University, Sweden.
- ▶ Dr. Liana Fidani, Aristotle University of Thessaloniki, Greece.
- ▶ Dr. Christine Van Broekhoven, University of Antwerp, Belgium.
- ▶ Dra. Rita Guerreiro, Van Andel Research Institute, Michigan, USA.
- ▶ Dra. Iris Jansen, VU Medical Center Amsterdam, Netherlands.

Active Grants

- ▶ Oriol Dols Icardo. Estudi del paper de les variants genètiques rares en l'arquitectura genètica de la malaltia d'Alzheimer. SLT002/16/00040. Departament de Salut. Duration: 2017-2019. 88,376.57 €.
- ▶ Jordi Clarimon Echavarría. Grup de Recerca en Demències: Sant Pau. 2017 SGR 547. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020. 35,200 €.
- ▶ Jordi Clarimon Echavarría. 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. Duration: 2019-2021. 112,000 €.
- ▶ Jordi Clarimon Echavarría. Estudio del microRNA en el compartimento exosomal del líquido cefalorraquídeo como biomarcador de la demencia frontotemporal y herramienta para el conocimiento de las bases biológicas de la enfermedad. PI2017/01. CIBERNED. Duration: 2018-2020. 200,000€.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Jordi Clarimon Echavarria. Descubrimiento de nuevos marcadores diagnósticos y pronósticos para la ELA. FUNDELA 2019. Fundación Española para el Fomento de la Investigación de la Esclerosis Lateral Amiotrófica. Duration: 2019-2020. 26,087 €.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Laura Cervera Carles. Assessing the Role of Copy Number Variations, Mitochondrial DNA and microRNAs in Neurodegenerative Disorders. Universitat Autònoma de Barcelona. Director: Jordi Clarimon. Date of defense: 13/09/2019.

Scientific Production

Total Impact Factor: 261.492 · Mean Impact Factor: 10.0573

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Alcolea D., Pegueroles J., Munoz L., Camacho V., Lopez-Mora D., Fernandez-Leon A., Le Bastard N., Huyck E., Nadal A., Olmedo V., Sampedro F., Montal V., Vilaplana E., Clarimon J., Blesa R., Fortea J., Lleó A., Agreement of amyloid PET and CSF biomarkers for Alzheimer's disease on Lumipulse (2019) ANN CLIN TRANSL NEUR, 6 (9), 1815-1824. **IF: 4.6560**

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Bandres-Ciga S., Saez-Atienzar S., Bonet-Ponce L., Billingsley K., Vitale D., Blauwendraat C., Gibbs J.R., Pihlstrom L., Gan-Or Z., Noyce A.J., Kaiyuzhanov R., Middlehurst B., Kia D.A., Tan M., Houlden H., Morris H.R., Plun-Favreau H., *et al.*, The endocytic membrane trafficking pathway plays a major role in the risk of Parkinson's disease (2019) MOVEMENT DISORD, 34 (4), 460-468. **IF: 8.0610**

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Diffusion Activities

Scientific Dissemination to Society

- ▶ La malaltia d'Alzheimer: què és i com l'estudiem. Setmana Mundial del Cerebell. Institut d'Educació de l'Ajuntament de Barcelona.
- ▶ Jordi Clarimon. Informative talks in high schools: Institut La Guineueta; Escola l'Esperança (Barcelona). March, 2019.
- ▶ Jordi Clarimon. Los investigadores escuchan a los pacientes y aclaran sus dudas. IX Encuentro de personas con ELA. Burgos, 30-31 May. 2019.
- ▶ Laura Cervera. Del laboratori a la clínica: avenços en la recerca de les malalties neurodegeneratives. Lecture series Dilluns de ciència. Residència d'Investigadors, CSIC-Generalitat de Catalunya. 25 November 2019.

Communications in National and International Meetings

- ▶ Jordi Clarimon. Uso de la genética para el descubrimiento de biomarcadores y para desvelar la arquitectura genética de los trastornos neurodegenerativos. VI Conferencia Málaga Alzheimer. Málaga, 16-18 May 2019.
- ▶ Jordi Clarimon. Caso práctico. XXIX Congreso Nacional de la Sociedad Española de Anatomía Patológica (SEAP-IAP). Granada, 22-24 May 2019.
- ▶ O. Dols-Icardo, V. Montal, S. Sirisi, G. López Pernas, L. Molina-Porcel, L. Muñoz-Llahuna, L. Cervera-Carles, J. Turón-Sans, J. Fortea, R. Blesa, A. Lleó, R. Rojas-García, J. Clarimón. Estudio del transcriptoma de la corteza motora de pacientes con ELA mediante secuenciación masiva de ARN. Oral communication. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, Spain. 19-23 November 2019.
- ▶ L. Cervera-Carles, I. Illán-Gala, O. Dols-Icardo, D. Alcolea, I. Sala, L. Muñoz-Llahuna, O. Belbin, B. Sánchez-Saudinós, M. Carmona-Iragui, Y. Compta, M.J. Martí, A. Gámez-Valero, K. Beyer, R. Blesa, J. Fortea, A. Lleó, J. Clarimón. miRNAs en vesículas extracelulares de LCRen taupáticas 4R: potenciales biomarcadores y mecanismos moleculares. Oral communication. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, Spain. 19-23 November 2019.
- ▶ V. Álvarez-Martínez, I. Rosas-Allende, C. Martínez-Rodríguez, J. Clarimón, A. Lleó, I. Illán-Gala, O. Dols-Icardo, B. Borroni, M.R. Almeida, C. Van Broeckhoven, A.C. Bruni, D. Galimberti, G. Rossi, L. Benussi, B.

Nacmias, R. Sánchez-Valle, B. De la Casa-Fages, P. Pastor, R. Ferrari, M.F. Menéndez-González. Factores genéticos moduladores de fenotipo en la demencia fronto temporal. Oral communication. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, Spain. 19-23 November 2019.

- ▶ R. Rojas-García, J. Turón-Sans, S. Borrego, E. Cortés-Vicente, N. de Luna, I. Illán-Gala, O. Dols-Icardo, J. Gamez, M. Povedano, M.A. Rubio, A. Cano, L. Bajo, M. Pare, J. Sotoca, L. Molina, A. Lleó, R. Sanchez-Valle, J. Clarimón, E. Gelpi. Espectro clínico, genético y neuropatológico en una serie postmortem de pacientes con enfermedad de neurona motora. Oral communication. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, Spain. 19-23 November 2019.
- ▶ R. Rojas-García, N. de Luna, J. Turón-Sans, E. Cortés-Vicente, I. Illán-Gala, O. Dols-Icardo, A. Lleó, J. Clarimón, I. Jerico. NOD2 como potencial biomarcador diagnóstico en Esclerosis Lateral Amiotrófica. Oral communication. LXXI Reunión Anual de la Sociedad Española de Neurología. Sevilla, Spain. 19-23 November 2019.
- ▶ L. Cervera-Carles, I. Illán-Gala, D. Alcolea, I. Sala, L. Muñoz-Llahuna, O. Dols-Icardo, O. Belbin, M.B. Sánchez-Saudinós, M. Carmona-Iragui, Y. Compta, M.J. Martí, A. Gámez-Valero, K. Beyer, R. Blesa, J. Fortea, A. Lleó, J. Clarimón. Altered microRNAs from CSF's extracellular vesicles in 4R-tauopathies: potential biomarkers and molecular mechanisms. Oral communication. 14th International Conference on Alzheimer's & Parkinson's Diseases. Lisbon, Portugal. 26-31 March 2019. *Alz & Dement* 14(7), Suppl pp.398-399

Training

- ▶ During 2019 we have supervised two Final Master Thesis Projects (TFM), from the "Advance Genetics" and the "Neuroscience" Masters at the UAB. The Unit also hosted three students from La Guineueta and La Bonanova Institute (Barcelona), who performed their laboratory practices as lab technicians. We have also hosted a summer stay (280h) of a student from the Genetics Degree (UAB).

Appearances in the Media

- ▶ Dr. Jordi Clarimon, Collaborator at the Medical Magazine Maresmèdic:
 - "Amyotrophic lateral sclerosis". Issue num. 3 (December 2019)
 - "Alzheimer's dementia". Issue num. 2 (June 2019)

AREA 4 · Neurological, Mental Disorders and Ageing

Neurobiology of Dementia



Coordinator

Lleó Bisà, Alberto (FGS)
alleo@santpau.cat

Members

Alcolea Rodríguez, Daniel Andrés (FGS)
Altuna Azkargorta, Miren (FGS)
Barroeta Espar, Isabel (FGS)
Bejanin, Alexandre Pierre A. (IR)
Belbin, Olivia (IR)
Blesa González, Rafael (FGS)
Carmona Iragui, Maria (FGS)

El Bounasri El Bennadi, Shaimaa (CIBERNED)

Escolà Lafontana, Concepció (FGS)
Estelles Pals, Maria Teresa (FGS)
Fortea Ormaechea, Juan (FGS)
García Losada, Lidia (IR)
Garzón Chávez, Diana (IR)
Illan Gala, Ignacio (IR)
Montal Blancafort, Víctor (IR)
Morenas Rodríguez, Estrella (IR)
Muñoz Llahuna, Laia (CIBERNED)
Núñez Llaves, Raul (IR)
Pegueroles Monllau, Jordi (IR)

Querol Vilaseca, Marta (IR)

Ribosa Nogué, Roser (IR)
Sala Matavera, Isabel (FGS)
Sánchez Saudinos, María Belén (IR)
Santos Santos, Miguel Ángel (FGS)
Sirisi Dolcet, Sonia (IR)
Subirana Castillo, Andrea (IR)
Torres Alcalá, Soraya (IR)
Valldeu Castells, Silvia (IR)
Videla Toro, Laura (IR)
Vilaplana Martínez, Eduard (IR)

Main Lines of Research

Biomarkers in Alzheimer disease and other neurodegenerative dementias:

- ▶ Biofluid biomarkers in Alzheimer disease, dementia with Lewy bodies and frontotemporal dementia.
- ▶ Amyloid and tau imaging in neurodegenerative dementias.
- ▶ Novel imaging markers in preclinical Alzheimer disease and frontotemporal dementia.

- ▶ Clinical and Biomarker characterization of Alzheimer disease in Down syndrome.
- ▶ Molecular basis of neurodegenerative diseases.
- ▶ Clinical trials in Alzheimer disease and Down syndrome.

Scientific Challenges

- ▶ Maintain and increase scientific production and funding in the next 5 years.
- ▶ Develop a training plan for researchers entering the group while maintaining its translational nature.

- ▶ Establish new cooperation agreements to increase number of applications for European and international projects.
- ▶ Establish links with technological innovation groups and companies to foster additional patent applications and contracts.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Genetics in Neurodegenerative Diseases (PI: Jordi Clarimon).
- ▶ Molecular Physiology of the Synapse (PI: Àlex Bayés).
- ▶ Cerebrovascular Diseases (PI: Joan Martí-Fàbregas).
- ▶ Neuromuscular Diseases (PI: Isabel Illa, Ricard Rojas).
- ▶ Parkinson Disease and Movement Disorders (PI: Jaime Kulisevsky).
- ▶ Biochemistry (PI: Francisco Blanco).
- ▶ Nuclear Medicine (PI: Ignasi Carrió, Valle Camacho).
- ▶ Multidisciplinary Sleep Unit (PI: Sandra Giménez).

External Collaborations

International Collaborations

- ▶ Laura Cervera. Collaboration, stay. Albert Einstein College of Medicine. USA. 01/10/2018-30/03/2019.
- ▶ Víctor Montal. Collaboration, stay. Sepulcre Lab, Gordon Imaging Center, Massachusetts General Hospital (MGH) and Harvard Medical School. USA. 22/08/2019-09/12/2019.

- ▶ Juan Fortea. Collaboration, stay. Psychiatry and Neurology Departments, New York University. NY, USA. 01/03/2019-31/12/2019.
- ▶ Collaboration, article. Alzheimer Centrum Limburg, Maastricht University, Maastricht, the Netherlands; Alzheimer Center, VU University Medical Center, Amsterdam, the Netherlands. 2019.
- ▶ Collaboration, article. Hope Center for Neurological Disorders and NeuroGenomics and Informatics, Washington University School of Medicine, St. Louis, USA.
- ▶ Collaboration, article. Division of Psychiatry / The London Down Syndrome Consortium (LonDownS), University College London and Department of Forensic and Neurodevelopmental Sciences, Institute of Psychiatry, Psychology & Neuroscience, Kings College London.
- ▶ Collaboration, article. Department of Biological Sciences and the Knobel Institute for Healthy Aging, University of Denver, Colorado.
- ▶ Collaboration, article. Institute of Pharmaceutical Science, King's College London, London, UK; Steno Diabetes Center Copenhagen, Gentofte, Denmark.
- ▶ Collaboration, article. Department of Neurodegenerative Disease, UCL Institute of Neurology, London, UK; UK Dementia Research Institute (UK DRI) at UCL, London, UK; Department of Medical Sciences and Institute of Biomedicine, iBiMED, University of Aveiro, Aveiro, Portugal.

- ▶ Collaboration, article. Systems Immunity Research Institute and UK Dementia Research Institute Cardiff, School of Medicine, Cardiff University, UK.
- ▶ Collaboration, article. Linda Crnic Institute for Down Syndrome / Department of Pharmacology / Functional Genomics Facility, University of Colorado Anschutz Medical Campus, Aurora, Colorado, USA and Department of Molecular, Cellular and Developmental Biology, University of Colorado Boulder, Boulder, Colorado, USA.
- ▶ Collaboration, article. Jepsen Centre for Psychosis Research, Division of Mental Health and Addiction, Oslo University Hospital, Oslo, Norway and Institute of Clinical Medicine, University of Oslo, Oslo, Norway
- ▶ Collaboration, article. Department of Psychiatry, University of Oxford, Oxford, UK

Active Grants

- ▶ Alberto Lleó Bisa. Centro de Investigación Biomédica en Red de Enfermedades Neurodegenerativas. CIBERNED. CB06/05/0063. Ministerio de Sanidad y Política Social. Duration: 2006-2020. 1,011,734.20 €.
- ▶ Olivia Belbin. Contratos Miguel Servet 2013 - Tipo I. MS13/00091. Instituto de Salud Carlos III. Duration: 2014-2019. 202,500 €.
- ▶ Juan Fortea Ormaechea. La estructura cerebral y el metabolismo en la enfermedad de Alzheimer preclínica. Interacciones entre “nuevos y viejos” biomarcadores. PI14/01126. Instituto de Salud Carlos III. Duration: 2015-2019. 101,500 €.
- ▶ Alberto Lleó Bisa. Marcadores sinápticos en la enfermedad de Alzheimer. PI14/01561. Instituto de Salud Carlos III. Duration: 2015-2019. 111,500 €.
- ▶ Olivia Belbin. Valoración y caracterización de biomarcadores del estadio preclínico de la enfermedad de Alzheimer. PI15/00058. Instituto de Salud Carlos III. Duration: 2016-2019. 56,500 €.
- ▶ Rafael Blesa González. Pre-clinical Alzheimer's disease and Type 2 diabetes and obesity. Effects of bariatric surgery: a multimodal study. MARATO 201614.31. Fundació La Marató de TV3. Duration: 2017-2020. 142,700 €.
- ▶ Rafael Blesa González. Estudio del trazador de tomografía por emisión de positrones (PET) para Tau [18F]THK-5351 en pacientes con diferentes Tauopatías. PI16/01825. Instituto de Salud Carlos III. Duration: 2017-2021. 101,500 €.
- ▶ Estrella Morenas Rodríguez. Ayudas para contratos de formación “Río Hortega” 2016. CM16/00054. Instituto de Salud Carlos III. Duration: 2017-2019. 53,732 €.
- ▶ Alberto Lleó Bisa. Study with the tau Positron Emission Tomography radiotracer (18F)THK-5351 in patients with different Tauopathies (TAUDEM). BBVA 2016. Fundació BBVA. Duration: 2016-2019. 107,900 €.
- ▶ Raul Núñez Llaves. Valoración y caracterización de proteínas sinápticas como biomarcadores del daño sináptico relacionado con la enfermedad Alzheimer. SLT002/16/00099. Departament de Salut. Duration: 2017-2019. 60,783.66 €.
- ▶ Alberto Lleó Bisa. Estudio de biomarcadores y desarrollo de nuevas estrategias terapéuticas en una cohorte multicéntrica de Demencia Frontotemporal. SLT002/16/00408. Departament de Salut. Duration: 2017-2019. 123,280.20 €.
- ▶ Sonia Sirisi Dolcet. Contractes postdoctorals “Sara Borrell” 2017. CD17/00055. Instituto de Salud Carlos III. Duration: 2018-2020. 80,598 €.
- ▶ Ignacio Illan Gala. Contractes de formació en recerca “Río Hortega” 2017. CM17/00074. Instituto de Salud Carlos III. Duration: 2018-2019. 53,732 €.
- ▶ Alberto Lleó Bisa. Estudio de biomarcadores y desarrollo de nuevas estrategias terapéuticas en una cohorte multicéntrica de Demencia Frontotemporal. SLT002/16/00408-01. Departament de Salut. Duration: 2017-2019. 251,426.53 €.
- ▶ Rafael Blesa González. Down Alzheimer Barcelona Neuroimaging Initiative (DABNI). La Caixa - Down Alzheimer. Fundació La Caixa. Duration: 2017-2020. 783,000 €.
- ▶ Alberto Lleó Bisa. Aplicación de Tomografía de Array (AT) para el estudio sistemático a gran escala del daño sináptico en las demencias neurodegenerativas. PI17/01896. Instituto de Salud Carlos III. Duration: 2018-2020. 77,000 €.
- ▶ Juan Fortea Ormaechea. 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. Duration: 2018-2020. 127,000 €.
- ▶ Juan Fortea Ormaechea. The Role of Inflammation and NGF Dysfunction in the Evolution of Alzheimer Disease Pathology in Down syndrome. 2018-3570. University of Southern California. Duration: 2018-2022. 428,518.83 €.
- ▶ Eduard Vilaplana Martínez. Estudios multimodales de resonancia magnética, tomografía de emisión de positrones y líquido cefalorraquídeo en la enfermedad de Alzheimer en el síndrome de Down. SLT006/17/00095. Departament de Salut. Duration: 2018-2020. 93,137.03 €.
- ▶ Daniel Andrés Alcolea Rodríguez. Variabilitat dels nivells d'Aβ42 i Tau en líquid cefaloraquídi: Comparació de plataformes automatitzades i estudi de la producció de β-amiloide mitjançant marcadors subrogats. SLT006/17/00125. Departament de Salut. Duration: 2018-2019. 86,342.79 €.
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- ▶ Alexandre Pierre Armand Bejanin. Neuroimagen multimodal para estudiar los mecanismos fisiopatológicos de la enfermedad de Alzheimer y otras enfermedades neurodegenerativas. IJCI-2017-32609. Ministerio de Economía y Competitividad. Duration: 2019-2021. 64,000 €.
- ▶ Maria Florencia Iulita. Discovery of novel biomarkers signalling NGF metabolic dysfunction and early AD-dementia in Down syndrome. JEROME LEJEUNE 2018-2. Jérôme Lejeune Fondation. Duration: 2019-2021. 130,000 €.
- ▶ Daniel Andrés Alcolea Rodríguez. Utilidad diagnóstica de Aβ42 y Aβ42/40 en LCR y plasma para detectar amiloidosis cerebral y correlación con marcadores subrogados de producción de β-amiloide en enf. de Alzheimer. PI18/00435. Instituto de Salud Carlos III. Duration: 2019-2021. 122,000 €.
- ▶ Olivia Belbin. Estudio multimodal de nuevos biomarcadores sinápticos en cohortes de la enfermedad de Alzheimer y la demencia frontotemporal. PI18/00327. Instituto de Salud Carlos III. Duration: 2019-2021. 102,000 €.
- ▶ María Carmona Iragui. 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. Duration: 2019-2021. 57,000 €.
- ▶ María Carmona Iragui. Domiciliary Alzheimer Visiting in Down syndrome. GBHI_ALZ-18-543740. ALTUM. Duration: 2018-2021. 18,433.61 €.
- ▶ Víctor Montal Blancafort. Cambios longitudinales en la estructura y la función cerebral en el continuum de la enfermedad de Alzheimer y Síndrome de Down. FI18/00275. Instituto de Salud Carlos III. Duration: 2019-2022. 82,400 €.
- ▶ Miguel Ángel Santos Santos. Contratos Juan Rodés 2018. JR18/00018. Instituto de Salud Carlos III. Duration: 2019-2023. 180,000 €.
- ▶ Juan Fortea Ormaechea. Borses d'Ampliació d'Estudis 2018. BA18/00057. Instituto de Salud Carlos III. Duration: 2019. 23,360 €.

- ▶ Olivia Belbin. Estudio multimodal de nuevos biomarcadores sinápticos en cohortes de la enfermedad de Alzheimer y la demencia frontotemporal. CPII18/00011. Instituto de Salud Carlos III. Duration: 2019-2022. 91,125 €.
- ▶ Juan Fortea Ormaechea. Horizon 21-Clinical and trial outcome measures for dementia in individuals with Down syndrome - the DS-1000 cognitive test study group. JEROME LEJEUNE 2018-1. Jérôme Lejeune Fondation. Duration: 2018-2019. 30,250 €.
- ▶ Juan Fortea. Biological Correlates of Alzheimer in Down Syndrome. R21 AG056974-01. NIH/NIA (National Institute of Health/ National Institute of Aging). Duration: 2015-2019. 414,425 €.
- ▶ Juan Fortea. Tau Pathology in Down Syndrome-related Alzheimer's disease. R01AG061566 (1RF1AG061566-01). NIA (National Institute of Aging). Duration: 2019-2024. \$3,357,895.
- ▶ Juan Fortea. Novel Diffusion-Weighted MRI Assessment of Cortical Microstructural Changes and their Relationship to Amyloid, Tau and Cognition in Aging and Alzheimer's Disease. 1R21AG064348-01. NIH/NIA (National Institute of Health/ National Institute of Aging).
- ▶ Juan Fortea. International Brain Bank for DS-related AD. CA2018010. BrightFocus. Duration: 2017-2022. 2,500€/brain.
- ▶ Alberto Lleó. Development of prototype immunoassays on the SimoA Technology for quantification in biological samples of oligomeric forms of α -Synuclein using new antibody combinations (Acronym: SynOligo). MJ-Fox-Synoligo-20180516-1. MJ FOX PROJECT. Duration: 2018-2019.

Note: Total amount granted to PI. It does not include indirect costs.

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- ▶ Rafael Blesa González. 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. Duration: 2020-2022. 192,000 €.
- ▶ Miguel Ángel Santos Santos. Afasia primaria progresiva: Caracterización multimodal de los síntomas, fisiopatología y progresión. PI19/00882, Instituto de Salud Carlos III. Duration: 2020-2022. 92,000 €.
- ▶ Miren Altuna Azkargorta. Contratos Río Hortega 2019. CM19/00066. Instituto de Salud Carlos III. Duration: 2020-2021. 53,732 €.
- ▶ Maria Teresa Estellés Pals. Contratos Río Hortega 2019. CM19/00017. Instituto de Salud Carlos III. Duration: 2020-2021. 53,732 €.
- ▶ Daniel Andrés Alcolea Rodríguez. Contractes per a la intensificació de l'activitat investigadora 2019. INT19/00016. Instituto de Salud Carlos III. Duration: 2020-2021. 60,000 €.
- ▶ Alberto Lleó Bisa. Proteínas en sangre para la discriminación precoz de las demencias. AC19/00103, Instituto de Salud Carlos III. Duration: 2020-2022. 82,500 €.
- ▶ Juan Fortea Ormaechea. Clinical trials to prevent Alzheimer's Disease in Down Syndrome., 127636920, University of Southern California. Duration: 2019-2021. 33.395,56 €.
- ▶ Juan Fortea Ormaechea. Ampliación "The Role of Inflammation and NGF Dysfunction in the Evolution of Alzheimer Disease Pathology in Down syndrome. 2018-3570-1. University of Southern California. Duration: 2019-2021. 247.506,93 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Fortea J. *et al.* Agustí Codina i Puigros award to the best article of the year in Catalonia. (Fortea *et al.* Lancet Neurology 2018).
- ▶ BIC award to Hospital de Sant Pau for the health plan in Down Syndrome.

Doctoral Theses

- ▶ Ignacio Illán Gala. Pathophysiological and structural underpinning of frontotemporal lobar degeneration: a multimodal biomarker study. Universitat Autònoma de Barcelona. Directors: Juan Fortea, Alberto Lleó. Date of defense: 26/02/2019.

Patents

- ▶ Olivia Belbin, Alberto Lleó, Àlex Bayés, Juan Fortea, Daniel Alcolea. Markers of Synaptopathy in Neurodegenerative Disease. WO 2019/175379 A1. Markers of Synaptopathy. 16/03/2018.

Transfer Products

- ▶ Fujirebio Europe N.V. DDS-417-AD. Determination of reference values of Alzheimer biomarkers with Lumipulse in people with intact cognition.
- ▶ Fujirebio Europe N.V. DDS-419-AD. Determination of Alzheimer's biomarker cutpoints with Lumipulse with validation for amyloid PET.
- ▶ Cortexyme. Detection of *P. Gingivalis* in samples of patients with Down syndrome and Alzheimer's disease. 2019-2021. 27,000 €.
- ▶ Agent. Collaboration on plasma markers for Alzheimer's disease using multiplex platforms. 2019-2021. 43,500 €.

Scientific Production

Total Impact Factor: 380.636 · Mean Impact Factor: 8.0986

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Diffusion Activities

Oral Communications at Congresses

▶ Álvarez-Martínez V., Rosas-Allende I., Martínez-Rodríguez C., Clarimón J., Lleó A., Illán-Gala I., Dols-Icardo O., Borroni B., Almeida M.R., Van Broeckhoven C., Bruni A.C., Galimberti D., Rossi G., Benussi L., Nacmias B., Sánchez-Valle R., De la Casa-Fages B., Pastor P., Ferrari R., Menéndez-González M.F. Phenotype modulating genetic factors in fronto-temporal dementia. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.

▶ Barroeta Espar I, Montal Blancafort V, Carmona-Iragui M, Pegueroles Monllau J, Vilaplana Martínez E, González-Ortiz S, Altuna Azkargorta M, Benejam Paul B, Alcolea Rodríguez D, Videla Toro L, Valldeu Castell S, Fernández González S, Videla Cés S, Blesa González R, Lleó Bisa A, Fortea J. Myo-inositol and cortical atrophy in Alzheimer's disease in Down syndrome. Spectroscopy and MRI study. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.

- ▶ Cervera-Carles L, Illán-Gala I, Dols-Icardo O, Alcolea D, Sala I, Muñoz-Llahuna L, Belbin O, Sánchez-Saudinós B, Carmona-Iragui M, Compta Y, Martí MJ, Gámez Valero A, Beyer K, Blesa R, Fortea J, Lleó A, Clarimón J. miRNAs in CSF extracellular vesicles in 4R tauopathies: potential biomarkers and molecular mechanisms. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.
 - ▶ Cervera-Carles L, Illán-Gala I, Alcolea D, Sala I, Muñoz-Llahuna L, Dols-Icardo O, Belbin O, Sánchez-Saudinós B, Carmona-Iragui M, Compta Y, Martí MJ, Gámez Valero A, Beyer K, Blesa R, Fortea J, Lleó A, Clarimón J. Altered microRNAs from CSF's extracellular vesicles in 4R tauopathies: potential biomarkers and molecular mechanisms. 14th International Conference on Alzheimer's & Parkinson's Diseases. Lisboa, March 2019. In: *Alz & Dement* 14(7), Suppl pp.398-399.
 - ▶ Dols O. RNA dysfunction in the ALS motor cortex. VII Congreso Internacional de Investigación e Innovación en Enfermedades Neurodegenerativas (CIIEN). Valencia, 18-20 September 2019.
 - ▶ Dols Icardo O, Montal V, Sirisí S, López Pernas G, Molina Porcel L, Muñoz Llahuna L, Cervera Carles L, Turón Sans J, Fortea J, Blesa R, Lleó A, Rojas García R, Clarimón J. Study of the transcriptome of the motor cortex of ALS patients by means of massive RNA sequencing. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.
 - ▶ Estellés Pals MT, Xucla Ferrarons T, Carmona Iragui M, Illán Gala I, Barroeta Espar I, Sánchez Saudinós MB, Sala Matavera I, Morenas Rodríguez E, Altuna Azkargorta M, Santos Santos MÁ, Fortea Ormaechea J, Lleó Bisa A, Alcolea Rodríguez D. Prognosis of patients with mild amnesic cognitive impairment according to their CSF biomarker profile. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, November 2019.
 - ▶ Morenas E, Alcolea D, Suarez M, Muñoz L, Vilaplana E, Sala I, Subirana A, Querol M, Carmona M, Illán I, Ribosa R, Blesa R, Fortea J, Lleó A. Different pattern of CSF glial markers between dementia with Lewy bodies and Alzheimer's disease. 14th International Conference on Alzheimer's and Parkinson's disease. AD/PD Lisboa, 2019.
 - ▶ Pegueroles Monllau J, Montal V, Bejanin A, Vilaplana E, Blesa R, Lleó A, Fortea J. Amyloid index: a new biomarker to measure cerebral amyloid load. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, November 2019.
 - ▶ Rojas-García R., Turon-Sans J., Borrego S., Cortés-Vicente E., de Luna N., Illán-Gala I., Dols-Icardo O, Gamez J., Povedano M, Rubio M.A, Cano A., Bajo L., Pare M., Sotoca J, Molina L., Lleó A, Sanchez-Valle R, Clarimón J, Gelpi E. Clinical, genetic and neuropathological spectrum in a postmortem series of patients with motor neuron disease. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.
 - ▶ Rojas-García R, de Luna N., Turon-Sans J., Cortés-Vicente E., Illán-Gala I, Dols-Icardo O, Lleó A, Clarimón J, Jerico I. NOD2 as a potential diagnostic biomarker in Amyotrophic Lateral Sclerosis. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.
 - ▶ Sala Matavera I, Morenas Rodríguez E, Subirana Castillo A, Sanchez Saudinós M, Illán Gala I, Alcolea Rodríguez D, Videla Toro L, Valldeneu Castells S, Carmona Iragui M, Barroeta Espar I, Estelles Pals M, Altuna Azkargorta M, Santos Santos M, Ribosa Nogué R, Blesa González R, Fortea Ormaechea J, Lleó Bisa A. Pareidolias in patients with dementia with Lewy bodies. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.
 - ▶ Santos Santos MÁ, Illán Gala I, Alcolea Rodríguez D, Carmona Iragui M, Barroeta Espar I, Estellés Pals MT, Altuna Azkargorta M, Vilaplana E, Montal V, Pegueroles J, Bejanin A, Valldeneu S, Sánchez Saudinós MB, Sala Matavera I, Subirana A, Videla L, Valle Camacho M, Blesa R, Fortea Ormaechea J, Lleó Bisa A. Uptake characteristics of the PET-tau tracer, [18F]-THK5351, in a heterogeneous cohort of neurodegenerative disease. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, November 2019.
 - ▶ Tort Merino A, Valech Torres N, Martínez-Lage P, Fortea J, Molinuevo JL, Sanchez-Valle R, Rodríguez Fornells A, Rami L. Subjective cognitive decline in preclinical Alzheimer's disease: application of more sensitive measures, such as long-term forgetfulness, for the detection of subtle cognitive difficulties. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.
 - ▶ Valldeneu Castells S, Altuna Azkargorta M, Videla Toro L, Barroeta Espar I, Benejam Paul B, Estellés Pals T, Fernández S, Lleó Bisa A, Blesa Gonzalez R, Fortea Ormaechea J, Carmona Iragui M. Preliminary results of the DAVIS pilot project: Domiciliary Alzheimer Visiting in Down Syndrome. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.
 - ▶ Videla L, Benejam B, Vilaplana E, Valldeneu S, Carmona-Iragui M, Fernández S, Barroeta I, Altuna M, Videla S, Lleó A, Blesa R, Fortea J. Diagnosing Cognitive Decline Due to Alzheimer's Disease in Down Syndrome Patients with Neuropsychological Testing. 3rd International Conference T21RS. Barcelona, June 2019.
 - ▶ Videla Toro L, Benejam Paul B, Vilaplana E, Valldeneu S, Carmona Iragui M, Fernandez Gonzalez S, Barroeta Espar I, Altuna M, Videla Ces S, Lleó Bisa A, Blesa Gonzalez R, Fortea Ormaechea J. Defining cut points in neuropsychological tests for the diagnosis of cognitive decline due to Alzheimer's disease in people with Down syndrome. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.
 - ▶ Vilaplana Martínez E, Montal V, Pegueroles J, Alcolea D, Clarimón J, Blesa R, Lleó A, Fortea J. The microstructural footprint of Alzheimer's disease. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.
- ### Scientific Posters at Congresses
- ▶ Alcolea D, Vilaplana E, Muñoz L, Illán I, Morenas E, Estellés T, Barroeta I, Carmona M, Delaby C, Lehmann S, Blesa R, Fortea J, Lleó A. Sex differences in cerebrospinal fluid NfL levels are consistent across cohorts. Alzheimer's Association International Conference, AAIC. Los Angeles, 14-18 July 2019.
 - ▶ Altuna M, Martínez L, Fernández S, Barroeta I, Carmona-Iragui M, Videla L, Benejam B, Pegueroles J, Valldeneu S, Lleó A, Blesa R, Fortea J. Clinical Characterization and Pharmacological Management of Epilepsy in the Adult Population with DS. 3rd International Conference T21RS. Barcelona, June 2019. (Poster + Nanosymposium).
 - ▶ Altuna Azkargorta M, Fernández S, Carmona Iragui M, Barroeta I, Benejam B, Videla L, Valldeneu S, Pegueroles J, Estellés MT, Illán I, Lleó A, Fortea J. Clinical characteristics and experience in the therapeutic management of late-onset myoclonic epilepsy in an adult population with Down syndrome. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.
 - ▶ Carmona-Iragui M, Barroeta I, Videla L, Fernández S, Benejam B, Altuna M, Pegueroles J, Alcolea D, Clarimón J, Videla S, Lleó A, Blesa R, Fortea J. Looking for cerebral amyloid angiopathy biomarkers in Down syndrome. 3rd Conference Trisomy Research Society. Barcelona, 6-9 June 2019.
 - ▶ Dols O. RNA dysfunction in the ALS motor cortex. VII Congreso Internacional de Investigación e Innovación en Enfermedades Neurodegenerativas (CIIEN). Valencia, 18-20 September 2019.
 - ▶ Giménez S, Farré A, Morante F, Videla L, Carreras F, Benejam B, Asensio A, Carmona-Iragui M, Fortuna A, Peñacoba P, Blesa R, Lleó A, Fortea J, Mayos M. Feasibility of continuous airway pressure treatment for sleep apnea in adults with DS. 3rd International Conference T21RS. Barcelona, June 2019. (Poster + Nanosymposium).
 - ▶ Montal V, Barroeta I, Carmona-Iragui M, Pegueroles J, Vilaplana E, González S, Altuna M, Benejam B, Alcolea D, Videla L, Valldeneu S, Fernández S, Videla S, Blesa R, Clarimón J, Lleó A, Fortea J. Neuroinflammation and cortical atrophy related to AD in DS: a MRI-MRS study. 3rd International Conference T21RS. Barcelona, June 2019. (Poster + Nanosymposium).
 - ▶ Peyron PA, Lehmann S, Delaby C, Baccino E, Hirtz C. Tau and Neurofilament Light Proteins in Cerebrospinal Fluid as Biomarkers of the Time of Death. American Academy of Forensic Sciences. Baltimore, 18-23 February 2019.
 - ▶ Sala Matavera I, Subirana Castillo A, Sanchez Saudinós M, Morenas Rodríguez E, Illán Gala I, Alcolea Rodríguez D, Videla Toro L, Valldeneu Castells S, Carmona Iragui M, Barroeta Espar I, Santos Santos M, Estelles Pals M, Altuna Azkargorta M, Ribosa Nogué R, Blesa González R, Fortea Ormaechea J, Lleó Bisa A. Prospective analysis of fluctuations evaluation in a hospital dementia consultation. LXXI Annual Meeting of the Sociedad Española de Neurología. Sevilla, 19-23 November 2019.

- ▶ Sirisi-Dolcet S, Querol-Vilaseca M, Dols-Icardo O, Cervera-Carles L, Pegueroles J, Montal V, Belbin O, Fortea J, Clarimon J, Lleó A. Neuroinflammatory brain changes in FTD with C9ORF72 expansion. CIBERNED, 18-20 September 2019.
- ▶ Valldeu S, Videla L, Benejam B, Carmona-Iragui M, Barroeta I, Altuna M, Fernández S, Blesa R, Lleó A, Fortea J. Neuropsychiatric symptoms in the Alzheimer disease continuum in people with Down syndrome. XI Congreso Nacional de Neuropsicología, Madrid. March 2019.
- ▶ Valldeu S, Videla L, Benejam B, Carmona-Iragui M, Fernández S, Barroeta I, Altuna M, Lleó A, Blesa R, Fortea J. Assessing neuropsychiatric symptoms through NPI scale in Alzheimer's disease continuum in people with Down syndrome. 3rd International Conference T21RS. Barcelona, 06/2019. (Poster + Nanosymposium).
- ▶ Videla L, Benejam B, Vilaplana E, Valldeu S, Carmona-Iragui M, Fernández S, Barroeta I, Altuna M, Videla S, Lleó A, Blesa R, Fortea J. Diagnosing Cognitive Decline Due to Alzheimer's Disease in Down Syndrome Patients with Neuropsychological Testing. 3rd International Conference T21RS. Barcelona, June 2019. (Poster + Nanosymposium).
- ▶ Vilaplana E, Montal V, Pegueroles J, Blesa R, Lleó A, Fortea J. Looking beyond atrophy: cortical mean diffusivity in Alzheimer's disease. Organization for Human Brain Mapping Annual Meeting. Roma, 9-13 June 2019.
- ▶ Fortea J. Alzheimer's disease in Down syndrome and familial Alzheimer's disease: Unique opportunities to understand and prevent a devastating disease. University of California Irvine, October 2019.
- ▶ Fortea J. Alzheimer's disease in Down syndrome and familial Alzheimer's disease: Unique opportunities to understand and prevent a devastating disease. Cornell University, New York. November 2019.
- ▶ Fortea J. Alzheimer's disease in Down syndrome and familial Alzheimer's disease: Unique opportunities to understand and prevent a devastating disease. New York University. Radiology Department. November 2019.
- ▶ Fortea J. La historia natural de la enfermedad de Alzheimer en el síndrome de Down. LXXI Annual Meeting of the Sociedad Española de Neurología. November 2019.
- ▶ Blesa R. Demencia en enfermedades Neurodegenerativas: Avances Terapéuticos. Jornada 'Demencia en enfermedades neurodegenerativas. Avances terapéuticos' organizada per la Unidad de Investigación y Tratamiento de los Trastornos de la Memoria del Centro Integral de Neurociencias AC HM CINAC. Madrid, November 2019.
- ▶ Fortea J. Plasma and CSF biomarkers for the diagnosis of AD in DS. Clinical Trials in Alzheimer's Disease Symposium. San Diego, California, December 2019.
- ▶ Fortea J. The preclinical phase of Alzheimer's disease: Multimodal biomarker studies in the general population and in Down Syndrome. New York University, Grand Rounds de Psiquiatria. New York, December 2019.

Invited Talks

- ▶ Lleó A. Update on CSF biomarkers in neurodegenerative diseases. Clínica Universitaria de Pamplona. Pamplona, March 2019.
- ▶ Lleó A. Design and interpretation of studies in Alzheimer. Barcelona, March 2019.
- ▶ Fortea J. Alzheimer's & Down Syndrome Workshop. Session 3: AD NON-Imaging Biomarkers in Down Syndrome. Maryland, March 2019.
- ▶ Fortea J. What is Alzheimer's Disease: Understandings and Frontiers. New York University Symposium. New York, April 2019.
- ▶ Lleó A. Synapse in Alzheimer's disease: biomarkers and potential as a therapeutic target. Mallorca, 3 April 2019.
- ▶ Lleó A. Present and future of biomarkers in Alzheimer's disease. VI Conferencia Málaga Alzheimer. Málaga, May 2019.
- ▶ Fortea J. Incorporating advances in biomarkers into dementia diagnostics experience of a European reference center. Hospital Mount Sinai, New York, May 2019.
- ▶ Fortea J. Biphasic model of cortical macro and microstructural changes in preclinical Alzheimer's Disease. McGill University Douglas Research Center for Studies in Aging. Mont-real, Quebec, 22 May 2019.
- ▶ Fortea J. Alzheimer's disease in Down syndrome: human studies. McGill University McIntyre Medical Sciences Building. Mont-real, Quebec, 23 May 2019.
- ▶ Fortea J. General overview of clinical studies and what we can expect for the future. 3rd International Conference T21RS. Barcelona, June 2019.
- ▶ Benejam B. Analysis of biomarkers of cognitive decline and neurodegeneration in plasma and CSF in a DS cohort. 3rd International Conference T21RS. Barcelona, June 2019.
- ▶ Carmona M, Barroeta I. Clinical Studies. 3rd International Conference T21RS. Barcelona, June 2019.
- ▶ Fortea J. Alzheimer's Disease Biomarkers in the General Population & Associated to Down's Syndrome. University of California San Francisco, San Francisco, June 2019.
- ▶ Fortea J. Alzheimer's Disease in the General Population & Associated to Down's Syndrome. Columbia University Medical Center, June 2019.
- ▶ Fortea J. Alzheimer's Disease in the General Population & Associated to Down's Syndrome. Feinstein Institute, August 2019.
- ▶ Lleó A. Fluid biomarkers in frontotemporal lobar degeneration. 2nd FinFTD Symposium. University of Eastern Finland. Kuopio, Finland, 13 September 2019.

Divulgative Talks

- ▶ Daniel Alcolea. What have we learned about Alzheimer's and other dementias in research studies: experience in the SPIN cohort. Divulgative talk about Alzheimer. Cycle of Divulgative Sant Pau Talks for relatives of Alzheimer patients, organized by the Memory Unit of the Hospital Sant Pau. November 2019.
- ▶ Marta Gelpí. Prevention, measures of protection and modification of capacity in Alzheimer's patients. Divulgative talk about Alzheimer. Cycle of Divulgative Sant Pau Talks for relatives of Alzheimer patients, organized by the Memory Unit of the Hospital Sant Pau. September 2019.
- ▶ Roser Ribosa. Clinical trials for patients with Alzheimer's disease. Divulgative talk about Alzheimer. Cycle of Divulgative Sant Pau Talks for relatives of Alzheimer patients, organized by the Memory Unit of the Hospital Sant Pau. May 2019.
- ▶ Alberto Lleó. Advances in Alzheimer's disease and other dementias. Divulgative talk about Alzheimer. Cycle of Divulgative Sant Pau Talks for relatives of Alzheimer patients, organized by the Memory Unit of the Hospital Sant Pau. April 2019.
- ▶ Sònia Sirisi. How dementias are diagnosed. Divulgative talk in the context of "The night of research 2019. Centre Cívic Vil·la Urània, Barcelona, September 2019.
- ▶ Isabel Barroeta. Alzheimer's disease in Down syndrome. Talk to families in the 3rd Conference Trisomy Research Society. June 2019.
- ▶ Health plan for the detection of Alzheimer's disease in people with Down syndrome. Divulgative talk. Cycle "Down syndrome: a scientific challenge". Barcelona, March 2019.
- ▶ Sònia Sirisi. Divulgative talk "Woman and science" to secondary and high school students. World Woman's and science day. Escola Vedruna-Balaguer, February 2019.

Talks in Courses, Seminars and Workshops

- ▶ I. Barroeta. Seminar to neurology residents. "Addressing memory complaints on the first consultation visits". Barcelona, 3 January 2019.
- ▶ Course for residents in neurodegenerative dementias of the Spanish Society of Neurology. Hospital Clínic, Barcelona. 28-29 October 2019.
 - I. Barroeta. Synucleinopathies with cognitive impairment: Lewy body dementia and Parkinson's-dementia. Clinic, diagnosis, biomarkers, therapeutic strategies, neuropathology.

- M. Carmona. Dementia in Down syndrome. DABNI program.
- A. Lleó. Conceptualization of Frontotemporal Lobular Degeneration. Clinical and neuropathological classification
- M. Santos. PPA: Clinic, diagnosis, biomarkers, therapeutic strategies, neuropathology.

Organization of Courses

- ▶ R. Blesa, J. Fortea, M. Altuna, I. Barroeta, M. Carmona, L. Videla. Summer School BA Programme. Down & Alzheimer training course for university students at the University of Groningen. Hospital Sant Pau, Barcelona. 8-12 July 2019.

Divulgative Activities

- ▶ Masterclass Zumba and D-Move "Dance for Alzheimer's" at the Sant Pau Modernist Enclosure. Organized by the Sant Pau Memory Unit and DiR Foundation. September 2019.

Appearances in the Media

- ▶ La Vanguardia: "Five new Alzheimer's-related genes identified". 04/03/2019. https://www.lavanguardia.com/ciencia/cuerpo-humano/20190304/46820783755/identifican-cinco-genes-alzheimer-beta-amiloide-tau.html?utm_campaign=botones_sociales_app&utm_source=social-otros&utm_medium=social
- ▶ Sandra Giménez and Juan Fortea. Down syndrome and Sleep Disorders. Collaboration with the magazine Adsalutem Institute. Sleep Medicine. 2019. <http://www.adsalutem.institute/salud-y-sueno/sindrome-de-down-y-sueno/>

AREA 4 · Neurological, Mental Disorders and Ageing

Neuroradiology



Coordinator

Gómez Ansón, Beatriz María (FGS)
bgomez@santpau.cat

Members

De Medina Iglesias, M. Victoria (FGS)
Méndez Escalante, Jorge E. (FGS)
Lozano Martínez, Gloria Andrea (FGS)
Merino Peña, Elisa (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).
- ▶ Our areas of focus are: 1) Neuroimaging biomarkers in diseases involving the central nervous system, including neurodegenerative and neuropsychiatric conditions; 2) 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.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Pituitary Gland Disorders, Digestive Diseases, Parkinson Disease and Movement Disorders, Cerebrovascular Diseases.
- ▶ Neuro-Oncology, Maternal Care/Obstetrics, Clinical Psychiatry, Head and neck Tumours/Otorrinolaringology.

External Collaborations

- ▶ University College London (UCL), London, UK (B. Gómez-Ansón is Hon Associate Lecturer).
- ▶ Translational Imaging Group, UCL (C. Sudre), and National Hospital for Neurology and Neurosurgery (R. Jäger), London, UK.
- ▶ PIC (Information Science Port) / IFAE (Institute for High Energy Physics), Universitat Autònoma de Barcelona, Spain.

Active Grants

- ▶ Beatriz Gómez-Ansón (associated researcher); GA Lozano (collaborator researcher). J Perez (IP). 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. FIS PI 17/01885. Duration: 2018-2020. 97,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Transfer Products

- ▶ C Sudre, B Gomez-Anson, Prof. R Jäger, MJ Cardoso, *et al.* The role of conventional radiological approach in machine learning. <http://cmictig.cs.ucl.ac.uk/the-role-of-conventional-radiological-approach-in-machine-learning>

Scientific Production

Total Impact Factor: 93.617 · Mean Impact Factor: 7.8014

Aracil-Bolanos I., Sampedro F., Marin-Lahoz J., Horta-Barba A., Martinez-Horta S., Boti M., Perez-Perez J., Bejr-Kasem H., Pascual-Sedano B., Campolongo A., Izquierdo C., Gironell A., Gomez-Anson B., Kulisevsky J., Pagonabarraga J., A divergent breakdown of neurocognitive networks in Parkinson's Disease mild cognitive impairment (2019) *HUM BRAIN MAPP*, 40 (11), 3233-3242. **IF: 4.5540**

Bejr-kasem H., Pagonabarraga J., Martinez-Horta S., Sampedro F., Marin-Lahoz J., Horta-Barba A., Aracil-Bolanos I., Perez-Perez J., Angeles Boti M., Campolongo A., Izquierdo C., Pascual-Sedano B., Gomez-Anson B., Kulisevsky J., Disruption of the default mode network and its intrinsic functional connectivity underlies minor hallucinations in Parkinson's disease (2019) *MOVEMENT DISORD*, 34 (1), 78-86. **IF: 8.0610**

Martinez-Horta S., Moreu A., Perez-Perez J., Sampedro F., Horta-Barba A., Pagonabarraga J., Gomez-Anson B., Lozano-Martinez G.A., Lopez-Mora D.A., Camacho V., Fernandez-Leon A., Carrio I., Kulisevsky J., The impact of bilingualism on brain structure and function in Huntington's disease (2019) *PARKINSONISM RELAT D*, 60, 92-97. **IF: 4.3600**

Sampedro F., Martinez-Horta S., Perez-Perez J., Horta-Barba A., Lopez-Mora D.A., Camacho V., Fernandez-Leon A., Gomez-Anson B., Carrio I., Kulisevsky J., Cortical atrophic-hypometabolic dissociation in the transition from premanifest to early-stage Huntington's disease (2019) *EUR J NUCL MED MOL I*, 46 (5), 1111-1116. **IF: 7.1820**

Sampedro F., Martinez-Horta S., Perez-Perez J., Horta-Barba A., Martin-Lahoz J., Alonso-Solis A., Corripio I., Gomez-Anson B., Kulisevsky J., Widespread increased diffusivity reveals early cortical degeneration in huntington disease (2019) *AM J NEURORADIOL*, 40 (9), 1464-1468. **IF: 3.2560**

Wilson D., Ambler G., Lee K.-J., Lim J.-S., Shiozawa M., Koga M., Li L., Lovelock C., Chabriat H., Hennerici M., Wong Y.K., Mak H.K.F., Prats-Sanchez L., Martinez-Domeno A., Inamura S., Yoshifuji K., Arsava E.M., Horstmann S., *et al.*, Cerebral microbleeds and stroke risk after ischaemic stroke or transient ischaemic attack: a pooled analysis of individual patient data from cohort studies (2019) *LANCET NEUROL*, 18 (7), 653-665. **IF: 28.7550**

Martí-Fàbregas J, Medrano-Martorell S, Merino E, Prats-Sánchez L, Marín R, Delgado-Mederos R, Martínez-Domeño A, Camps-Renom P, Jiménez-Xarrié E, Zedde M, Gómez-Choco M, Lara L, Boix A, Calleja A, De Arce-Borda AM, *et al*; HERO study investigators. MRI predicts intracranial hemorrhage in patients who receive long-term oral anticoagulation. *NEUROLOGY*. 2019 May 21;92(21):e2432-e2443. Epub 2019 Apr 19. **IF: 8.6890**

Other Publications

▶ Carole Sudre, Beatriz Gomez-Anson, Silvia Ingala, *et al.* Let's agree to disagree: learning highly debatable multirater labelling. In: *Medical Image Computing and Computer Assisted Intervention – MICCAI 2019, 22nd International Conference, Shenzhen, China, October 13–17, 2019, Proceedings, Part IV*, pp.665-67.

▶ Carole Sudre, Beatriz Gomez-Anson, Silvia Ingala, *et al.* 3D multirater RCNN for multimodal multiclass detection and characterisation of extremely small objects. *Proceedings of Machine Learning Research* 102:447-456, 2019.

Books or Chapters with ISBN

▶ Jäger H.R., Gomez-Anson B. (2019) Small Vessel Disease. In: Barkhof F., Jäger H., Thurnher M., Rovira À. (eds) *Clinical Neuroradiology*. Springer, Cham. First Online: 22 August 2019. Print ISBN: 978-3-319-68535-9. Online ISBN: 978-3-319-68536-6

Diffusion Activities

Teaching Activities

- ▶ Undergraduate Level: Associate Professor UAB (Dra. Gómez Ansón).
- ▶ Postgraduate Level:
 - Master in Neuropsychology, Universitat Autònoma de Barcelona (Dra. Gómez Ansón)
 - Master en Dolor, Universidad de Valencia (Dra. Gómez Ansón)
 - Clinical & Basic Science for the Management of the Chronic Pain Patient: Neurostimulation-Course XIV, June/November, 2019, Barcelona, Spain. (Dra. Gómez Ansón)

Other Activities

- ▶ Evaluator Research Grants ANEP (Dra. Gómez Ansón)
- ▶ Reviewer Brain Research (Dra. Gómez Ansón)
- ▶ Brain Sciences (Dra. Gómez Ansón)

AREA 4 · Neurological, Mental Disorders and Ageing

Addictive Behaviours



Coordinator

Pérez de los Cobos Peris, José Carlos (FGS)
jperezc@santpau.cat

Members

Alvarado Carrera, Pedro José (FGS)
Batlle Batlle, Francesca (FGS)
Bauza Ramis, Joana Maria (FGS)
Costa Juste, Silvia Maria (IR)
De Andrés Muñoz, Sandra (FGS)
Duran-Sindreu Terol, Santiago Francisco (FGS)
González Sánchez, Álvaro (FGS)
Guardia Serecigni, Josep (FGS)

Mallorquí Bagué, Núria (FGS)
Pinet Ogue, Maria Cristina (FGS)
Ribalta Corona, Elisa (FGS)
Rius Bataller, Lidia (IR)
Sancho Navarro, Marta (FGS)
Tome Pérez, José Alberto (FGS)
Trujols Albet, Joan (FGS)

Main Lines of Research

Alcohol

- ▶ Pharmaco-epidemiological, non-interventional, prospective, multicenter study with Selincro® in alcohol dependence, to determine patterns of use and consumption of alcohol in routine clinical practice in Spain.
- ▶ Prospective observational study for reducing the negative consequences associated with excessive alcohol consumption (RINCA) through the treatment program to reduce alcohol consumption using nalmefene.

Cocaine

- ▶ Evaluation of cocaine craving under hospitalization conditions.

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.
- ▶ Non-treatment follow-up for cardiac assessments following use of smoking cessation treatments 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 concerning maintenance treatment with opioid agonists (methadone and buprenorphine/naloxone).
- ▶ Satisfaction of the heroin-dependent patient regarding methadone and methadone pharmacogenetics.

Behavioral Addictions

- ▶ Effectiveness of a Mindfulness-Based Cognitive-Behavioral Therapy for Gambling Disorder. A randomized controlled trial.
- ▶ Effectiveness of a combined treatment for Hypersexual Disorder.
- ▶ Impact of the gambling advertising in general and clinical population.
- ▶ Effectiveness of the Cognitive-Behavioral Therapy for behavioral addictions.

Detoxification Hospital Units

- ▶ Retention of treatment in detoxification and dishabituation hospital units.

Scientific Challenges

- ▶ Establish bidirectional links between clinical practice and research to suggest hypotheses and incorporate recent advances.
- ▶ Participate in controlled clinical trials on the treatment of addictive disorders.
- ▶ Develop clinical research studies into the perspective of patients with addictions.
- ▶ Integrate clinical research in routine medical practice to assess the effectiveness of procedures.
- ▶ Evaluate the validity and reliability of frequently used clinical evaluation procedures.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Clinical Epidemiology and Healthcare Services.
- ▶ Clinical Psychiatry.
- ▶ Genetic Diseases.

External Collaborations

- ▶ Area of Psychiatric and Mental Health Nursing, Escola d'Infermeria Sant Pau, Universitat Autònoma de Barcelona, Barcelona, Spain.
- ▶ Monash Institute of Cognitive and Clinical Neurosciences, Monash University, Clayton, Victoria, Australia.
- ▶ Department of Clinical and Experimental Psychology, Universidad de Huelva, Spain.

- ▶ Department of Neurosciences, Universidad de Cádiz, Cádiz, Spain.
- ▶ Department of Psychology, Universidad Internacional de La Rioja, Logroño, Spain.
- ▶ Department of Psychology, Universidad de Jaén, Spain.
- ▶ Department of Psychiatry, Hospital Universitari de Bellvitge-IDI-BELL, Barcelona, Spain.
- ▶ DeustoPsych, R+D+I in Psychology and Health, Universidad de Deusto, Bilbao, Spain.
- ▶ Department of Social Sciences, Hochschule Darmstadt - University of Applied Sciences, Darmstadt, Germany.
- ▶ Department of Psychology, Pacific University, Hillsboro/Portland, Oregon, United States.
- ▶ Laboratory of Psychopathology and Health Processes, Psychological Institute, Paris Descartes University, Paris, France.

Active Grants

- ▶ Joan Trujols Albet. Calidad de vida desde la perspectiva del paciente en tratamiento con agonistas opioides: síntesis de estudios cualitativos y desarrollo de una escala centrada en el paciente. PI16/00056. Instituto de Salud Carlos III. Duration: 2017-2020. 28,500 €.
 - ▶ José Carlos Pérez de los Cobos Peris. Efecto de los polimorfismos de genes implicados en el perfil farmacodinámico y farmacocinético de la metadona sobre la satisfacción con este medicamento en pacientes dependientes de heroína con mala respuesta terapéutica. 2016I036. Ministerio de Sanidad, Servicios Sociales e Igualdad. Duration: 2017-2019. 24,480 €.
 - ▶ José Carlos Pérez de los Cobos Peris. Estudio transversal y multicéntrico para el desarrollo de un modelo de predicción clínico y farmacogenético de la satisfacción del paciente dependiente de heroína con la metadona como un medicamento. SLT006/17/00179. Departament de Salut. Duration: 2018-2020. 119,480.93 €.
 - ▶ José Carlos Pérez de los Cobos Peris. Estudio transversal y multicéntrico para el desarrollo de un modelo de predicción clínico y farmacogenético de la satisfacción del paciente dependiente de heroína con la metadona como un medicamento. SLT006/17/00179-01. Departament de Salut. Duration: 2018-2020. 4,795.20 €.
 - ▶ Marta Sancho Navarro. Impacto de la publicidad en función de la tipología de juego, factores sociodemográficos y psicopatología asociada. ONCE 2018. Organización Nacional de Ciegos Españoles (ONCE). Duration: 2018-2020. 27,272.73 €.
- Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ De Francisco, S., Ricart, M., Campillo, B., Trujols, J. Gammificació en les cures inferemeres: motivar al canvi a través del joc psicoeducatiu. 1a Jornada Infer.edu: La innovació docent a debat. Col·legi Oficial d'Infermers de Barcelona. Barcelona, February 2019. Second award.

Doctoral Theses

- ▶ Marta Sancho Navarro. La regulación emocional en el trastorno de juego. Aspectos diferenciales en función de variables sociodemográficas y clínicas. Universitat de Barcelona. Directors: Susana Jiménez Murcia, Isabel María Sánchez Díaz. Date of defense: 25/11/2019

Scientific Production

Total Impact Factor: 36.856 · Mean Impact Factor: 3.3505

- Ballbe M., Martínez C., Feliu A., Torres N., Nieva G., Pinet C., Raich A., Mondon S., Barrio P., Hernández-Ribas R., Vicens J., Costa S., Vilaplana J., Alaustré L., Vilalta E., Blanch R., Subira S., Bruguera E., Suelves J.M., Guydish J., Fernández E., Effectiveness of a telephone-based intervention for smoking cessation in patients with severe mental disorders: Study protocol for a randomized controlled trial (2019) TRIALS, 20 (1). **IF: 1.9750**
- Barrio P., Ortega L., Guardia J., Roncero C., Yuguero L., Gual A., A comparison between phase-iii trials and a phase-iv study of nalmefene in alcohol use disorder patients. Is there a difference? Una comparación entre los estudios de fase 3 y un estudio de fase 4 de nalmefeno en el trastorno por uso de alcohol. ¿existen diferencias? (2019) ADICCIONES, 31 (4), 284-288. **IF: 3.1670**
- Barrio, P., Roncero, C., Ortega, L., Guardia, J., Yuguero, L., Gual, A. The more you take it, the better it works: six-month results of a nalmefene phase-IV trial (2019) JOURNAL OF CLINICAL MEDICINE 8: 471. **IF: 5.688**
- Chami, R., Cardi, V., Lautarescu, A., Mallorquí-Bagué, N., and McLoughlin, G. Neural responses to food stimuli among individuals with eating and weight disorders: a systematic review of event-related potentials (2019) INTERNATIONAL REVIEW OF PSYCHIATRY 31(4), 318-331. **IF: 2.991**
- de Francisco S., Torres C., de Andres S., Millet A., Ricart M.T., Hernández-Martínez-esparza E., Abades M., Trujols J., Effectiveness of integrative laughter therapy to reduce anxiety, improve self-esteem and increase happiness: A naturalistic study at a day hospital for addictive disorders (2019) INT J ENV RES PUB HE, 16 (21). **IF: 2.4680**
- Mallorquí-Bagué, N., Vintró-Alcaraz, C., Verdejo-García, A., Granero, R., Fernández-Aranda, F., Magaña, P... and Mestre-Bach, G. Impulsivity and cognitive distortions in different clinical phenotypes of gambling disorder: Profiles and longitudinal prediction of treatment outcomes (2019) EUROPEAN PSYCHIATRY, 61, 9-16. **IF: 3.941**
- Olano, E., Lozano, A., Grifells, M., Pinet, M.C., Isorna, M., Moreno, J.J. ¿Por qué y cómo tener en cuenta el cannabis en nuestros pacientes fumadores? (2019) ATEN PRIMARIA 52(1):47-53. **IF: 1.346**
- Romero-García, M., Delgado-Hito, P., de la Cueva-Ariza, L., Martínez-Momblán, M. A., Lluch-Canut, M. T., Trujols-Albet, J... and Benito, L. Level of satisfaction of critical care patients regarding the nursing care received: Correlation with sociodemographic and clinical variables. (2019) AUSTRALIAN CRITICAL CARE 32(6), 486-493. **IF: 2.515**
- Sancho M., de Gracia M., Granero R., Gonzalez-Simarro S., Sanchez I., Fernandez-Aranda F., Trujols J., Mallorquí-Bague N., Mestre-Bach G., del Pino-Gutierrez A., Mena-Moreno T., Vintro-Alcaraz C., Steward T., Aymami N., Gomez-Pena M., Menchon J.M., Jimenez-Murcia S., Differences in Emotion Regulation Considering Gender, Age, and Gambling Preferences in a Sample of Gambling Disorder Patients (2019) FRONT PSYCHIATRY, 10. **IF: 3.1610**
- Trujols, J., Campins, M. J., and Ribalta, E. Opioid agonist dosage adequacy from clinical and patient perspectives: further considerations (2019) CMAJ 191(39), E1084-E1084. **IF: 6.938**
- Vicent-Gil M., Raventos B., Marin-Martinez E.D., Gonzalez-Simarro S., Martinez-Aran A., Bonnin C.D.M., Trujols J., Perez-Blanco J., de Diego-Adelino J., Puigdemont D., Serra-Blasco M., Cardoner N., Portella M.J., Testing the efficacy of INtegral Cognitive REMediation (INCREM) in major depressive disorder: Study protocol for a randomized clinical trial (2019) BMC PSYCHIATRY, 19 (1), 135-. **IF: 2.6660**

Other Publications

- ▶ Guardia Serecigni J. Alcohol consumption reduction using opioid receptor antagonists. A self-monitoring approach to reach stable remission for low-severity alcoholism. *SPG BIOMED* (2019) 1(2).
- ▶ Guardia Serecigni J. A clinical remission study of low-severity alcohol use disorder, treated with nalmefene. *SPG BIOMED* (2019) 1(2).
- ▶ Solà, I., Trujols, J., Ribalta, E., Alcaraz, S., Robleda, G., Olid, C. S., and de los Cobos, J. P. Quality of life and well-being from the perspective of patients on opioid agonist maintenance treatment: study protocol for a systematic review of qualitative research and a scoping review of measures. *SYSTEMATIC REVIEWS* (2019) 8(1), 1-7.

Books or Chapters with ISBN

Book Chapters

- ▶ De Francisco, S., Trujols, J., Madrid, M., De Andrés, S., Tomé, A., Lizeretti, N.P. Implementación de un programa de inteligencia emocional en pacientes con trastorno adictivo. In: Asociación Española de Enfermería de Salud Mental (editor), *Afianzando los cuidados enfermeros en salud mental*. Madrid: Asociación Española de Enfermería de Salud Mental; 2019, pp: 1164-1180. ISBN: 978-84-946764-7-5.

Clinical Guidelines

- ▶ Lligoña, A., Álvarez, J.A., Guardia J. Guía de consenso para el buen uso de benzodiazepinas. Gestión de riesgos y beneficios. *Socidrogalcohol*. Valencia. 2019. ISBN: 978-84-949467-4-5

Diffusion Activities

Courses, Seminars and Conferences

- ▶ Duran-Sindreu, S. Course/seminar. Máster de Psicoterapia integradora I. Mensalus U. 2019. Barcelona, Spain.
- ▶ Mallorquí-Bagué, N. Course/seminar. Subject: Psicopatología clínica en l'adult. Facultat de Psicologia. Universitat de Girona (UdG). 2019. Girona, Spain.
- ▶ Sancho, M. Jornada formativa sobre Addiccions Comportamentals per a professionals sanitaris. Centro de Proyecto Hombre de Hernani (Gipuzkoa). Fundación Izan. Donostia, Spain. 21 March 2019.
- ▶ Sancho, M. Jornada formativa sobre Addiccions Comportamentals per a professionals. Fundació CECAS (Centre Català de Solidaritat). Barcelona, Spain 28 May 2019.
- ▶ Sancho, M. Course Addiccions conductuales. II Curs en Addiccions i Patologia Dual. Facultat de Medicina, Campus Sant Pau. UAB. Barcelona, Spain, 29 May 2019.
- ▶ Sancho, M. Course Entrevista motivacional. Etapes de canvi i Addiccions. Mòdul 1. Curs d'especialització "Addiccions: Intervenció infermera". Escola Universitària d'Infermeria de l'Hospital de la Santa Creu i Sant Pau. Barcelona, Spain, 26 June 2019.
- ▶ Sancho, M. Conference. Impacto de la publicidad en función de la tipología de juego, factores sociodemográficos y psicopatología asociada. Results of the Project awarded at the IV Certamen Internacional ONCE sobre Juego Responsable (2018). Jornada "La responsabilidad en el uso y consumo del juego y las apuestas". Dirección General de la ONCE. Madrid, Spain, 2 December 2019.

Oral Communications and Poster Presentations at Congresses

- ▶ Bauzá, J., Alcaraz, S., Muñoz, L., Siñol, N., Duran-Sindreu, S., Batlle, F., Trujols, J., Pérez de los Cobos, J. Durante el tratamiento de desintoxicación de los pacientes con trastorno por consumo de cocaína el consumo reciente de cannabis se asocia con una mayor intensidad del craving pero no de la abstinencia de cocaína. Oral communication. XXII Congreso Nacional de Psiquiatría. Bilbao, September 2019.
- ▶ Pinet M.C. Tabac i Patologia mental. Oral communication. XIII Jornada de Tabaquisme. Repercussions del consum de tabac. Universitat de Lleida. Lleida, 29 March 2019.
- ▶ Pinet, M.C. Abordatge del Tabaquisme en Salut Mental. Oral communication. I Jornada Pirenaica de Patologia Dual. Principat d'Andorra, 4 October 2019.
- ▶ Sancho, M., Costa, S., Trujols, J., Mallorquí, N., de Andrés, S., Pérez de los Cobos, J. Prevenció de recaigudes basada en Mindfulness per a addiccions comportamentals. Oral communication. XXXIV Jornada Teràpia del Comportament i Medicina Conductual a la Pràctica Clínica. Societat Catalana de Psiquiatria i Salut Mental. Auditori Novartis, Barcelona, 11 April 2019.
- ▶ Anton, L., Ballbè, M., Gual, A., Pinet, C., Costa, S., Cacole B., *et al.* Impact of a program to promote smoking intervention in mental Health wards and after discharge [The PDT-sm program]. Poster presentation. 19 Annual Conference for the Society of Research on Nicotine and Tobacco Europe. Oslo, Norway, 12-14 September 2019.
- ▶ Ballbè, M., Martínez, C., Feliu, A., Torres, N., Pinet, C., Mondon, S., *et al.* Acceptability of a quitline intervention for smoking cessation in patients with severe mental disorders at hospital discharge (061 Quit Mental Study). Poster presentation. 19 Annual Conference for the Society of Research on Nicotine and Tobacco Europe. Oslo, Norway, 12-14 September 2019.
- ▶ Ballbè, M., Gual, A., Anton, L., Mondon, S., Pinet, C., Nieva, G., PINET C, *et al.* A networking model to enhance tobacco control in hospital mental health settings. Poster presentation. 19 Annual Conference for the Society of Research on Nicotine and Tobacco Europe. Oslo, Norway, 12-14 September 2019.
- ▶ Bauzá, J., Alvarado, P.J. Diagnóstico diferencial en un paciente con alteraciones de conducta. Poster presentation. XXII Congreso Nacional de Psiquiatría. Bilbao, September 2019.
- ▶ Poster presentation: Barrio P, Ortega L, Guardia J, Roncero C, Yuguero L, Gual A. Who receives nalmefene and how it works in the real world? 26th International Symposium on Current Issues and Controversies in Psychiatry. 2019.
- ▶ Mallorquí-Bagué N, Vintró-Alcaraz C, Verdejo-García A, Granero R, Fernández-Aranda F, Magaña P, Mena-Moreno T, Aymamí N, Gómez-Peña M, Del Pino-Gutiérrez A, Mestre-Bach G, Menchón JM, Jiménez-Murcia S. Impulsivity and cognitive distortions in different clinical phenotypes of gambling disorder: profiles and longitudinal prediction of treatment outcomes. Poster presentation. 9th World Congress on Behavioural Cognitive Therapy (WCBCT). Berlin, Germany, 17-20 July 2019.
- ▶ Sancho, M., Costa, S., González-Simarro, S., Mallorquí-Bagué, N., Soler, J., Trujols, J., Pérez de los Cobos, J. Effects of a Mindfulness-Based Cognitive-Behavioral Therapy (MB-CBT) on decentering and awareness ability in Gambling Disorder (GD). Poster presentation. 3rd World Association on Dual Disorders and VI SEPD International Congress (Sociedad Española de Patología Dual). Madrid, Spain, 19-22 June 2019.
- ▶ Sancho M., Costa S., Mallorquí-Bagué N., Trujols J., Pérez de los Cobos J. Mindfulness-Based Relapse Prevention for behavioral addictions: A preliminary analysis of an ongoing randomized controlled trial. Poster presentation. Lisbon Addictions 2019. Third European Conference on Addictive Behaviours and Dependencies. Lisbon Congress Centre. Lisbon, Portugal, 23-25 October 2019.
- ▶ Roca, X., *et al.* Cannabis y hospital de día para personas con dependencia a sustancias. Poster presentation. II Congreso Internacional sobre Cannabis y sus Derivados: Salud, Educación y Ley. Pontevedra, Spain, November 2019.

AREA 4 · Neurological, Mental Disorders and Ageing

Molecular Physiology of the Synapse



Coordinator

Bayés Puig, Alejandro (IR)
abayesp@santpau.cat

Members

Del Castillo Berges, Diego (IR)
Gou Alsina, Gemma (IR)
Ramos Vicente, David (IR)

Main Lines of Research

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

Scientific Challenges

- ▶ Characterize the molecular roots of cognition and behavior.
- ▶ Identify the synaptic molecules and mechanisms involved in mental and behavioral disorders, mainly intellectual disabilities and autism-spectrum disorders.
- ▶ Identify drugs which may help treat mental and behavioral disorders.
- ▶ Study the reversibility after birth of neurodevelopmental disorders affecting cognition.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Neurobiology of Dementias (PI: Alberto Lleó)
- ▶ Oncogenesis and Antitumour Drugs (PI: Ramón Mangués)
- ▶ Molecular Bases of Disease (PI: Pablo Fuentes-Prior)
- ▶ Neurosurgery (PI: Gerardo Conesa and Cristian de Quintana)

External Collaborations

International Collaborations

- ▶ Prof. Seth GN Grant. University of Edinburgh, UK.
- ▶ Dr. Noboru Komiyama. University of Edinburgh, UK.
- ▶ Dr. Gavin Rumbaugh. Scripps Research Institute, USA.
- ▶ Dr. Richard Emes, University of Nottingham, UK.
- ▶ Dr. Maksym Kopanitsa, Charlkes River Laboratories, Finland.
- ▶ Dr. Hector Escribà, Sorbonne Universités, UPMC Univ Paris 06, CNRS, France.
- ▶ Dr. Nael Nadif-Kasri. Radboud University. The Netherlands.
- ▶ Dr. Jyoti S. Choudhari. The Wellcome Trust Sanger Institute, UK.
- ▶ Dr. Mark Collins, University of Sheffield, UK.
- ▶ Prof. Guus Smith, Vrije University, Amsterdam, The Netherlands.
- ▶ Prof. Matthijs Verhage, Vrije University, Amsterdam, The Netherlands.

- ▶ Prof. Daniel Choquet, Institut Interdisciplinaire de Neurosciences, Bordeaux, France
- ▶ Prof. Oliver Brüstle, Institute of Reconstructive Neurobiology, Bonn, Germany
- ▶ Dr. Barbara Treutlein, Max Plank Institute for Evolutionary Anthropology, Leipzig, Germany
- ▶ Prof. Jacques Michaud, CHU Ste-Justine-Université de Montreal, Montreal, Canada

National Collaborations

- ▶ Dra. Àngels García-Cazorla, Hospital Sant Joan de Déu, Barcelona.
- ▶ Dra. Nerea Roher, Universitat Autònoma de Barcelona, Bellaterra.
- ▶ Dr. Jordi García Fernández, Universitat de Barcelona, Barcelona.
- ▶ Dr. Carles Sindreu, Universitat de Barcelona, Barcelona.
- ▶ Dr. David Soto, Universitat de Barcelona, Barcelona.
- ▶ Dr. Xavier Altafaj, Bellvitge Biomedical Research Institute (IDIBELL), Barcelona.
- ▶ Dra. Liset Menendez de la Prida, Instituto Cajal, Madrid.
- ▶ Dr. Ángel Barco, Instituto de Neurociencias, Alicante.
- ▶ Dr. Andrés Ozaita, Universitat Pompeu Fabra, Barcelona.

Active Grants

- ▶ Alejandro Bayés Puig. Looking into the dynamics of synaptic molecular machines to learn about the basis of cognition and intellectual disability. BFU2015-69717-P. Ministerio de Economía y Competitividad. Duration: 2016-2019. 156,800 €.
- ▶ Alejandro Bayés Puig. Targeted nanoconjugates for the selective elimination of stem cells in disseminated cancer. PIE15/00028. Instituto de Salud Carlos III. Duration: 2016-2019. 93,448 €.
- ▶ Alejandro Bayés Puig. Synaptic Dysfunction in Intellectual Disability Caused by SYNGAP1. Translational Research to Develop Human Models and Advance Pharmacological Treatments. AC17/00005. Instituto de Salud Carlos III. Duration: 2018-2020. 123,500 €.
- ▶ Alejandro Bayés Puig. Grup de Senyalització Sinàptica. 2017 SGR 01776. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Alejandro Bayés Puig. Red para el estudio de la sinapsis en el contexto de la disfunción cognitiva. SAF2017-90664-REDT. Ministerio de Economía y Competitividad. Duration: 2018-2021. 19,000 €.
- ▶ Alejandro Bayés Puig. Ayudas para la incorporación estable de doctores 2017. IEDI-2017-00822. Ministerio de Economía y Competitividad. Duration: 2018-2020. 100,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Alejandro Bayés Puig. 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. Duration: 2019-2021. 140,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Gemma Gou Alsina. Molecular Mechanisms underlying the Role of SynGAP in Cognition and Synaptopathies, Universitat Autònoma de Barcelona. Director: Àlex Bayés. Date of defense: 28/06/2019.

Patents

- ▶ J. Fortea, D. Alcolea, À. Bayés, O. Belbin and A. Lleó, Markers of Synaptopathy in Neurodegenerative Disease. P18382175. European patent (status: pending). 16/03/2018

Transfer Products

- ▶ J. Fortea, D. Alcolea, À Bayés, O. Belbin and A. Lleó. Research collaboration and patent license agreement on a set of biomarkers of synaptic loss in Alzheimer's Disease. ADx Neuroscience (Belgium). Duration: 1/07/2018-12/12/2025.

Scientific Production

Total Impact Factor: 25.712 · Mean Impact Factor: 8.5706

Bars-Cortina D, Riera-Escamilla A, Gou G, Piñol-Felis C, Motilva MJ. Design, optimization and validation of genes commonly used in expression studies on DMH/AOM rat colon carcinogenesis model. *PeerJ* 2019 Jan 29;7:e6372. **IF: 2.11**

Koopmans F, van Nierop P, Andres-Alonso M, Byrnes A, Cijssouw T, Coba M.P., Cornelisse L.N., Farrell R.J., Goldschmidt H.L., Howrigan D.P., Hussain N.K., Imig C., de Jong A.P.H., Jung H., Kohansalnodehi M., Kramarz B., *et al.*, SynGO: An Evidence-Based, Expert-Curated Knowledge Base for the Synapse (2019) *NEURON*, 103 (2), 217-234.e4. **IF: 14.4030**

Lleo A., Nunez-Llaves R., Alcolea D., Chiva C., Balateu-Panos D., Colom-Cadena M., Gomez-Giro G., Munoz L., Querol-Vilaseca M., Pegueroles J., Rami L., Llado A., Molinuevo J.L., Tainta M., Clarimon J., Spires-

Jones T., Blesa R., Fortea J., Martinez-Lage P., Sanchez-Valle R., Sabido E., Bayes A., Belbin O., Changes in synaptic proteins precede neurodegeneration markers in preclinical Alzheimer's disease cerebrospinal fluid (2019) *MOL CELL PROTEOMICS*, 18 (3), 546-560. **IF: 4.8280**

Soto D., Olivella M., Grau C., Armstrong J., Alcon C., Gasull X., Santos-Gomez A., Locubiche S., De Salazar M.G., Garcia-Diaz R., Gratacos-Batlle E., Ramos-Vicente D., Chu-Van E., Colsch B., Fernandez-Duenas V., Ciruela F., Bayes A., Sindreu C., Lopez-Sala A., Garcia-Cazorla A., Altafaj X. L-Serine dietary supplementation is associated with clinical improvement of loss-of-function GRIN2B-related pediatric encephalopathy. (2019) *SCI SIGNAL* 12 586. **IF: 6.4810**

Other Publications

- ▶ Gou, Gemma; Roca-Fernandez, Adriana; Kilinc, Murat; Serrano, Elena; Reig-Viader, Rita; Araki, Yoichi; L. Hugarir, Richard; de Quintana-Schmidt, Cristian; Rumbaugh, Gavin; Bayés, Àlex. SynGAP Splice Variants Display Heterogeneous Spatio-Temporal Expression And Subcellular Distribution In The Developing Mammalian Brain. *bioRxiv* 681148.

Books or Chapters with ISBN

- ▶ Rita Reig-Viader and Àlex Bayés. La Neurogenómica, la genètica del cerebro. Collection: Los Desafíos de la Ciencia. National Geographic. ISBN (OC): 978-84-473-9071-7, ISBN: 978-84-473-9368-8, DL: B.11208-2018.

Diffusion Activities

Collaborative projects

- ▶ Synapse Gene Ontology (SynGO) Project. Since December 2017 our research group is part of the SynGO project, an international collaboration to annotate all synaptic proteins. This project is lead by Steve E Hyman in USA (Director of the Stanley Centre, The Broad Institute, Harvard University, Boston), the Gene Ontology Consortium and, in Europe, Matthijs Verhage (Vrije University, Amsterdam).

Invited Talks at International Meetings

- ▶ Synapse Workshop and Congress. Singapore, 22-23 February 2019.

Appearances in the Media

- ▶ La Vanguardia:
 - <https://www.lavanguardia.com/ciencia/20190619/462955128386/nina-enfermedad-neurodesarrollo-grave-similar-rett-mejora-suplemento-nutricional-l-serina.html>
- ▶ TV3:
 - <https://www.ccma.cat/324/un-suplement-dietetic-permet-millores-notables-en-una-greu-malaltia-neurologica/noticia/2929578/>
- ▶ El Mundo:
 - <https://www.elmundo.es/papel/historias/2019/02/28/5c76b71421efa032388b469d.html>

Poster Presentations at International Congresses

- ▶ Navarron-Izquierdo C, Cid E, Marquez-Galera A, Gal B, Ballesteros L, Reig R, Bayés A, Barco A, Menendez de la Prida L, Lopez-Atalaya JP. A sublayer-specific network of interacting cell-types underlying hippocampal sclerosis. 6th Venusberg Meeting on Neuroinflammation. Bonn, Germany, 9-11 May 2019.
- ▶ D. Ramos-Vicente, J. Ji, E. Gratacòs-Batlle, G. Gou, R. Reig-Viader, J. Luís, D. Burguera, E. Navas-Pérez, J. García-Fernández, P. Fuentes-Prior, H. Escrivá, N. Roher, D. Soto, À. Bayés. Metazoan evolution of glutamate receptors reveals unreported phylogenetic groups and divergent lineage-specific events.
- ▶ R. Reig-Viader, David Ramos-Vicente, Albert Texidor, Àlex Bayés. Post-synaptic proteome of the hippocampal trisynaptic circuit. 18th National Meeting of the Spanish Society of Neuroscience. Santiago de Compostela, Spain, 4-6 September 2019.

AREA 4 · Neurological, Mental Disorders and Ageing

Stroke Pharmacogenomics and Genetics



Coordinator

Fernández Cadenas, Israel (IR)
ifernandezc@santpau.cat

Members

Cárcel Márquez, Jara (IR)
Carrera Vasconez, Caty A. (IR)
Cullell Fornes, Natalia (external entity)
Gallego Fabrega, Cristina (external entity)
González Sánchez, Jonathan (external entity)
Muiño Acuña, Elena (IR)

Torres Águila, Nuria (external entity)

Main Lines of Research

- ▶ L1: Factors of genetic risk in stroke.
- ▶ L2: Pharmacogenetics of neurovascular diseases.
- ▶ L3: Drugs-epigenetics of neurovascular diseases.
- ▶ L4: Genetic and epigenetic risk factors associated with the neurological deterioration and the disability after stroke.
- ▶ L5: Genetic, epigenetic and proteomic factors associated with the endophenotypes of the acute phase of stroke. Integromics.
- ▶ L6: CADASIL, FABRY and other orphan diseases associated with stroke.
- ▶ L7: COVID-19 and stroke.
- ▶ L8: Microbiome and stroke risk and stroke outcome.

Scientific Challenges

The objectives for the next years are the following:

At the scientific level

- ▶ Increase the impact factor of the group's publications.
- ▶ Consolidate the group as one of the groups with more experience in epigenetic and pharmacogenomic studies in stroke.
- ▶ Find genetic factors associated with neurological risk and post-stroke disability that are potential therapeutic targets.

- ▶ To consolidate a line in microbiome and COVID-19 research.

At the organizational level

- ▶ Consolidate the group by presenting a constant number of researchers.
- ▶ Get European or American international scholarships.
- ▶ Maintain or improve the position within the International Genetics Consortium (ISGC).

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Neurovascular Unit (PI: Joan Martí-Fàbregas)
- ▶ Neurobiology of Dementias (PI: Albert Lleó)
- ▶ Complex Genetics Diseases (PI: José Manuel Soria)
- ▶ Complex Genetics Diseases (PI: Maria Sabater)
- ▶ Neurology Unit (PI: Rafael Blesa)
- ▶ Genetics of Neurodegenerative Diseases (PI: Jordi Clarimon)

External Collaborations

- ▶ Invictus Plus network (Retics ISCIII)
- ▶ ISGC consortium.
- ▶ ICPC Consortium.
- ▶ CADISP Consortium.
- ▶ Genestroke Consortium.
- ▶ Megastroke Consortium.

Active Grants

- ▶ Israel Fernández Cadenas. Contractes "Miguel Servet II" 2017. CPII17/00021. Instituto de Salud Carlos III. Duration: 2018-2021. 101,250 €.
- ▶ Israel Fernández Cadenas. Proyecto MAESTRO: Análisis del interacción: 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. Duration: 2019-2021. 81,200 €.
- ▶ Elena Muiño Acuña. Estudis genètics i epigenètics en l'ictus. CM18/00198. Instituto de Salud Carlos III. Duration: 2019-2021. 53,732 €.
- ▶ Israel Fernández. Study of the efficacy/safety profile of apixaban vs. acenocoumarol and its pharmacogenetics in patients with cardioembolic stroke and obstructive sleep apnea - APHAS study. REQ-0000021561. ERISTA: European Thrombosis Investigator Initiated Research Program. Duration: 2019-2021. 296,322 €

- ▶ Israel Fernández (coordinator). EPIGENESIS Project. Marató de TV3. Duration: 2018-2020. 396,250 €
- ▶ Israel Fernández. Ayudas a grupos de investigación AGAUR. 2017 SGR 00878. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2018-2020. 31,500 €
- ▶ Israel Fernández and Jurek Krupinski. Estudios epigenéticos en el ictus. Fundació Mutua de Terrassa. Duration: 2017-2019. 14,000 €
- ▶ José Castillo (coordinator). Israel Fernández (IP). Red Retics Invictus plus. RD16/0019. ISCIII. Duration: 2017-2022. 34,375 €
- ▶ Israel Fernández and Jurek Krupinski. Sedman Project. Boehringer. Duration: 2015-2020. 300,000 €
- ▶ Jin-Moo Lee. GENESIS Project. National Institute of Health (US). Duration: 2013-2019. 300,000 \$
- ▶ Aurel Popa-Wagner (coordinator). Israel Fernández (IP). IBIOSTROKE Project. European Commission, ERANET-NEURON. Duration: 2018-2021. 98,000 \$

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Jara Carcel Márquez. Recerca de nous tractaments per millorar el deteriorament neurològic i la discapacitat post-ictus mitjançant estudis genètics i epigenètics massius. 2019FI_B00853. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2019-2022. 39,877.69 €.
- ▶ Miquel Lledos de Benito. Contractes PFIS: Contractes Predoctorals de Formació en Recerca en Salut 2019. F19/00309. Instituto de Salud Carlos III. Duration: 2020-2024. 82,400 €.
- ▶ Israel Fernández Cadenas. iBioStroke: Identificación y validación clínica de biomarcadores para la evolución clínica post-ictus. AC19/00106, Instituto de Salud Carlos III. Duration: 2020-2022. 77,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Nuria Torres Aguila. Estudios genéticos masivos en el ictus isquémico: factores de riesgo y pronóstico. Universitat Autònoma de Barcelona. Israel Fernández Cadenas. Date of defense: 11/12/2019.

Scientific Production

Total Impact Factor: 133.818 · Mean Impact Factor: 9.5584

Carrera C, Cullell N, Torres-Àguila N, Muiño E, Bustamante A, Dávalos A, López-Cancio E, Ribó M, Molina CA, Giralte-Steinhauer E, Soriano-Tárraga C, Mola-Caminal M, Jiménez-Conde J, Roquer J, Vives-Bauza C, Navarro RD, *et al*; Spanish Stroke Genetic Consortium. Validation of a clinical-genetics score to predict hemorrhagic transformations after rtPA. *Neurology*. 2019 Aug 27;93(9):e851-e863. 2019 Jul 31. **IF: 8.6**

Chauhan G, Adams HHH, Satizabal CL, Bis JC, Teumer A, Sargurupremraj M, Hofer E, Trompet S, Hilal S, Smith AV, Jian X, Malik R, Traylor M, Pulit SL, Amouyel P, Mazoyer B, Zhu YC, Kaffashian S, Schilling S, Beecham GW, *et al*; Stroke Genetics Network (SiGN), the International Stroke Genetics Consortium (ISGC), METASTROKE, Alzheimer's Disease Genetics Consortium (ADGC), and the Neurology Working Group of the Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) Consortium. Genetic and lifestyle risk factors for MRI-defined brain infarcts in a population-based setting. *Neurology*. 2019 Jan 16;92(5):e486-503. **IF: 8.6**

Chung J, Marini S, Pera J, Norrving B, Jimenez-Conde J, Roquer J, Fernandez-Cadenas I, Tirschwell DL, Selim M, Brown DL, Silliman SL, Worrall BB, Meschia JF, Demel S, Greenberg SM, Slowik A, Lindgren A, Schmidt R, Traylor M, Sargurupremraj M, Tiedt S, Malik R, Dethlefsen S, Dichgans M, Langefeld CD, Woo D, Rosand J, Anderson CD. Genome-wide association study of cerebral small vessel disease reveals established and novel loci. *Brain*. 2019 Oct 1;142(10):3176-3189. **IF: 11.8**

García-Berrococo T, Palà E, Consegal M, Piccardi B, Negro A, Gill N, Penalba A, Huerga Encabo H, Fernández-Cadenas I, Meisel A, Meisel C, Jickling GC, Muñoz MÁ, Clúa-Espuny JL, Pedrote A, Pagola J, Juega J, Bustamante A, Montaner J. Cardioembolic Ischemic Stroke Gene Expression Fingerprint in Blood: a Systematic Review and Verification Analysis. *Transl Stroke Res*. 2020 Jun;11(3):326-336. Epub 2019 Sep 2. **IF: 5.8**

Gill D., James N.E., Monori G., Lorentzen E., Fernandez-Cadenas I., Lemmens R., Thijs V., Rost N.S., Scott R., Hankey G.J., Lindgren A., Jern C., Maguire J.M., Genetically Determined Risk of Depression and Functional Outcome after Ischemic Stroke: Mendelian Randomization Study (2019) *STROKE*, 50 (8), 2219-2222. **IF: 6.0460**

Ibanez L, Heitsch L, Dube U, Farias FHG, Budde J, Bergmann K, Davenport R, Bradley J, Carrera C, Kinnunen J, Sallinen H, Strbian D, Slowik A, Fernandez-Cadenas I, Montaner J, Lee JM, Cruchaga C. Overlap in the Genetic Architecture of Stroke Risk, Early Neurological Changes, and Cardiovascular Risk Factors. *Stroke*. 2019 Jun;50(6):1339-1345. Epub 2019 May 14. **IF: 6.04**

Larsson S.C., Traylor M., Burgess S., Boncoraglio G.B., Jern C., Michaelsson K., Markus H.S., Malik R., Chauhan G., Sargurupremraj M., Okada Y., Mishra A., Rutten-Jacobs L., Giese A.-K., Van Der Laan S.W., Gretarsdottir S., *et al*. Serum magnesium and calcium levels in relation to ischemic stroke: Mendelian randomization study (2019) *NEUROLOGY*, 92 (9), E944-E950. **IF: 8.6890**

Lewis JP, Backman JD, Reny JL, Bergmeijer TO, Mitchell BD, Ritchie MD, Déry JP, Pakyz RE, Gong L, Ryan K, Kim EY, Aradi D, Fernandez-Cadenas I, Lee MTM, Whaley RM, Montaner J, Ginsini GF, Cleator JH, Chang K, Holmvang L, *et al*. Pharmacogenomic Polygenic Response Score Predicts Ischemic Events and Cardiovascular Mortality in Clopidogrel-Treated Patients. *Eur Heart J Cardiovasc Pharmacother*. 2019 Sep 3;pvz045. Epub ahead of print. PMID: 31504375. **IF: 6.7**

Marini S., Crawford K., Morotti A., Lee M.J., Pezzini A., Moomaw C.J., Flaherty M.L., Montaner J., Roquer J., Jimenez-Conde J., Giralte-Steinhauer E., Elosua R., Cuadrado-Godia E., Soriano-Tarraga C., Slowik A., Jagiella J.M., *et al*. Association of Apolipoprotein e with Intracerebral Hemorrhage Risk by Race/Ethnicity: A Meta-analysis (2019) *JAMA NEUROL*, 76 (4), 480-491. **IF: 12.3210**

Mola-Caminal M., Carrera C., Soriano-Tarraga C., Giralte-Steinhauer E., Diaz-Navarro R.M., Tur S., Jimenez C., Medina-Dols A., Cullell N., Torres-Aguila N.P., Muino E., Rodriguez-Campello A., Ois A., Cuadrado-Godia E., *et al*. PATJ Low Frequency Variants Are Associated with Worse Ischemic Stroke Functional Outcome: A Genome-Wide Meta-Analysis (2019) *CIRC RES*, 124 (1), 114-120. **IF: 15.8620**

Sabater-Lleal M., Huffman J.E., de Vries P.S., Marten J., Mastrangelo M.A., Song C., Pankratz N., Ward-Caviness C.K., Yanek L.R., Trompet S., Delgado G.E., Guo X., Bartz T.M., Martinez-Perez A., Germain M., de Haan H.G., *et al*. Genome-Wide Association Transethnic Meta-Analyses Identifies Novel Associations Regulating Coagulation Factor VIII and Von Willebrand Factor Plasma Levels (2019) *CIRCULATION*, 139 (5), 620-635. **IF: 23.0540**

Soderholm M., Pedersen A., Lorentzen E., Stanne T.M., Bevan S., Olsson M., Cole J.W., Fernandez-Cadenas I., Hankey G.J., Jimenez-Conde J., Jood K., Lee J.-M., Lemmens R., Levi C., Mitchell B.D., Norrving B., Rannikmae K., *et al*. Genome-wide association meta-analysis of functional outcome after ischemic stroke (2019) *NEUROLOGY*, 92 (12), E1271-E1283. **IF: 8.6890**

Torres-Aguila N.P., Carrera C., Muino E., Cullell N., Carcel-Marquez J., Gallego-Fabrega C., Gonzalez-Sanchez J., Bustamante A., Delgado P.,

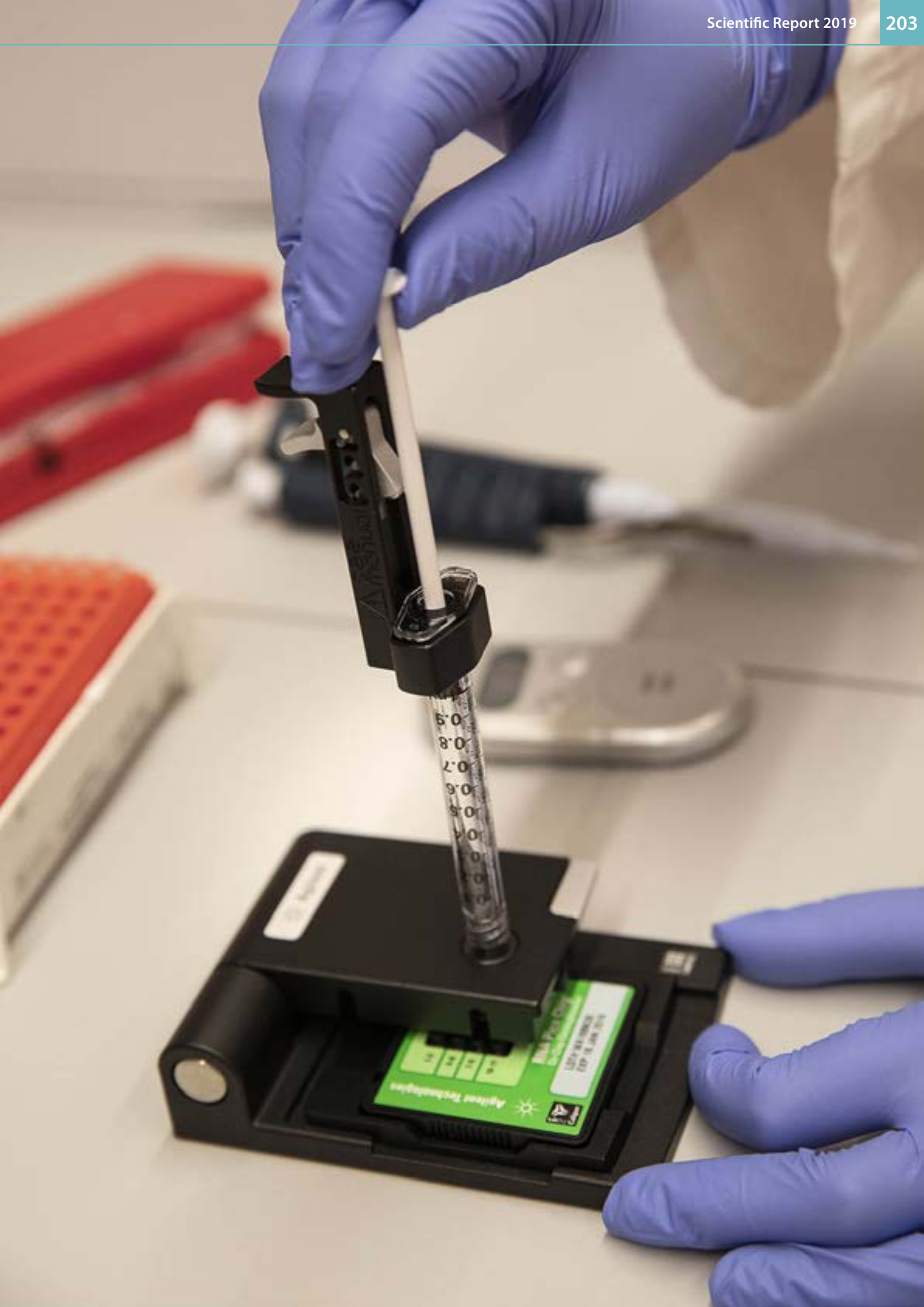
Ibanez L., Heitsch L., Krupinski J., Montaner J., Marti-Fabregas J., Cruchaga C., Lee J.-M., Fernandez-Cadenas I., Clinical variables and genetic risk factors associated with the acute outcome of ischemic stroke: A systematic review (2019) *J STROKE*, 21 (3), 276-289. **IF: 5.5710**

Torres-Aguila N.P., Carrera C., Giese A.-K., Cullell N., Muino E., Carcel-Marquez J., Gallego-Fabrega C., Gonzalez-Sanchez J., Del Mar Freijo M., Al-

varez-Sabin J., Molina C., Ribo M., Jimenez-Conde J., Roquer J., Sobrino T., *et al.*, Genome-wide association study of white blood cell counts in patients with ischemic stroke (2019) *STROKE*, 50 (12), 3618-3621. **IF: 6.0460**

Diffusion Activities

- ▶ Israel Fernández Cadenas. Update Acute endophenotypes group. International Stroke Genetics Workshop. ST. Louis, USA. November 2019.
- ▶ Israel Fernández Cadenas. Update Acute endophenotypes group International Stroke Genetics Workshop. Cambridge, UK. April 2019.
- ▶ Israel Fernández Cadenas. Los estudios genéticos masivos como herramientas traslacionales. Jornadas Adacen. Pamplona, 9 May 2019.
- ▶ Israel Fernández Cadenas. Genètica i anàlisi de dades per prevenir malalties com l'íctus. Festa de la Ciència. Barcelona, October 2019.
- ▶ Israel Fernández Cadenas. Un estudio de genoma completo en 6.979 casos y controles descubre un nuevo locus asociado con ictus isquémico de tipo lacunar. Congreso Anual Invictus Plus. Santiago de Compostela. November 2019.
- ▶ Natalia Cullell; Carolina Soriano-Tárraga; Cristina Gallego-Fábrega; Jara Cárcel; Caty Carrera; Nuria P Torres-Águila; Jonathan González-Sánchez; Elena Muiño; Manel Esteller; Manuel Castro de Moura; Joan Montaner; Roberto Elosúa; Alba Fernández-Sanlés; Joan Martí-Fàbregas; Jerzy Krupinski; Jaume Roquer; Jordi Jiménez-Conde; Israel Fernández-Cadenas. Estudio de epigenome-wide association (EWAS) y Mendelian Randomization en el riesgo de ictus isquémico. III Congreso Red Invictus+. 7 November 2019.
- ▶ Natalia Cullell; Caty Carrera; Nuria Torres-Águila; Elena Muiño; Jara Cárcel; Jonathan González; Pilar Delgado; Iolanda Riba; Alejandro González; Brady Gaynor; Braxton D. Mitchell; Huichun Xu; Bradford B. Worrall; Fernando Mancha; Juan Antonio Cabezas; Irene Escudero; Joan Montaner; Israel Fernández-Cadenas; Francisco Moniche; Juan F. Arenillas. A genome wide association study in patients with intracranial atherosclerosis. 5th European Stroke Organisation Conference. 22 May 2019.
- ▶ Professor: Uso práctico de Ensembl. Farmacogenética. Pharmacy Degree. Universitat Ramon Llull.
- ▶ Cárcel-Márquez, Jara; Torres-Águila, Nuria; Muiño, Elena; Carrera, Caty; Cullell, Natalia; Gallego-Fabrega, Cristina; González-Sánchez, J; Fernández-Cadenas, Israel. Genomics and epigenomics: An integrative approach in stroke omics. VII Jornada de Bioinformàtica i Genòmica. Secció de Bioinformàtica i Genòmica de la SCB and Associació Bioinformàtica Barcelona (BIB). Universitat Politècnica de Catalunya, 17 December 2019
- ▶ Jara Cárcel-Márquez, Natalia Cullell, Caty Carrera, Elena Muiño, Cristina Gallego-Fabrega, Jonathan González-Sánchez, Joan Martí-Fàbrega, Joan Montaner, Carlos Cruchaga, Jin-Moo Lee, Dipender Gill, Guillaume Pare, Marina Mola, Jordi Jimenez, Jaume Roquer, Israel Fernández-Cadenas. Estudio genético para determinar si los niveles de metaloproteinasas son causa o consecuencia del ictus isquémico. III Congreso Red Invictus+. Red de Enfermedades Vasculares Cerebrales (INVICTUS+) – ISCIII. Santiago de Compostela, 7-8 November 2019.
- ▶ Elena Muiño. Estudios en CADASIL, Asociación Española de CADASIL. Barcelona, November 2019.



AREA 5

Urology and Experimental S

206 General and Digestive Surgery

211 Neurosurgery

213 Nephrology

221 Women and Perinatal Health Research Group

225 Gynecologic and Peritoneal Oncology Group

Surgery



AREA 5 · Uro nephrology and Experimental Surgery

General and Digestive Surgery



Coordinator

Moral Duarte, Antonio (FGS)
amoral@santpau.cat

Members

Balagué Ponz, María Carmen (FGS)
Bollo Rodríguez, Jesús Manuel (FGS)
Caballero Mestres, Ferran (FGS)

Clos Enríquez, Montserrat (FGS)

Escobar Lezcano, Lilian (FGS)

Fernández Ananin, Sonia (FGS)

González López, José Antonio (FGS)

Hernández Casanovas, Maria Pilar (FGS)

Martín Arnau, Ana Belén (FGS)

Martínez Sánchez, María del Carmen (FGS)

Medrano Caviedes, Rodrigo Gustavo (FGS)

Molina Santos, Víctor (FGS)

Pérez García, José Ignacio (FGS)

Rodríguez Blanco, Manuel (FGS)

Rofin Serra, Silvia (FGS)

Sánchez Cabús, Santiago (FGS)

Targarona Soler, Eduardo María (FGS)

Main Lines of Research

Gastrointestinal Surgery

- ▶ Application of laparoscopic surgery in diseases of the spleen.
- ▶ Application of laparoscopic surgery in disorders of the esophago-gastric junction.
- ▶ Advanced application of colorectal laparoscopy.
- ▶ New stratification and treatment options in colorectal cancer.

Hepato-Pancreato-Biliary Surgery

- ▶ Surgery for liver metastasis in colorectal cancer.
- ▶ Development of diagnostic and therapeutic techniques in the global context of treatment for liver metastasis in colorectal carcinoma.
- ▶ Surgery for primary hepatic tumors: determination of efficient prognostic parameters for surgical resection of hepatocarcinoma and likelihood of tumor recurrence after resection.
- ▶ Introduction of the laparoscopic methodology to biliary lithiasis.

Endocrine, Breast, abdominal wall, Soft tissue sarcomas and advanced gynecologic surgery

- ▶ 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 tumors.
- ▶ 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

Emergency Care

- ▶ Collaborative project on clinical safety for the introduction of safe practices for polytrauma patients.
- ▶ Collaborative project on clinical safety for the introduction of safe practices for polytrauma patients in a multicenter collaborative database through the Catalan Trauma Database - TraumaCAT.
- ▶ Collaborative project on clinical safety for fragile and elder patients in emergency surgery and care through an accredited geriatric emergency department by the American College of Physicians at our Hospital.
- ▶ Collaborative project on clinical safety for emergency surgical treatment for aorta-enteric fistulae in collaboration with the vascular surgery department.
- ▶ Collaborative project on clinical safety for 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.
- ▶ Collaborative project on tertiary peritonitis treatment with Infectious disease department.
- ▶ Collaborative project on central catheter infection with the infectious disease department.

Scientific Challenges

Gastrointestinal Surgery

- ▶ Design, develop and manage a dry laboratory for endoscopic surgery, creating a multifunctional research and teaching space to conduct applied technological research in minimally invasive surgery.

Hepato-Pancreato-Biliary Surgery

- ▶ Development of techniques to study liver volume and function.
- ▶ Development of experimental studies on the function and healing of biliary-intestinal sutures.

- ▶ Studies of the value of nutrition in patients undergoing aggressive surgery for highly debilitating cancer.

- ▶ Suitable stratification of GIST tumors in accordance with an anatomopathological classification.

- ▶ Viability of surgical interventions considering the likelihood of disease recurrence.

Emergency Surgery

- ▶ Consolidation of a multidisciplinary group for polytraumatized patient care.

- ▶ Technical innovations in wound Infection after emergency surgery
- ▶ Technical innovations in prevention of wound hernia after emergency surgery in collaboration with the abdominal all hernia unit
- ▶ Possible role of laparoscopic hernia repair in emergency surgery
- ▶ Guidelines development for best clinical practices in Ogilvie syndrome and volvulus

Breast Surgery

- ▶ Technological innovations in surgery.
- ▶ Possible role of genetic studies in diagnosis and follow-up.

Endocrinal and Cervical Surgery

- ▶ Technical innovations in surgery.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Endocrinology, Diabetes and Nutrition. Institut de Recerca, Hospital de la Santa Creu i Sant Pau - Universitat Autònoma de Barcelona (IRHSP-EDUAB). Eugenia Mato (CIBER Bioingeniería, Biomateriales y Nanomedicina).

External Collaborations

- ▶ Obtención de resecciones hepáticas para aislamiento de hepatocitos para uso en investigación. Donation and Transplantation Institute (DTI). 49/2009.
- ▶ Dr. González (PI at Hospital de Sant Pau). RESAR Project. Project of international prospective database in Retroperitoneal Sarcomas led by the Tumori Institute of Milan since December 2018.

Active Grants

- ▶ Antonio Moral Duarte (co-PI). Juan Carlos Escolà Gil (PI). 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. FIS. PI19/00136. Duration: 3 years
- ▶ José Ignacio Pérez García (associated PI). Daniel Escuin (PI). Investigación del papel de los miRNAs y snoRNAs circulantes como marcadores surrogados del estatus de los ganglios linfáticos en pacientes con cáncer de mama. FIS PI19/00362.
- ▶ José Antonio González (collaborator). Estudio fase III randomizado de radioterapia preoperatoria vs cirugía sola en paciente con sarcoma retroperitoneal. EORTC 62092-22092 STRASS.
- ▶ José Antonio González (collaborator). Ensayo clínico Fase I-II, abierto, prospectivo y muticéntrico, que explora la combinación de trabectedina y radioterapia en pacientes con sarcoma de tejidos blandos en retroperitoneo (RETRO-TRASTS). GEIS-37.
- ▶ José Antonio González (PI at Hospital de Sant Pau), Carolyn Nessim (PI Ottawa Hospital), Bibiana Purgina (Co-PI Ottawa Hospital), Brittany Dingley (Co-I Ottawa Hospital). Retroperitoneal Myxoid LPS: Always a Metastasis? TARPSWG 1803.
- ▶ José Antonio González (PI at Hospital de Sant Pau), Hannah L Tattersall (PI University Hospitals Birmingham), Samuel J Ford (Co-PI University Hospitals Birmingham), Alessandro Gronchi (Co-I Istituto dei Tumori, Milan). Primary Mesenteric Sarcomas. TARPSWG 1804.
- ▶ José Antonio González (PI at Hospital de Sant Pau). RESAR Project. Project of international prospective database in Retroperitoneal Sarcomas led by the Tumori Institute of Milan since December 2018.
- ▶ José Antonio González. Collaborator of the Grupo de trabajo de sarcomas de partes blandas localizados extremidades/Pared de tronco del GEIS.
- ▶ José Antonio González. Profilaxis de la infección de herida en la cirugía de eventroplastia abierta mediante la protección del espacio subcutáneo con empleo de Alexis® vs empleo de separador metálico bivalvo tradicional. IIBSP-ALE-2019-21.
- ▶ José Antonio González. Evaluación del dolor postoperatorio inmediato y crónico en la fijación de malla en la reparación de eventraciones utilizando cianoacrilato en comparación con la sutura de monofilamento absorbible. IIBSP-CIA-2019-41.
- ▶ José Antonio González (associated investigator), Cleofé Romagosa (PI, Hospital Vall d'Hebron). Estudio sobre el impacto en el pronóstico y la calidad de vida del diagnóstico anatomopatológico centralizado de sarcomas de partes blandas en el Estado español. Asociación Mari Paz Gimenez Casado. Duration: 2019-2021. 85,000 €.
- ▶ José Antonio González (associated investigator). Perioperative ISchemic Evaluation-3 (POISE3) Trial. International multi-center study led by the Hamilton General Hospital Campus of Ontario, Canada that will include 10,000 patients.
- ▶ Jesús Manuel Bollo (associated investigator). A Randomized, Multi-centre, Open-label Controlled Phase II Trial of Foxy-5 Neo Adjuvant Therapy in Subjects with Wnt-5a Low Colon Cancer. Clinical Trial Protocol SMS-0472B.
- ▶ Jesús Manuel Bollo (associated investigator). MIRCAST. Minimally Invasive Right Colectomy Anastomosis Study. Promotor: IDIVAL.
- ▶ Eugènia Mato, Joan Carles Escolà, Antonio Moral, José Ignacio Pérez. Associació entre adipocitocines, mediadors pro-inflamatoris i desregulació del colesterol en els carcinomes tiroïdals i la progressió tumoral.
- ▶ V. Pomar (leading investigator in Hospital Sant Pau), R. Medrano (Hospital Sant Pau), Oriol Gasch (PI, Hospital de Sabadell), Collaboration in Research Study: Randomized Clinical Trial on the need of antibiotic treatment on catheter related sepsis due to staph coag-negative INFBACT-2017 EudraCT: 2017-003612-39.
- ▶ Dr. López Contreras (Leading investigator in Hospital Sant Pau), Dr. Medrano Caviedes (Surgeon Collaborator Hospital Sant Pau). 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-β-lactamase (MBL) – producing multidrug resistant pathogens, for which there are limited or no treatment options, 234454. Pfizer, C3601002

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Bollo J, Turrado V, Rabal A, Carrillo E, Gich I, Martínez MC, Hernández P, Targarona E. Randomized clinical trial of intracorporeal versus extracorporeal anastomosis in laparoscopic right colectomy (IEA trial). EAES. K Storz Best Paper Award. 28th European Association of Endoscopic Surgery (EAES). Sevilla, Spain, June 2019.

Scientific Production

Total Impact Factor: 44.156 · Mean Impact Factor: 2.1027

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▶ Park, A, Targarona, EM, Weltz, AS, Rodriguez-Luppi, C. The Spleen. In: Schwartz, S. Principles of Surgery. McGraw Hill, 2019, 11th Edition. Pp 1517-1541.

▶ Targarona, EM, Martín Pérez, E. La proyección de la cirujana general. In: 'Historias de éxito' La mujer en la Cirugía General. Cote, E, Ed. Graphimedi, México, 2019, pp 86-98

▶ Sánchez Cabús S. Pancreatitis crónica. I Máster de Especialización en Cirugía Hepatobiliopancreática y Trasplantes (AEC).

Diffusion Activities

Oral Communications / Videos at International Congresses

- ▶ Miñambres I, Amigo-Farran J, López-Mora DA, Estorch M, Pérez JI, Moral A, Clos M, Ballester E, Chico A. 18F-Fluorocholine PET/TC in Patients with Primary Hyperparathyroidism and negative or inconclusive 99mTc-MIBI parathyroid scan: Clinico-Pathological Correlations. 21st European Congress of Endocrinology (ECE). Lyon, France, 21 May 2019.
- ▶ Fernández-Ananín S., Ballester E, Gonzalo B, Basterra A, Pareja E, Miñambres I, Balagué C. The impact of LSG in the elderly population: evolution of weight loss, comorbidities and medication requirement for long-term. 4th IFSO World Congress. Madrid, 3 September 2019.
- ▶ Rabal A, Fernández-Ananín S, Balagué C, Sacoto D, Gómez I, Gonzalo B, Basterra A, Pareja E, Guarner C Targarona EM. Revisional surgery after failed heller's myotomy for achalasia. 27th International EAES Congress. Sevilla (Spain), 12-15 June 2019.
- ▶ Balagué C, Gonzalo B, Fernández-Ananín S, Guarner C, Gómez I, Pareja E, Basterra A, Sacoto D, Rabal A, Targarona EM. Steps and Tricks during revisional surgery after failed Heller's myotomy for Achalasia. Analysis of three cases. 27th International EAES Congress. Sevilla (Spain), 12-15 June 2019.
- ▶ Bollo J, Turrado V, Rabal A, Martínez M, Hernández P, Targarona E. Is superior intracorporeal anastomosis to extracorporeal anastomosis in laparoscopic right colectomy. 26th Annual Meeting of the European Surgical Association. Madrid, 16-18 May 2019.
- ▶ Bollo J, Rabal A, Sacoto D, Solans M, Martínez C, de la Fuente N, Targarona E. Technical aspect of laparoscopic D3 Lymphadenectomy in right colon neoplasia 27th International European Association for Endoscopic Surgery. Sevilla, 12-15 June 2019.
- ▶ Rabal A, Martínez C, Bollo J, Rabal A, Sacoto D, Solans M, Martínez C, de la Fuente N, Targarona E. Laparoscopic surgery for synchronous colorectal cancer: segmental resection or extended colectomy? 27th International European Association for Endoscopic Surgery. Sevilla, 12-15 June 2019.
- ▶ Bollo J, Rabal A, Sacoto D, Solans M, Martínez C, De la Fuente N, Targarona E. 20 years experience in the surgical treatment of splenic flexure neoplasia. Les is more? 27th International European Association for Endoscopic Surgery. Sevilla, 12-15 June 2019.
- ▶ Jing Huang Ye, de la Fuente N, Martínez C, Solans M, Rabal A, Hernández P, Bollo J, Targarona E. Is the laparoscopic approach safe in colovesical fistula. 27th International European Association for Endoscopic Surgery. Sevilla, 12-15 June 2019.
- ▶ Jing Huang Ye, de la Fuente N, Martínez C, Hernández P, Bollo J, Targarona E. Combined laparoscopic abdomino perineal resection of retrorectal tumors. 27th International European Association for Endoscopic Surgery. Sevilla, 12-15 June 2019.
- ▶ Bollo J, Turrado V, Rabal A, Carrillo E, Gich I, Martínez MC, Hernández P, Targarona E. Randomized clinical trial of intracorporeal versus extracorporeal anastomosis in laparoscopic right colectomy (IEA trial). 27th International European Association for Endoscopic Surgery. Sevilla, 12-15 June 2019.
- ▶ Ballester E, Pérez García JI, López-Mora DA, Ye Zhou JH, Gallego M, Clos M, González López JA, Moral A. Identification of hidden adenomas in primary hyperparathyroidism with choline PET-CT: a two-year update. BAETS (British Association of Endocrine and Thyroid Surgeons) Annual Scientific Meeting. Barcelona, 3-4 October 2019.
- ▶ Vidal O, Saavedra D, Martos JM, Quintana A, Rodríguez JI, Villar J, Ortega J, Moral A, Duran M, Valentini M, Fernández-Cruz L. Risk factors for open conversion of lateral transperitoneal laparoscopic adrenalectomy: retrospective cohort study of the Spanish Adrenal Surgery Group (SASG). (oral communication). 27th European Association for Endoscopic Surgery (EAES). Sevilla, 12-15 June 2019.
- ▶ Bonet I, Medrano RG, Moral A. Splenic Trauma: Management on Interventionist Era. ITESW 2019 - International trauma and emergency surgery week 2019. Alicante, 9 December 2019.
- ▶ González Abos S, Medrano RG, Guerrero R, Moral A. Embolization Therapy on Acute Gastrointestinal bleeding. ITESW 2019 - International Trauma and Emergency Surgery Week 2019. Alicante, 9 December 2019.
- ▶ Ye G, Medrano RG, Moral A. Emergency surgery on patients with chronic anticoagulation therapy. ITESW 2019 - International Trauma and Emergency Surgery Week 2019. Alicante, 9 December 2019.
- ▶ Guarrino M, Medrano RG Moral A. Laparoscopic management of traumatic rupture of diaphragm (2 case report). ITESW 2019 - International Trauma and Emergency Surgery Week 2019. Alicante, 9 December 2019.

Oral Communications at National Conferences

- ▶ Martín B, Rodríguez M, Molina V, Rabal A, Moral A, Sánchez Cabús S. Resultados obtenidos mediante el abordaje laparoscópico de la coledocolitiasis en 101 casos consecutivos. XII Congress of the Societat Catalana de Cirurgia. Barcelona, 17-18 October 2019.
- ▶ Martín B, Rodríguez M, Gutiérrez E, Molina V, Rabal A, Moral A, Sánchez Cabús S. Resultados obtenidos mediante el abordaje laparoscópico de la coledocolitiasis en 101 casos consecutivos. XXII Reunión Nacional de Cirugía. Santander, 6-8 November 2019.
- ▶ Fernández Ananin S, Ballester E, Gonzalo B, Basterra A, Pareja E, Solans M, Balagué C. ¿Es el sleeve gástrico efectivo en los ancianos? Análisis de la pérdida ponderal, las comorbilidades y el requerimiento de medicación a largo plazo. XXII Reunión Nacional de Cirugía. Santander, 6-8 November 2019.
- ▶ Ballester Vázquez E, Gonzalo Prats B, Fernández Ananin S, Gómez Torres I, Sacoto Urgilez D, Miñambres Donaire I, Duch Renom J, Balagué Ponz C. ¿Influye el tamaño del antro sobre el vaciamiento gástrico y la pérdida de peso tras un sleeve gástrico? Estudio prospectivo randomizado. XXII Reunión Nacional de Cirugía. Santander, 6-8 November 2019.
- ▶ Ballester Vázquez E, Gonzalo Prats B, Fernández Ananin S, Gómez Torres I, Sacoto Urgilez D, Pernas Canadell JC, Miñambres Donaire I, Balagué Ponz C. Como influye el volumen del remanente gástrico sobre la pérdida de peso en pacientes sometidos a sleeve gástrico. Estudio prospectivo randomizado. XXII Reunión Nacional de Cirugía. Santander, 6-8 November 2019.
- ▶ Sizova, DA, López-Mora F, Fuentes-Ocampo A, Flotats JD, Domènech A, Pérez JI, Carrió I, Estorch M. Análisis comparativo de la calidad de imagen y la detectabilidad de adenomas paratiroides ocultos entre la PET/TC digital y analógica con 18F-fluorocolina. Jornada SEMNIM. Sociedad Española de Medicina Nuclear e Imagen Molecular. Hospital Universitario Reina Sofía. Córdoba, 7-8 June 2019.
- ▶ López-Mora A, Sizova M, Fuentes-Ocampo F, Flotats A, Camacho V, Fernández A, Pérez JI, Estorch M, Carrió I. Diferenciación entre adenomas paratiroides ocultos y adenopatías locoregionales en la PET/TC DIGITAL y analógica con 18F-fluorocolina: utilidad del suv máx. Jornada SEMNIM. Sociedad Española de Medicina Nuclear e Imagen Molecular. Hospital Universitario Reina Sofía. Córdoba, 7-8 June 2019.
- ▶ Amigó Farran J, Miñambres I, López Mora DA, Estorch M, Pérez JI, Moral A, Clos M, Ballester E, Chico A. 18F-Fluorocolina PET/TC en pacientes con hiperparatiroidismo primario y 99mTc-MIBI negativo/no concluyente: correlaciones clínico-patológicas. 60 Congress of the Sociedad Española de Endocrinología y Nutrición. Bilbao, 16-18 October 2019.
- ▶ López-Mora DA, Sizova M, Fuentes-Ocampo F, Flotats A, Camacho V, Fernández A, Pérez JI, Estorch M, Carrió I. Utilidad del Suv máx en la Diferenciación de Adenomas Paratiroides Ocultos y Adenopatías Locoregionales entre la PET/TC Digital y Analógica con 18F-Fluorocolina. XVII Congreso Colombiano de Medicina Nuclear. Bucaramanga, 16-18 August 2019.
- ▶ Ballester E, Pérez JI, Clos M, Sacoto D, López Mora D, González S, González JA, Moral A. Identificación de adenomas ocultos en hiperparatiroidismo primario con PET-TC colina: actualización de nuestra experiencia después de dos años (oral). XXII Reunión Nacional de Cirugía., Santander, 6-8 November 2019.
- ▶ Martín B, Pérez JI, Clos M, González JA, Moral A. Bocio endocrítico, asociación con divertículo de Zenker. XXII Reunión Nacional de Cirugía. Santander, 6-8 November 2019.
- ▶ González S, I. Fornaguera I, Gonzalez JA, Pérez JI, Clos M, Moral A. Tumor del estroma gastrointestinal extraluminal (EGIST) como pre-

sentación de masa mesentérica de etiología no filiada. (poster). XXII Reunión Nacional de Cirugía. Santander, 6-8 November 2019.

- ▶ Pomar V, Cotura M, Azparren G, Bollo J, Carmona F, Fernández J, Horta G, Martínez C, Moral M, Pallarés M, Piñol S, Ramírez L, Roch N, Targarona EM, Benito N, Gurgui M, Moral A, López-Contreras J. Programa de mejora para reducir la incidencia de infección de localización quirúrgica (ILQ) asociada a la cirugía colorectal en un hospital de tercer nivel. (poster). XXIII Congress of the Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica. Madrid, 23-25 May 2019.

Posters at International Conferences

- ▶ Fernández-Ananín S, Rodríguez-Otero Luppi C, Gonzalo Prats B, Garay Solá M, Pernas Canadell JC, Ballester Vázquez E, Balagué Ponz C. CT scan measurement of gastric volumes pre and post laparoscopic sleeve gastrectomy. Does the resected volumen correlates to weight loss results? 17th World Congress of Endoscopic Surgery International Annual Meeting. Baltimore, USA, 3-6 April 2019.

- ▶ Gonzalo B, Otero-Luppi C, Camacho M, Garay M, Fernández-Ananín S, Gómez I, Ballester E, Balagué C. Hormonal response after a sleeve gastrectomy. Does the size of the bougie have an influence? 17th World Congress of Endoscopic Surgery International Annual Meeting. Baltimore, USA, 3-6 April 2019.
- ▶ Fernández-Ananín S, Guarner C, Balagué C, Ballester E, Murzi M, Sacoto D, Bazaga S, Targarona EM. Acalasia: una visió multidisciplinar. Societat Catalana de Cirurgia. 11 November 2019.
- ▶ Ballester E, Pérez JI, López-Mora DA, Ye Zhou JH, Gallego M, Clos M, González JA, Moral A. Identification of hidden adenomas in primary hyperparathyroidism with choline PET-CT: a two-year Update. British Association of Endocrine and Thyroid Surgeons (BAETS). Barcelona, 3-4 October 2019.

AREA 5 · Uronephrology and Experimental Surgery

Neurosurgery



Coordinator

Muñoz Hernández, Fernando
(FGS)
fmunoz@santpau.cat

Members

Aibar Duran, Juan Ángel (FGS)
Álvarez Holzapfel, María Jesús (FGS)
Anka, Michael Oladotun (FGS)
Asencio Cortes, Carlos (FGS)
Conesa Bertrán, Gerardo
(external entity)
De Quintana Schmidt, Cristian
José (FGS)

Freixer Palau, Berta (FGS)
Patino Alvarado, Juan Diego
(FGS)
Rico Pereira, Marta (FGS)
Rodríguez Rodríguez, Rodrigo
(FGS)
Sánchez Casas, Marc (FGS)

Main Lines of Research

- ▶ Biomaterials: comparative study of two different cranial bone fixations.
- ▶ Tumor biology: gliomas (prognostic value of different mutations in anaplastic astrocytoma and GBM), pituitary gland adenomas.
- ▶ Biomarkers in anaplastic astrocytomas and glioblastoma multiforme.
- ▶ Prospective study of patients operated by endoscopic endonasal approach.
- ▶ Anatomical studies of the skull base.
- ▶ Clinical evaluation of neurostimulation techniques in different neurological entities (treatment-resistant depression and neuropathic pain).

Scientific Challenges

- ▶ Monitor the clinical trial on treatment-resistant depression treated using deep brain stimulation techniques (jointly with psychiatry).
- ▶ Evaluate neurostimulation for other disorders: cluster headache.
- ▶ Use of intraoperative ultrasound for treatment of brain tumors.
- ▶ Intraoperative neuromonitoring of oculomotor cranial nerves in skull base tumors.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Cristian de Quintana (principal researcher). Dynamics of the synaptic molecular machinery in cognitive processes and intellectual deficit. FIS project. In collaboration with Molecular Biology.
- ▶ Cristian de Quintana. Application of new technologies in brain tumor resection. In collaboration with Neurooncology Group.
- ▶ Studies about Central Nervous Systems (CNS). A Data Base of all the CNS tumors. In collaboration with Medical and Radiotherapy Oncology, Radiology.
- ▶ Studies about Glioma tumors. In collaboration with Pathological Anatomy.
- ▶ Studies about pituitary tumors. In collaboration with Endocrinology.
- ▶ Studies about endoscopic endonasal surgery with ENT.

External Collaborations

- ▶ Fernando Muñoz. Registre prospectiu de malalts atesos a la xarxa hospitalària del SISCAT amb el diagnòstic d'hemorràgia subaracnoïdal espontània. Estudio prospectivo de base de datos sobre HSA en Cataluña. Pla Director Malaltia Vasculard Fundació Ictus.
- ▶ Fernando Muñoz, Carlos Asencio. SWITCH Trial. Swiss Trial of Decompressive Craniectomy versus Best Medical Treatment of Spontaneous Intracerebral Hemorrhage. An International Randomized Controlled Trial.
- ▶ Cristian de Quintana. Study of survival in relation to the degree of resection and degree of tumoral remnants (subgroup of GLIOCAT).
- ▶ Carlos Asencio, Cristian de Quintana, Rodrigo Rodríguez, M. Jesús Álvarez, Juan Patino and Fernando Muñoz. A Post Market registry to assess the clinical performance of a polymeric cranial burr hole cover system (Cranial Cover). Cover Registry. Prospective Study.
- ▶ Carlos Asencio, Cristian de Quintana, Rodrigo Rodríguez, M. Jesús Álvarez, Juan Patino and Fernando Muñoz. Observational, retrospective, case series, post-marketing clinical follow-up study to evaluate the performance and safety of a polymeric clamp-like cranial fixation system.

Scientific Production

Total Impact Factor: 10.3570 · Mean Impact Factor: 1.7262

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de Quintana-Schmidt C., Leidinger A., Teixido J.M., Bertran G.C., Application of a Thrombin-Gelatin Matrix in the Management of Intractable Hemorrhage During Stereotactic Biopsy (2019) WORLD NEUROSURG, 121, 180-185. **IF: 1.7230**

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Diffusion Activities

- ▶ Fernando Muñoz (organizador and teacher). Carlos Asencio (teacher). Abordajes endoscópicos de la base de cráneo: plano sagital y coronal completo. Curso teórico-práctico de Base de Cráneo (Hands-on Workshop). Servicio de Neurocirugía. Hospital de la Santa Creu i Sant Pau. Barcelona. March 2019

Nephrology



Coordinator

Guirado Perich, Lluís (F. Puigvert)
lguirado@fundacio-puigvert.es

Members

Ars Criach, Elisabeth (F. Puigvert)
Ballarín Castan, José (F. Puigvert)
Bardají de Quixano, Beatriz
(F. Puigvert)
Bover Sanjuan, Jordi (F. Puigvert)
Coll Piera, Elisabet (F. Puigvert)
Da Silva Santos, Iara Karlla
(F. Puigvert)

Díaz Encarnación, Montserrat
Mercedes (F. Puigvert)

Díaz Gómez, Joan Manel
(F. Puigvert)

Domingo Gallego, Andrea
(F. Puigvert)

Fernández de la Llama, Patricia
(F. Puigvert)

Furlano, Mónica María (F. Puigvert)

Gràcia Garcia, Sílvia (F. Puigvert)

Guillén Gómez, Elena (F. Puigvert)

Lloret Cora, María Jesús
(F. Puigvert)

Lorente Grandoso, Laura
(F. Puigvert)

Mateu Escudero, Silvia
(F. Puigvert)

Pybus Oliveras, Marc (F. Puigvert)

Ruiz del Prado, Patricia
(F. Puigvert)

Sanmiguel Amigo, Luz
(F. Puigvert)

Silva Torres, Irene (F. Puigvert)

Torra Balcells, Roser (F. Puigvert)

Main Lines of Research

Fundació Puigvert's Nephrology Research Group has been part of the IIB since its very beginning. The group carries out translational research within the field of renal diseases along different lines from hypertension, hereditary diseases, glomerular diseases and renal fibrosis, to transplants and dialysis.

Those different lines are analyzed in detail below:

- ▶ Dr. Torra is the head researcher of the hereditary diseases line – she and Dr. Ars have leaded many research projects on these diseases, and both have supervised several doctoral theses. The hereditary renal diseases team is currently analyzing phenotype variability of those diseases, both in its genomic and its clinical dimension. Dr. Torra coordinates both the Catalan and the Spanish hereditary renal diseases teams, and is a member of the homonymous European board of the EDTA (European Dialysis and Transplant Association).
- ▶ Dr. Ars heads the molecular genetics laboratory; she has optimized next-generation sequencing tools for hereditary renal diseases. Dr. Ars coordinates the Sant Pau IIB's Fundació Puigvert's On-line Biobank node belonging to the National Biobanks Platform. She is also the person responsible for organizing a European Molecular Quality Network (EMQN) outline for quality control of the genetic diagnoses of ADPKD by European laboratories. She currently leads a research project for applying this outline to kidney and urinary tract congenital abnormalities.
- ▶ Together with Dr. Díaz, Dr. Ballarín leads several clinical trials, both national and international, on glomerular and systemic diseases affecting the kidneys. They also participate in registries at the Catalan, Spanish and European level.
- ▶ Dr. Díaz leads the studies on renal inflammation and fibrosis. Renal grafts from cadaver donors are an apt model for her study due to their poorer prognosis and to the high probability of inflammation and ensuing fibrosis, compared to live-donor grafts. Dr. Díaz and Dr. Guillén have identified the activation of purinome elements, both in cell cultures and in grafts from cadaver donors. This activation participates in inflammation and fibrosis, triggered by the phenotype change of macrophages into anti-inflammatory and pro-fibrotic, and interacting with other pro-fibrotic classical pathways. This new role of the purinergic pathways may provide the key to detecting new markers and new therapeutic targets associated with renal graft dysfunction after transplant.
- ▶ Dr. Fernández-Llama is participating in the development of a prototype of a multiplex system for flow cytometry focused on a new multi-parametric etiopathogenic diagnosis of acute renal damage. As an expert in hypertension, she participates in a collaborative trial for evaluating 24-hour central blood pressure, its circadian rhythms, and its relationship with organic damage.
- ▶ Dr. Bover is also a member of the EDTA work force board on bone metabolism, his primary research subject.
- ▶ Dr. Díaz leads the dialysis research line. Currently the two major research lines are concerned with the appropriateness of peritoneal dialysis, and the investigation for biomarkers of the acute renal failure.
- ▶ Dr. Coll, who belongs in the dialysis team, heads the research of genomic damage in patients on renal replacement therapy, either transplant or dialysis. She analyzes the differences of oxidative stress in transplanted vs. dialysis patients. She also analyzes the effect of different antioxidants on genomic damage of dialysis patients.
- ▶ The transplant team, led by Dr. Guirado, either participates in or heads over 15 studies, amongst them clinical trials with drugs against kidney rejection or for treating associated viral infections. Dr. Guirado's active participation and leadership in the investigation of biochemical, serologic and genomic biomarkers of both rejection and viral infections associated with renal transplant, are outstanding.
- ▶ Ms. Luz San Miguel, 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

- ▶ To strengthen our translational character and maintain our scientific production.
- ▶ To transfer research results to society as our main goal. To maintain and increase our relationship with patient associations in order to progressively incorporate the RRI approach into our translational research with the objective of better aligning the research process and its results with the values, needs and the expectations of our patients.
- ▶ To potentiate Innovation: to continue with active collection of research samples from CKD and transplant patients. To collaborate with private and research groups in the detection of tissue, urine and blood biomarkers for the development of innovative tools for optimizing the diagnosis and follow-up of renal-transplant patients with chronic inherited diseases. To participate in innovative projects using information and communication technologies (ICT) for educational purposes and empowerment of patients.

- ▶ To strengthen collaborative research as the best way to obtain funds and results: to maintain participation in national working groups and increase international cooperation. To achieve to access to European projects 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 studies, especially early-stage clinical trials.

Collaborations

Collaborations with other IIB Sant Pau Groups

There exists an active collaboration in basic and clinical research projects with other IIB Sant Pau groups and platforms:

- ▶ Inflammatory Diseases Group: Renal fibrosis.
- ▶ Anaesthesiology Group (in collaboration with the Catalan ANES-CARDIOCAT Group): Risk of major adverse cardiovascular and cerebrovascular events in non-cardiac surgery associated with the pre-operative estimated glomerular filtration rate.
- ▶ Paediatrics Group: Nephrotic syndrome evolution, Ig A nephropathy and inherited kidney diseases.
- ▶ Andrology Group: Infertility.
- ▶ Urology Group: Genetic predisposition to congenital urological malformations and transplant.
- ▶ Gynecology Group: High risk pregnancies, prenatal diagnosis, pre-implantation diagnosis.
- ▶ Reumatology Group: Bone disease in Chronic Renal Failure.
- ▶ Multidisciplinary teams for inherited kidney diseases: collaboration with most specialities from Sant Pau Hospital for different inherited kidney diseases (data bases, articles, protocols...)
- ▶ Biobank platform: translational research in all specific lines.

External Collaborations

National Academic Collaborations

- ▶ Department of Biochemistry and Molecular Biology, Universitat de Barcelona, Institute of Biomedicine and Oncology Programme, National Biomedical Research Institute of Liver and Gastrointestinal Diseases (CIBER EHD): Renal fibrosis.
- ▶ Laboratory of Proteomics CSIC/Universitat Autònoma de Barcelona: Diabetic nephropathy.
- ▶ Mutagenesis Department, Universitat Autònoma de Barcelona: Renal impairment in chronic kidney disease.
- ▶ Genomic Regulation Center (CRG): Inherited kidney diseases.
- ▶ Universidad de Salamanca: Acute kidney injury.
- ▶ Universitat de Lleida: Chronic kidney disease.
- ▶ National Scientific Societies (such as Sociedad Española de Nefrología) and investigators of other centres: basic and clinical studies (including public grants, clinical trials, observational studies...) promoted by them.

International Academic Collaborations/International Networks and Consortiums

- ▶ Biochemistry and Microbiology Institute UACH (Chile): Renal fibrosis and diabetic nephropathy.

Active Grants

- ▶ Roser Torra Balcells. Nefropatías familiares no filiadas: genes implicados en su causa y su variabilidad fenotípica. PI15/01824. Instituto de Salud Carlos III. Duration: 2016-2020. 115,500 €.
- ▶ Elisabeth Ars Criach. Estudio genómico de nefropatías de inicio temprano. PI16/01998. Instituto de Salud Carlos III. Duration: 2017-2021. 107,500 €.
- ▶ Montserrat Mercedes Díaz Encarnación. Impacto de las vías purinérgicas sobre la activación de macrófagos en el donante cadáver: pieza clave en el desarrollo de fibrosis y disfunción en el trasplante renal. PI17/01566. Instituto de Salud Carlos III. Duration: 2018-2020. 44,000 €.
- ▶ Mayo Clinic (Rochester, USA): Autosomal Dominant Polycystic Kidney Disease (ADPKD).
- ▶ Hospital Tenon (Paris, France): Nephrotic syndrome.
- ▶ EURenOmics Platform: Membranous nephropathy and nephrotic syndrome.
- ▶ Toronto General Hospital (Canada): Molecular genetics of idiopathic nephrotic syndrome.
- ▶ University of Melbourne (Australia): Alport syndrome.
- ▶ Wake Forest University (USA): MUC1 studies.
- ▶ Cyprus University (Cyprus): Alport modifiers studies.
- ▶ University Medicine Goettingen (Germany): Alport syndrome.
- ▶ EDTA (multinational, Europe): Inherited kidney diseases and chronic kidney disease-mineral and bone disorders.
- ▶ Addenbrooke's Hospital, Cambridge University Hospitals NHS (United Kingdom): Vasculitis.
- ▶ EUVAS Group (multinational collaborative Group): Vasculitis.
- ▶ CYS-tic consortium: Autosomal Dominant Polycystic Kidney Disease cohort studies.
- ▶ NEOCYST: Early Onset Cystic Kidney Disease.
- ▶ European Molecular Quality Network: Autosomal Dominant Polycystic Kidney Disease (PKD1 and PKD2).
- ▶ Alianza VHL (Von Hippel Lindau disease)
- ▶ Asociación Española de Esclerosis Tuberosa
- ▶ MPS España: Mucopolisacaridosis
- ▶ ASHUA: Síndrome hemolítico Urémico Atípico
- ▶ AIRG: Inherited diseases
- ▶ ACLECA: Lupus
- ▶ ALCER: Chronic kidney disease

Patients' Organisations

- ▶ Participation in clinical studies including clinical trials and postauthorisation studies promoted by national and international pharmaceutical companies.
- ▶ Research Joint-Venture with VU Medisch Centrum (Amsterdam, The Netherlands); Medizinische Klinik I (Aachen, Germany) and San Paolo Hospital (Milan, Italy) sponsored by Abbvie Co on effects of vitamina D derivatives in CKD-MBD.

Private National and International Collaborations

- ▶ Roser Torra Balcells. Modelos de predicción en las nefropatías hereditarias autosómicas dominantes. PI18/00362. Instituto de Salud Carlos III. Duration: 2019-2021. 82,000 €.
- ▶ Lluís Guirado. Estudi multicèntric, aleatoritzat per avaluar l'eficàcia de la individualització del risc immunològic basat en biomarcadors selectius (disparitat d'eplets HLA i ELISPOT IFN- γ), per optimitzar el tractament immunosupressor en pacients trasplantats renals de donant viu (BIOIMMUN). Generalitat de Catalunya (Convocatòria PERIS 2016. Programes de recerca orientats). SLT002/16/00089. Duration: 2017-2019. 30,589.14 €

- ▶ Patricia Fernández de la Llama. Evolución de la variabilidad de la presión arterial posicional y temporal y su relación con el daño orgánico en ancianos hipertensos. RD16/0009/0019. Fundación Senefro. 24,000 €
- ▶ Roser Torra. Red de Investigación Renal. ISCIII. Duration: 2017-2020. 121,379.50 €
- ▶ Ballarín, J. Grups consolidat de Recerca: Grup d'Investigació en Nefrologia. 2017SGR676. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2019.

Clinical trials and other private or academic studies

- ▶ Díaz, JM. Monitorización humoral tras modificación del tratamiento inmunosupresor en trasplante renal y cardíaco. MCB-INM-2012-01. Fundació Institut Mar d'Investigacions Mèdiques.
- ▶ Lloret, MJ. Manejo del fracaso renal agudo en Cataluña. Registro de tratamiento renal sustitutivo en pacientes con fracaso renal agudo (Estudio REGISFRA). Societat Catalana de Nefrologia, Societat Catalana de Medicina Intensiva.
- ▶ Díaz, JM. Estudio abierto, controlado, aleatorizado, multicéntrico y espontáneo con dos grupos de tratamiento (Estudio MILESTONE). Dr. Santoro-Policlin. S. Orsola Malpighi-Bolonia.
- ▶ Torra, R. Registro de resultados clínicos de la enfermedad de Fabry (FOS). Shire Pharmaceuticals Ibérica, S.L.
- ▶ Torra, R. Protocolo del Registro de Enfermedad de Fabry (GEN-FAB-2013-01) (DIREGC07006). Genzyme Corporation.
- ▶ Guirado, Ll. Apolipoproteínas A-I y A-II como biomarcadores y dianas terapéuticas de recidivas post trasplante de glomeruloesclerosis segmentaria y focal idiopática (GESF) (Estudio GREAT). Cibbim/Nephrology Service, Hospital Vall d'Hebron.
- ▶ Guirado, Ll. Registro europeo multicéntrico de cambio de tratamiento a Advagraf después del trasplante renal. Estudio posautorización (EPA) no intervencional (Estudio CHORUS). 506-MA-1002 (218415). Astellas Pharma Europe LTD.
- ▶ Ballarín, J. Creación de un Consorcio de Biobanco de Patología Glomerular (Proyecto GLOSEN). Grupo de Patología Glomerular-SEN.
- ▶ Díaz, M. Estudio en fase 2, multicéntrico, aleatorizado, en doble ciego y controlado con placebo, de evaluación de la eficacia y la seguridad de anifrolumab en adultos con nefritis lúpica proliferativa activa (Estudio TULIP LN-1). EUDRACT: 2015-001442-29. Astrazeneca AB.
- ▶ Díaz, JM. Mejora de la eficacia de la diálisis con la DPA-adaptada (Estudio PD-IDEA). PD-aAPD-01-INT. Fresenius Medical Care Deutschland GmbH.
- ▶ Torra, R. Registro Español de pacientes con Poliquistosis Renal Autosómica Dominante (PQRAD). Sociedad Española de Nefrología (SEN).
- ▶ Ballarín, J. Estudio fase III, aleatorizado, doble ciego, controlado con placebo, de grupos paralelos, multicéntrico, dirigido por eventos, para evaluar la eficacia y seguridad de finerenona, asociada al tratamiento estándar, en la reducción de la morbilidad y mortalidad cardiovascular en pacientes con Diabetes Mellitus Tipo 2 y diagnóstico clínico de nefropatía diabética (Estudio FIGARO-DKD / 17530). EUDRACT: 2015-000950-39. Bayer Healthcare AG.
- ▶ Fernández-Llama, P. Estudio fase III, aleatorizado, doble ciego, controlado con placebo, de grupos paralelos, multicéntrico, dirigido por eventos, para evaluar la eficacia y seguridad de finerenona, asociada al tratamiento estándar, en la progresión de la enfermedad renal en pacientes con Diabetes Mellitus Tipo 2 y diagnóstico clínico de nefropatía diabética (Estudio FIDELIO-DKD / 16244). EUDRACT: 2015-000990-11. Bayer Healthcare AG.
- ▶ Díaz, M. Escrutinio de la Enfermedad de FABRY en pacientes con Glomeruloesclerosis Focal Segmentaria. GSS-FBZ-2014-01. Fabry. Sociedad Española de Nefrología (SEN)
- ▶ Bover, J. Estudio de fase 3, aleatorizado, de etiqueta abierta y controlado con principio activo para evaluar la eficacia y la seguridad de Vadadustat oral en el tratamiento de mantenimiento de la anemia en sujetos con enfermedad renal crónica no dependiente de diálisis (Non-dialysis-dependent chronic kidney disease, NDD-CKD) (PRO-2TECT-CONVERSION). EUDRACT: 2015-004774-14. Akebia Therapeutics, Inc.
- ▶ Bover, J. A phase 3 randomized, open-label (sponsor-blind), active-controlled, parallel-group, multi-center, event driven study in non-dialysis subjects with anemia associated with chronic kidney disease to evaluate the safety and efficacy of daprodustat compared to darbepoetin alfa (ASCEND-ND). EUDRACT: 2016-000542-65. GlaxoSmithKline Research & Development Limited.
- ▶ Díaz, JM. A phase 3 randomized, open-label (sponsor-blind), active-controlled, parallel-group, multi-center, event driven study in dialysis subjects with anemia associated with chronic kidney disease to evaluate the safety and efficacy of daprodustat compared to recombinant human erythropoietin, following a switch from erythropoietin-stimulating agents (ASCEND-D). EUDRACT: 2016-000541-31. GlaxoSmithKline Research & Development Limited.
- ▶ Guirado, Ll. Ensayo clínico de suspensión de la profilaxis con valganciclovir en trasplantados renales CMV-seropositivo que mantienen la inmunidad celular CD8+ CMV-específica tras recibir timoglobulina (Estudio TIMOVAL). EUDRACT: 2015-004406-42. Fundación Investigación Biomédica Córdoba (IMIBIC).
- ▶ Guirado, Ll. Estudio de fase 3, multicéntrico, aleatorizado, abierto y con control activo para evaluar la eficacia y la seguridad del tratamiento con maribavir en comparación con el tratamiento asignado por el investigador en receptores de un trasplante con infecciones por citomegalovirus (CMV) que son refractarios o resistentes al tratamiento con ganciclovir, valganciclovir, foscarnet o cidofovir. EUDRACT: 2015-004725-13. Shire Viropharma INC.
- ▶ Díaz, JM. Estudio doble ciego, aleatorizado, controlado con placebo para evaluar el efecto de SNF472 en la progresión de la calcificación cardiovascular además del tratamiento de referencia en pacientes con nefropatía terminal (NT) sometidos a hemodiálisis (HD) (CaLIPSO Study). EUDRACT: 2016-002834-59. Laboratoris Sanif.
- ▶ Díaz, JM. Seguimiento intensivo del estado nutricional de los pacientes incidentes en una unidad de hemodiálisis. Fundació Puigvert.
- ▶ Díaz, JM. Búsqueda de marcadores biológicos para el diagnóstico/pronóstico, mediante Proteómica, en pacientes diagnosticados de Lupus Eritematoso Sistémico (LES), con afectación Renal. Hospital Universitario de Basurto - Dra. N. Rivera.
- ▶ Guirado, Ll. Anestésicos volátiles como protectores en el trasplante renal-2 (VAPOR-2-Trial). EUDRACT: 2016-000992-26. Anesthesiology Department, H. U. Groningen, Holand.
- ▶ Díaz, JM; Bover, J. Estudio no intervencionista para investigar la seguridad, la efectividad y la adherencia de Velporo® a corto y a largo plazo en la vida real en pacientes con hiperfosfatemia sometidos a hemodiálisis o a diálisis peritoneal (Estudio VERIFIE). VFMCRP-MEAF-PA21-01-EU. Vifor Fresenius Medical Care Renal Pharma.
- ▶ Díaz, M. Estudio de fase III randomizado, doble ciego y controlado con placebo para evaluar la seguridad y la eficacia de CCX168 (avacopán) en pacientes con vasculitis asociada a anticuerpos citoplásmicos antineutrofílicos (ANCA) tratados de forma concomitante con rituximab o ciclofosfamida/azatioprina. EUDRACT: 2016-001121-14. ChemoCentryx, Inc.
- ▶ Díaz, JM. Estudio de 52 semanas aleatorizado, abierto (con el promotor enmascarado), con control activo, en grupos paralelos, multicéntrico para evaluar la seguridad y eficacia de Daprodustat en comparación con eritropoyetina recombinante humana en pacientes con anemia asociada a enfermedad renal crónica que inician diálisis (Estudio ASCEND-ID). EUDRACT: 2016-000507-86. GlaxoSmithKline Research & Development LTD.
- ▶ Díaz, M. Estudio aleatorizado, controlado y en doble ciego, comparativo de la eficacia y la seguridad de Orelvo (voclosporina) (23,7 mg dos veces al día) frente a placebo en la consecución de la respuesta renal en sujetos con nefritis lúpica activa (Estudio AURORA). EUDRACT: 2016-004045-81. Aurinia Pharmaceuticals Inc.
- ▶ Coll, E. NUTRENDIAL: Estudio de la prevalencia de malnutrición-inflamación en Cataluña. Societat Catalana de Nefrologia.
- ▶ Fernández-Llama, P. Estudio aleatorizado, doble ciego, multicéntrico para valorar la eficacia y seguridad de 6 meses de tratamiento oral con el inhibidor de quimasa BAY 1142524 a dosis de 25mg dos veces al día en comparación con placebo añadido a la medicación habitual de pacientes con diabetes tipo II clínicamente diagnosticados de nefropatía diabética (Estudio CADA DIA). EUDRACT: 2017-000656-26. Bayer AG.

- ▶ Torra, R. Un ensayo de fase 2/3 sobre la eficacia y seguridad de la barboxolona metilo en pacientes con síndrome de Alport (Estudio CAR-DINAL). EUDRACT: 2016-004395-22. Reata Pharmaceuticals Inc.
- ▶ Fernández-Llama, P. Utilidad de la bioimpedancia en el manejo del paciente con HTA no controlada. Fundació Puigvert.
- ▶ Torra, R. Estudio posautorización de seguridad multicéntrico y no intervencionista de 6 años de duración realizado en pacientes a los que se ha recetado JINARC® debido a poliquistosis renal autosómica dominante (Estudio PASS). OPE-TOL-2017-01 (156-12-299). Otsuka Pharmaceutical Europe Ltd.
- ▶ Torra, R. Estudio de Prevalencia de la Enfermedad de Fabry (EF) en pacientes con Enfermedad Renal crónica (ERC) (Estudio PREFINE EN ERC). Dra. I. Martínez, Nephrology Service, Hospital Galdakao.
- ▶ Torra, R. Estudio no intervencionista y prospectivo que mide la calidad de vida, la preferencia de tratamiento y la satisfacción con el tratamiento de pacientes con poliquistosis renal autosómica dominante en Europa (Estudio ACQUIRE). OTS-MED-2017-01. Otsuka Pharmaceutical Europe LT.
- ▶ Fernández-Llama, P. Estudio multicéntrico de pacientes con displasia fibromuscular y/o disección espontánea de arteria coronaria: seguimiento clínico y estudio genético (Estudio BEL-FMD). Prof. A. Persu, Clin. Universitaires St-Luc (Brux).
- ▶ Díaz, M. A Randomized, Double-blind, Placebo-controlled, Phase 3 Study of the Safety and Efficacy of OMS721 in Patients with Immunoglobulin A (IgA) Nephropathy (ARTEMIS - IGAN). EUDRACT: 2018-000075-33. Omeros Corporation.
- ▶ Torra, R. Registro prospectivo observacional de pacientes con enfermedad de Fabry (Estudio FollowME).AT1001-030. Amicus Therapeutics UK Ltd.
- ▶ Díaz, M. Estudio aleatorizado, multicéntrico, doble ciego, de grupos paralelos y controlado con principio activo, de la eficacia y la seguridad de esparsentán para el tratamiento de la nefropatía por inmunoglobulina A. EUDRACT: 2017-004605-41. Retrophin, INC.
- ▶ Guirado, LI. Impacto de los niveles de tacrólimus en la prevención del rechazo en pacientes de edad avanzada receptores de trasplante renal de novo: estudio observacional prospectivo en las condiciones de la práctica clínica habitual (Estudio BITACORA). CHI-TAC-2018-01. Chiesi España SAU.
- ▶ Torra, R. CYSTic: An international consortium to build a longitudinal observational cohort of patients with Autosomal Dominant Polycystic Kidney Disease (ADPKD). STH20201. Sheffield Teaching Hospitals NHS Foundation Trust.
- ▶ Díaz, M. Estudio controlado con principio activo, aleatorizado, multicéntrico, doble ciego y paralelo de los efectos de esparsentán, un receptor dual de endotelina y un bloqueador del receptor de angiotensina, sobre los resultados renales en pacientes con glomeruloesclerosis segmentaria y focal (GESF) primaria. EUDRACT: 2016-005141-23. Retrophin INC.
- ▶ Fernández-Llama, P. Evaluación de la variabilidad de la presión arterial posicional y temporal y su relación con el daño orgánico en ancianos hipertensos (estudio VARIAN). Fundació Puigvert.
- ▶ Díaz, JM. Avaluació del sistema de medicació de glucosa intersticial Flash (Free Style Libre®) en pacients amb diabetis i en hemodiàlisi crònica. Fundació Puigvert.
- ▶ Torra, R. Multicenter, randomized, double-blind, placebo-controlled two stage study to characterize the efficacy, safety, tolerability and pharmacokinetics of GZ/SAR402671 in patients at risk of rapidly progressive Autosomal Dominant Polycystic Kidney Disease (ADPKD). EUDRACT: 2017-004084-12. Sanofi.
- ▶ Guirado, LI. Oxihidróxido sucroférico como quelante de fósforo en pacientes trasplantados renales con hiperfosfatemia. UTR-OXI-2018-01. Dr. Torregrosa, U. TR, Nephrology Service/TR, H. Clínic, Barcelona.
- ▶ Guirado, LI. Detection of Renal Allograft Rejection by NMR-based Urine Metabolomics (Study PARASOL). Numares AG.
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- ▶ Díaz, M. Marcadores inflamatorios y profibróticos en las ANCA-vasculitis con afectación renal. Fundació Puigvert.
- ▶ Díaz, M. Estudio observacional y prospectivo de cohortes de pacientes con lupus eritematoso sistémico (LES) de moderado a grave para determinar la actividad transversal y longitudinal de la enfermedad, las pautas y la eficacia del tratamiento, los resultados y las comorbilidades, la utilización de recursos sanitarios y el impacto del LES en la calidad de vida según la expresión génica del interferón de tipo I (Estudio SPOCS). Astrazeneca.
- ▶ Ars, E. Multiparametric Predictive clinical and -omics-based Kidney Diagnostics in rapidly progressing Polycystic Kidney Disease (ProPK-Domics). Hospital of the University of Cologne – Pediatrics Nephrology Unit.
- ▶ Díaz, M. Estudio en fase II aleatorizado, doble ciego, con doble simulación, con control activo, multicéntrico y de 2 partes sobre la sustitución de corticoesteroides por IFX-1 en la granulomatosis con poliangeitis (GPA) y la poliangeitis microscópica (PAM) activas. EUDRACT: 2018-000768-27. InflaRx GmbH.
- ▶ Díaz, M. Estudio de fase II, aleatorizado, doble ciego y controlado con placebo para evaluar la seguridad y la eficacia de BMS-986165 con tratamiento de base en pacientes con nefritis lúpica. EUDRACT: 2018-004142-42. Bristol-Myers Squibb Research and Development.
- ▶ Díaz, M. Estudio de fase 2, aleatorizado, doble ciego y controlado con placebo de cemdisirán en pacientes adultos con nefropatía por IgA. EUDRACT: 2018-02716-27. Alnylam Pharmaceuticals, Inc.
- ▶ Coll, E. Estudio multicéntrico, abierto, prospectivo, aleatorizado para explorar la morbimortalidad en pacientes dializados con hemodiálisis extendida en comparación con la hemodiafiltración en línea. (Estudio MoTHER HDx). Senefro.
- ▶ Bover, J. Estudio de fase IIIb, multicéntrico, aleatorizado, doble ciego y controlado con placebo de verinurad y alopurinol en pacientes con nefropatía crónica e hiperuricemia (Estudio SAPPHIRE). EUDRACT: 2018-004079-11. AstraZeneca.
- ▶ Díaz, M. A Randomized, Double-Blind, Placebo-Controlled Phase 2 Study to Evaluate the Safety and Efficacy of Avacopan (CCX168) in Patients with C3 Glomerulopathy. EUDRACT: 2017-001821-42. ChemoCentryx, Inc.
- ▶ Díaz, M. Estudio adaptativo de continuación, aleatorizado, doble ciego, controlado con placebo y de búsqueda de dosis para investigar la eficacia y seguridad de LNP023 en pacientes con nefropatía por IgA primaria. EUDRACT: 2017-000891-27. Novartis Farmacéutica SA.
- ▶ Torra, R. Ensayo en Fase III Sobre la Eficacia y Seguridad del metilbarboxolona en Pacientes con Enfermedad Poliquística Renal Autosómica Dominante (Estudio FALCON). EUDRACT: 2018-04651-20. Reata Pharmaceuticals, Inc.
- ▶ Guirado, LI. EPIGENEFRO: estudio de cambios epigenéticos en el paciente con enfermedad renal crónica avanzada. Fundació Puigvert/Hospital Manises.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Elisabeth Ars Criach. 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. Duration: 2020-2022. 77,000 €.
- ▶ Roser Torra Balcells. Contractes per a la intensificació de l'activitat investigadora 2019. INT19/00073. Instituto de Salud Carlos III. Duration: 2020-2021. 60,000 €.

- ▶ Montserrat Mercedes Díaz Encarnación. Papel de la vía del succinato en la inflamación de los riñones procedentes de donantes cadáver. FMM 2019. Fundación Mutua Madrileña. Duration: 2019-2022. 95,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ N. Ayasreh, R.Torra. Autosomal Dominant Tubulointerstitial disease: Clinical Presentation of Patients With ADTKD-UMOD and ADTKD-MUC1. Best publication among young nephrologists. Societat Catalana de Nefrologia. Barcelona, 30 May -3 June 2019.
- ▶ Units of Hereditary Kidney Diseases and Glomerular Diseases. Preliminary achievement of network membership recognition. European Rare Kidney Disease Reference Network (ERN), December 2019.
- ▶ E. Ars. A kidney-disease gene panel allows a comprehensive genetic diagnosis of cystic and glomerular inherited kidney diseases. XXXI Premio Iñigo Álvarez de Toledo a la Investigación Clínica o Aplicada. Fundación Renal Iñigo Álvarez de Toledo, 27 September 2019.

Scientific Production

Total Impact Factor: 99.3310 · Mean Impact Factor: 4.3187

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nandez-Juarez G., Fernandez-Reyes M.J., Garcia-Osuna R., Garcia P., *et al.*, IgA nephropathy in elderly patients (2019) CLIN J AM SOC NEPHRO, 14 (8), 1183-1192. **IF: 6.2430**

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Diffusion Activities

Courses Organized by the Nephrology Group

- ▶ J.M. Díaz (director of the course). Hemodiálisis crónica. VI edición. 6-8 March 2019.
- ▶ J. Ballarín, M. Díaz, I. Da Silva (directors of the course). Embarazo en las enfermedades renales: un enfoque multidisciplinar. 10 May 2019.
- ▶ F. Calero, Ll. Guirado (directors of the course). 21a Jornada de Nefrologia i Atenció Primària. Atenció coordinada al pacient amb malaltia renal. 22 May 2019.
- ▶ R. Torra (director of the course). Genética para nefrólogos. ¿Qué fundamentos necesito saber para manejarme en el mundo de las enfermedades renales hereditarias? 29 November 2019.
- ▶ R. Torra (director of the course). Preceptorship poliquistosis renal autosómica dominante (PQRAD). 20-21 February, 3-4 April, 30-31 October 2019.
- ▶ R. Torra (director of the course). Preceptorship enfermedad de Fabry. 5 April 2019.
- ▶ Ll. Guirado, A. Breda (directors of the course). Formación teórico-práctica en trasplante renal de donante vivo, XVI edición. 25-27 November 2019.

Participations in Nephrology Congresses and Conferences

- ▶ 1a Sessió Nefropaties associades als nous tractament oncològics. Barcelona, 7 February 2019:
 - M. Díaz. Lesions renales relacionades amb el tractament amb anti-VEGF. 4a Reunió del GLOM-CAT.
- ▶ Cardioneurology 2019. Roma (Italy), 12-14 March 2019:
 - R. Torra. Indici di progressione di malattia.
- ▶ 15th Congress of the Societat Catalana de Trasplantament. Barcelona, 13-15 March 2019:
 - Ll. Guirado. Session moderator: Comunicacions orals de trasplantament renal.
 - Ll. Guirado. Conference: Results of renal transplantation in highly sensitized kidney transplants in Spain.
 - Oral communications:
 - Toapanta, N; Diekman, F; Guirado, Ll; Moreso, F; Bestard, O. Los donantes en asistolia controlada con criterios expandidos tienen mayor riesgo de fracaso del injerto a corto plazo.
 - Jarque, M; Melilli, E; Gutierrez, A; Moreso, F; Guirado, Ll; Revuelta, I; Manonelles, A; Luque, S; Crespo, E; Montero, N; Torras, J; Meneghini, M; Cruzado, JM; Grinyó, JM; Bestard, O. Prospective randomized trial for predicting CMV infection according to baseline CMV-specific T-cell immunity in kidney transplant patients.
 - Jacobs Cachá, C; Puig Gay, N; Sellarés, J; Guirado, Ll; González Roncero, F; Jimenez, C; Zárraga, S; Paul, J8; Lauzurica, R; Alonso, A; Fernández, A; Beneyto, I; Mazuecos, A; Hernández, D; Rodríguez Benot, A; Franco, A; Jimeno, L; Crespo, M; Meseguer, A,

Moreso, F; Seron, D; López Hellín, J; Cantarell, C. Apolipoprotein A-IB as a biomarker of FSGS recurrence after kidney transplantation: diagnostic performance and assessment of its prognostic value.

- ▶ XXI Simposio Nacional de Nefrología e Hipertensión Arterial, Traslante. Valledupar (Colombia), 29-30 March 2019:
 - J. Bover. Symposium speaker: Alternativas para el tratamiento de la hiperfosfatemia en pacientes con insuficiencia renal con énfasis en el uso del Carbonato de Sevelamer.
 - R. Torra. Conference: Poliquistosis Renal
 - R. Torra. Terapias de reemplazo enzimático e inmunogenicidad
- ▶ XXVI Reunión Científica del Club de Nefropatología. XII Reunión del Grupo de Enfermedades Glomerulares de la SEN. Madrid, 5-6 April 2019:
 - E. Ars. Conference: Alteraciones genéticas en la patología glomerular. ¿Cómo y cuándo deberíamos considerar solicitar un estudio genético?
 - M. Díaz. Session moderator: Presentación de casos clínico-patológicos.
- ▶ 7th Simposium of Update in Dialysis. Barcelona, 11 April 2019:
 - E. Coll. Session moderator: Update en hemodiálisis.
- ▶ IX Curso Avances en Nefrología Clínica. X Curso Actualización en Diálisis Adecuada. Madrid, 20-22 May 2019:
 - R. Torra. Conference: Importancia de la genética en la nefrología del siglo XXI.
- ▶ XXXV Reunión Anual de la Societat Catalana de Nefrologia. Barcelona, 30-31 May 2019:
 - E. Coll. Conference: Hemodiàlisi.
 - M. Furlano. Conference: Novetats en malalties genètiques renales.
 - Oral communications:
 - Arana, C; Martínez, J; Fayos, L; Sánchez, M; Ramos, A; Anagua, F; Martínez, E; Lloret, MJ; Guirado, Ll; Díaz, JM; Coll, E. Análisis del acceso vascular en pacientes trasplantados renales que reinician hemodiálisis.
 - Facundo, C; Serra, N; Canal, C; Vila, A; Gelpi, R; Moreno, J; Ramos, A; Silva, I; Bardají, B; Guirado, Ll. El aclaramiento de creatinina en orina 24 horas no es un método fiable en la evaluación del FG en el donante vivo renal.
 - Posters:
 - Sánchez-Baya, M; Ramos Gali, A; Benito, S; Arana, C; Fayos-Arizon, L; Doñate, T; Díaz, JM; Guirado, Ll; Herreros, A. Desplazamiento de catéter Tenckhoff, experiencia en la Unidad de Diálisis Peritoneal de Fundació Puigvert.
 - Sánchez-Baya, M; Ramos Galí, A; Benito, S; Arana, C; Fayos-Arizon, L; Herreros, A; Martínez, J; Martínez, E; Guirado, Ll; Díaz, JM; Coll, E. Análisis comparativo de la recirculación de la fístula arteriovenosa por 2 métodos (laboratorio vs monitor de hemodiálisis).

- Sánchez-Baya, M; Sánchez-García, L; Guerrero, L; Villalba, J; Ramos Galí, A; Benito, S; Arana, C; Fayos-Arizon, L; Romero, JM; Bover, J; Escudero, JR; Guirado, LI. Shockwave (litolitricia) intravascular: tratamiento en pacientes en hemodiálisis, experiencia inicial en España.
 - Sánchez-Baya, M; Ramos Galí, A; Benito, S; Arana, C; Fayos-Arizon, L; Anagua, F; Martínez, J; Díaz, JM; Guirado, LI; Bover, J. Tumoración submandibular tras angiogramía: sialoadenitis aguda por contraste yodado.
 - Arana, C; Anguera, G; Facundo, C; Arce, Y; Fayos, L; Sánchez, M; Anagua, F; Ramos, A; Calero, F; Guirado, L; Bover, J. Nefritis intersticial aguda asociada a monoterapia con Atezolizumab.
 - Arana, C; Fayos, L; Montañés, R; Ballarín, JA; Vila, A. Hipopotasemia severa secundaria al abuso de agonistas β -adrenérgicos en un paciente pediátrico.
 - Benito, S; Furlano, M; Ramos-Galí, A; Sánchez-Baya, M; Fayos-Arizon, L; Arana, C; Guirado, LI; Torra, R. Experiencia en el tratamiento de la enfermedad de Fabry a la Fundació Puigvert.
 - Benito, S; Furlano, M; Sánchez-Baya, M; Ramos-Galí, A; Guirado, LI; Torra, R. Pacient amb Fabry i ingrés diürtic a la unitat de cures intensives: neuromiopatia del pacient crític?
 - Sánchez-Baya, M; Ramos Galí, A; Barros, A; Guerrero, R; Villalba, J; Martínez, MJ; Moya, P; Guirado, L; Fernández-Llana, P. Mujer joven con insuficiencia renal aguda y aneurismas viscerales: más allá de la displasia fibromuscular.
 - Sánchez-Baya, M; García-Cuerva, S; Arce, Y; Algaba, F; Ramos Galí, A; Benito, S; Arana, C; Fayos-Arizon, L; Guirado, LI; Da Silva, I; Ballarín, J; Díaz, M. Cuando decidir entre pronóstico renal y pronóstico vital se convierte en una tarea difícil.
 - Ramos Galí, A; Sánchez-Baya, M; Benito, S; Fayos-Arizon, L; Algaba, F; Guirado, LI; Vila, A. Glomerulonefritis membranoproliferativa secundaria a Tacrolimus.
 - Arana, C; Anagua, F; Facundo, C; Moreno, J; Serra, N; Guirado, LI; Vila, A. Síndrome del linfocito T pasajero en trasplante renal.
- ▶ 56th Congress ERA-EDTA. Budapest (Hungary), 13-16 June 2019:
- J. Bover. Conference: Evidence in CKD-MBD guidelines: Is it time to treat? Is it time to wait?
 - J. Bover. Conference: Alkaline phosphatase.
 - J. Bover. Session moderator: Navigating CKD-MBD in 2019: Expert perspectives.
 - R. Torra. Session moderator: Cystic diseases: new genes and modifiers.
 - R. Torra. Session moderator: Novel therapies in hereditary kidney diseases.
 - R. Torra. Conference: New therapeutic targets in Alport syndrome.
 - Oral communication:
 - Bermejo, S; González, E; Martín, N; García, R; Linares, T; Poch, E; Esparza, N; Díaz-Encarnación, M; Agraz, I; Navarro, MI; López, K; Ibernón, M; García, N; López, D; Martín-Gómez, A; Praga, M; Galceran, JM; Pascual, J; Fulladosa, X; Soler Romeo, MJ. Biopsy-proven diabetic nephropathy worsens renal prognosis in diabetic patient: results multicenter study BIODIAB-GLOSEN-GEEN-DIAB.
 - Navarro-Gonzalez, JF; Arenas, MD; Molina, P; Lloret, MJ; Macía-Lagier, MA; Sánchez, E; Espinel, L; Lago, M; Crespo, A; Bover, J. Prospective multicenter real-world experience with sucroferric oxyhydroxide in Spain: VELREAL study.
 - Miller, S; Raggi, P; Bellasi, A; Bover Sanjuan, J; Rodríguez, JM; Ketteler, M; Sinha, S; Chertow, G; Bushinsky, DA; Salcedo, C; Garg, R; Gold, A; Perelló, J. A double-blind, randomised, placebo-controlled phase 2b study to assess the effect of SNF472 added to standard of care on progression of cardiovascular calcification in patients with end-stage renal disease on maintenance haemodialysis (CaLIPSO STUDY).
- ▶ VIII Edición Reumatopics 2019. Barcelona, 20-21 September 2019:
- J. Bover. Conference: Enfermedad metabólica ósea y riñón ¿dónde estamos y cómo salimos de ésta?
- ▶ Congresul National de Nefrologie. Constanța (Romania), 26-28 September 2019:
- J. Bover. Conference: Evidence in CKD MBD KDIGO Guidelines. Spanish approach to KDIGO: how we plan to treat.
- ▶ XLIX Congreso de la Sociedad Española de Nefrología. A Coruña, 5-8 October 2019:
- J. Bover. Conference: Vitamina K en los pacientes con ERC: ¿qué debemos saber?
 - M. Furlano. Participant: Sesión JovSEN: un caso, seis ponentes y la mejor opción para el paciente.
 - R. Torra. Moderator: Conferencia magistral miembros de honor.
 - R. Torra. Conference: Registro de Poliquistosis.
 - R. Torra. Conference: Abordaje diagnóstico de las nefropatías hereditarias en la práctica clínica.
 - R. Torra. Moderator: Foro técnico de la industria: Otsuka: "Conversaciones de pasillo en PQRAD: lo que siempre quisiste saber y nunca te atreviste a preguntar"
 - R. Torra. Moderator: Foro técnico de la industria: ADVICENNE: "Acidosis tubular renal distal. ¿Hay novedades?"
 - R. Torra. Coordinator: Technical Forum for pharmaceutical companies: Sanofi-Genzyme "Al menos un 11% de las nefropatías son de origen genético, ¿estás preparado para el reto?"
 - Posters:
 - Arana, C; Martínez, J; Fayos, L; Sánchez, M; Martínez, ME; Lloret, MJ; Guirado, L; Díaz, JM; Coll, E. Análisis del acceso vascular en pacientes trasplantados renales que reinician hemodiálisis.
 - Naranjo, J; Furlano, M; Benito, S; Pybus, M; Domingo, A; Ruiz, P; Lorente, L; Guirado, L; Ars, E; Torra, R. Aplicación de diferentes métodos de predicción para la determinación de rápida progresión de la poliquistosis renal.
 - Sánchez-Baya, M; Ramos Galí, A; Benito, S; Arana, C; Fayos-Arizon, L; Doñate, T; Díaz, JM; Guirado, LI; Herreros, A. Desplazamiento de catéter Tenckhoff, experiencia en la unidad de diálisis peritoneal de Fundació Puigvert.
 - Alonso García, A; Martínez Jiménez, V; Hernández González, AN; López Jiménez, I; López González, V; Rodríguez Peña, L; Furlano, M; Ars Criach, E; Torra Balcells, R; Cabezuero Romero, JB. Estudio descriptivo de los pacientes con Síndrome de Alport y diagnóstico genético positivo en la región de Murcia.
 - Sánchez-Baya, M; Ramos Galí, A; Benito, S; Arana, C; Herreros, A; Martínez, J; Martínez, E; Guirado, LI; Díaz, JM; Coll, E. Análisis comparativo de la recirculación de la fístula arteriovenosa por 2 métodos (laboratorio vs monitor de hemodiálisis).
 - Sánchez-Baya, M; Lloret Cora, MJ; Hernández Mancera, J; Martínez, J; Martínez, E; Coll, E; Herreros, A; Díaz, JM; Guirado, LI; Bover, J. Estudio de la prevalencia de fracturas vertebrales en pacientes en hemodiálisis.
 - Arana, C; Anguera, G; Facundo, C; Arce, Y; Fayos, L; Sánchez, M; Guirado, L; Bover, J. Nefritis intersticial aguda asociada a monoterapia con ATEZOLIZUMAB.
 - Benito, S; Sánchez-Baya, M; Ramos-Galí, A; Coll, E; Lloret, MJ; Martínez, J; Martínez, E; Díaz, JM; Guirado, LI; Herreros, MA. La nefroprotección en la nefropatía inducida por contraste.
 - Oral communications:
 - Bermejo, S; González, E; López-Revuelta, K; Ibernón, M; López, D; Martín-Gómez, A; García-Osuna, R; Linares, T; Díaz, M; Martín, N; Barros, X; Marco, H; Navarro, MI; Esparza, N; Elias, S; Coloma, A; Robles, NR; Agraz, I; Poch, E; Rodas, L; Lozano, V; Hernández, E; Martínez, MI; Stanescu, RI; Pelayo Moirón, J; García, N6; Calero, F; Bonet, J; Galceran, JN; Liaño, F; Pascual, J; Praga, M; Fulladosa, X; Soler, MJ. Peor pronóstico renal y vital en los pacientes diabéticos afectados de nefropatía diabética: estudio multicéntrico español BIODIAB- GLOSEN-GEEN-DIAB.
 - Toapanta Gaibor, N; Álvarez, R; Guirado, L; Facundo, C; Diekmann, F; Revuelta, I; Meneghini, M; Moreso Mateos, F; Bestard, O. Trasplante renal de donantes en asistolia controlada con criterios expandidos se asocia a mayor riesgo de fracaso del injerto.
 - Navarro González, JF; Arenas, MD; Molina, P; Lloret, MJ; Macía Lagier, MA; Sánchez, JE; Espinel, L; Lago, M; Crespo, A; Bover, J. Experiencia clínica en vida real con óxido de hierro sucroférico en pacientes en hemodiálisis: estudio prospectivo multicéntrico velreal.

- Goicoechea, M; Gómez-Preciado, F; Benito, S; Ugalde-Altamirano, J; López-Mendoza, L; Astudillo, D6; Agraz, I; Restrepo, A; Huerta, A; De Arriba, G. Incidencia de eventos clínicos tras el inicio de tratamiento sustitutivo enzimático (TSE) en la enfermedad de Fabry. Estudio multicéntrico.
- ▶ Dia Mundial de la Trombosi. Jornada de la Societat Catalana d'ematologia i Hemoteràpia. Barcelona, 10 October 2019:
 - J. Bover, A. Oliver. Conference: Anticoagulació i ronyó. Errors i encerts
- ▶ 2a Sessió: Actualització en la Nefritis Lúpica i la Síndrome Antifosfolipídica. Barcelona, 23 October 2019:
 - da Silva. Conference: L'embaràs en les pacients amb nefritis lúpica.
- ▶ LVI Reunión de la Sociedad Castellano-Astur-Leonesa de Nefrología. Ponferrada, 25-26 October 2019:
 - R. Torra. Controversias en PQRAD: indicación de tratamiento en rápidos progresadores
- ▶ ASN Kidney Week 2019. Washington (EUA), 5-10 November 2019:
 - Communication: Díaz Encarnación, MM; Guillen-Gómez, E; Silva, I; Serra, N; Ballarin, J; Caballero, F; Guirado, LI. Alternative M2 Macrophages Activation and TGF- β Production Are Induced by TNF- α ; Through the Adenosine A2A Receptor Pathway.
- ▶ Actividad Medscape Diagnóstico CKP-MBD. París (France), 6 November 2019:
 - J. Bover. Conference: Diagnóstico CKD-MBD
- ▶ Primer Congreso del Grupo Español Multidisciplinar del Acceso Ascular (GEMAV). Barcelona, 14-16 November 2019:
 - Ochoa, J; Coll, V; Fayos, L; Martínez, E; Díaz, JM; Guerrero, R; Villalba, J; Martínez, J. Fístula arteriovenosa como efecto secundario en hemodiálisis de larga evolución. Poster
 - Fayos, L; Ramos, A; Arana, C; Sánchez, M; Benito, S; Martínez, E; Díaz, JM; Martínez, J; Villalba, J; Guerrero, R. Síndrome de vena cava inferior: La hermana pobre. Poster
 - Coll, V; Ochoa, J; Fayos, L; Martínez, E; Díaz, JM; Guirado, L; Martínez, J; Lloret, MJ; Coll, E. Diagnóstico incidental tras realización de primera fístula radio.cefálica distal nativa. Poster
- ▶ Nuevo Enfoque en la Hiperpotasemia Crónica. Madrid, 15-16 November 2019
 - J. Bover. Conference: Perspectiva desde nefrología.
- ▶ 32 Jornades Catalanes sobre Hipertensió Arterial. 26 Reunió de la Societat Catalana d'Hipertensió Arterial. Barcelona, 10-11 December 2019:
 - N. Ayasreh. Conference: Guia sobre diagnòstic i tractament de la hipertensió arterial – actualització.

Patients' Divulcation Activities

- ▶ Viure amb Malaltia Renal. VII Edició de les Trobades per a Pacients Nefrològics. 15 January, 12 March, 7 May, 4 June 2019:
 - Organization: Nephrology Service. Director: LI. Guirado
 - Table: Causes de la malaltia renal crònica i tractament de les complicacions. Bloc 2
 - R. Torra. Malalties hereditàries.
 - J.M. Díaz. Anèmia.
 - M.J. Lloret. Alteracions del metabolisme fosfo-càlcic.
 - Table: Tractament substitutiu de la malaltia renal crònica: Diàlisi
 - E. Coll. Hemodiàlisi. Com és aquest tractament?
 - Table: Tractament substitutiu de la malaltia renal crònica: Trasplantament renal
 - LI. Guirado, N. Serra. Trasplantament renal. Llista d'espera.

AREA 5 · Uronephrology and Experimental Surgery

Women and Perinatal Health Research Group



Coordinator

Llurba Olivé, Elisa (FGS)
ellurba@santpau.cat

Members

Domínguez Gallardo, Carla (FGS)
 Fernández Oliva, Antoni (FGS)
 Garrido Giménez, Carmen (FGS)
 Medina Mallen, María del Carmen (FGS)
 Però Garcia, Marta (IR)
 Polo Ramos, Ana María (FGS)
 Porta Roda, Josep Oriol (FGS)
 Ribera Casellas, Irene (FGS)

Rodríguez Sureda, Víctor (external entity)
 Sánchez García, Olga (IR)
 Zanini Mangialardi, Maria Julia (external entity)

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.
- ▶ Role of the oxygen transport deficit in the placental insufficiency.
- ▶ Development of predictive methods based on the integration of pre-natal and postnatal factors for the detection of abnormal neurodevelopment in congenital heart diseases.
- ▶ Toxin and air-pollution effects on pregnancy and fetal programming.
- ▶ Management of pelvic-floor dysfunction: chronic pelvic pain, urinary incontinence and pelvic organ prolapse.

Scientific Challenges

- ▶ To study novel placental biomarkers in the diagnosis and prognosis of preeclampsia (PE) and intrauterine growth restriction (IUGR) in order to generate future hypotheses for target prevention and therapeutic interventions in these diseases.
- ▶ To determine the usefulness of novel placental biomarkers (sFlt-1/PlGF ratio) in the diagnosis and prognosis of preeclampsia (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 mothers at risk of cardiovascular disease later in life.
- ▶ To study the role of placental insufficiency and hypoxia in congenital heart disease in order to gain insights into the relationships between hypoxia-dependent placental morphogenesis, placental function and effects on oxygen metabolism in the fetus.
- ▶ 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.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Active collaboration with the Gynaecology and Obstetrics Service: Abdulia Alejos, Laura Gomila, Anna Olivella, Juan Parra, Cristina Tri-lla.
- ▶ Active collaboration with Puigvert Foundation: Carlos Dosouto, Susana Peón, M. Jesús Saiz.
- ▶ Breast cancer: Dra. Bárbara García-Valdecasas.
- ▶ Genetic Research: Dr. Jordi Surrallés.
- ▶ Oncogenesis and Antitumour Drugs: Dra. Virtudes Céspedes.
- ▶ Reproductive Health: Dr. Joaquim Calaf.
- ▶ Anesthesiology: Dra. M. Victoria Moral.
- ▶ General and Digestive Surgery: Dr. Antonio Moral.
- ▶ Endocrinology, Diabetes and Nutrition: Dr. Diego Mauricio.

- ▶ Paediatrics: Dr. Susana Boronat.

- ▶ Clinical Epidemiology and Healthcare Services: Dr. Xavier Bonfill.

- ▶ Clinical Biochemistry Service: Dr. Francisco Blanco.

- ▶ Image Diagnostic Service, Neuroradiology Section: Dra. Beatriz Gómez-Anson.

External Collaborations

International Collaborations

- ▶ Elisa Llurba, Antonio Fernández, Carla Domínguez, Olga Sánchez (collaborators). AMAG-423-201: Study of the Efficacy and Safety of AMAG-423, a Digoxin Immune Fab, in Antepartum Subjects with Severe Preeclampsia. A phase 2b/3a, Multi-Center, Randomized, Double-blind, Placebo-Controlled, Parallel-Group. AMAG Pharmaceuticals Inc (Waltham Massachusetts, US) with ICON Clinical.

- ▶ Elisa Llorba (collaborator). Role of Placental Insufficiency and Hypoxia in Congenital Heart Defects. Principal investigator: Steven A. Fisher, M.D.; Professor of Medicine and Physiology S-012a HSF II, 20 Penn St. Univ of Maryland School of Medicine.
- ▶ Elisa Llorba (collaborator). Accuracy of clinical characteristics, biochemical and ultrasound markers in the prediction of preeclampsia: an Individual Patient Data (IPD) Meta-analysis. Principal Investigator: Shakila Thangaratinam, PhD; Professor in maternal and perinatal health at Queen Mary University of London.

National Collaborations

- ▶ Eduard Gratacòs. Centro de Investigación Biomédica en RED – Enfermedades Raras (CIBERER). CB06/07/0027.
- ▶ M. Dolores Gómez Roig. Maternal and Child Health and Development Research Network (SAMID Network). RD16/0022/0014.
- ▶ M. Virtudes Céspedes (PI); M. José Macías (co-PI). Olga Sánchez (collaborator). Indicadors genòmics per a la predicció de la recurrència i la metastasi en càncer endometrial. La Marató de TV3. Duration: 2020-2022.
- ▶ Payam Dadvand (PI); Jordi Sunyer (co-PI); Elisa Llorba, Carmen Garrido, Carla Domínguez, Antonio Fernández, Irene Ribera, M. Julia Zanini, Víctor Rodríguez-Sureda and Olga Sánchez (collaborators). Traffic-related air pollution and birth weight: the roles of noise, placental function, green space, physical activity, and socioeconomic

status (FRONTIER). The Health Effects Institute (HEI). Duration: 2018-2022.

- ▶ Jordi Sunyer (PI); Elisa Llorba, Carmen Garrido, Carla Domínguez, Antonio Fernández, Irene Ribera, M. Julia Zanini, Víctor Rodríguez-Sureda and Olga Sánchez (collaborators). Pre-natal exposure to urban AIR pollution and pre- and post-Natal Brain development (AIR-NB). European Research Council (ERC), Horizon 2020, ERC-2017-ADG. Duration: 2018-2022.
- ▶ Elisa Llorba (PI); Carla Domínguez, Antonio Fernández, Irene Ribera, M. Julia Zanini, Olga Sánchez, Ana Polo (collaborators). Maternal and Infant Health and Development Network (SAMID Network). RD16/0022/0015.
- ▶ Octavi Córdoba (PI); Olga Sánchez (collaborator). Breast cancer during pregnancy. Neurologic and cardiologic outcomes after chemotherapy exposition during fetal period.
- ▶ Lluís Cabero Roura (PI); Carmen Garrido, Olga Sánchez (collaborators). Angiogenic factors during pregnancy and cardiovascular risk in the medium to long term in patients with preeclampsia. Clinical and experimental approach.
- ▶ Elisa Llorba (collaborator). Banc de Sang i Teixits (Blood and Tissue Bank): is a public agency of the Catalan Department of Health whose mission is to guarantee the supply and proper use of human blood and tissue in Catalonia.

Active Grants

- ▶ Elisa Llorba Olivé. Incorporación del ratio sFlt1/PlGF en el diagnóstico y clasificación de preeclampsia: Ensayo clínico randomizado (EuroPE estudio). PI16/00375. Instituto de Salud Carlos III. Duration: 2017-2021. 92,500 €.
- ▶ Josep Oriol Porta Roda. Estudio de las propiedades biológicas de una matriz dérmica de origen humano para su aplicación en cirugía de corrección del prolapso de órganos pélvicos e incontinencia urinaria femenina. CONVENI BST 2017-3. Banc de Sang i Teixits. Duration: 2017-2020. 136,904 €.

- ▶ Elisa Llorba Olivé. Women and Perinatal Health Research Group. 2017 SGR 1267. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020. 10,000 €.
- ▶ Elisa Llorba Olivé. Red de salud materno-infantil y del desarrollo. RD16/0022/0015. Instituto de Salud Carlos III. Duration: 2017-2021. 178,530 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Elisa Llorba Olivé. 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. Duration: 2020-2022. 121,000 €.

- ▶ Elisa Llorba Olivé. Contratos Juan Rodés 2019. JR19/00047. Instituto de Salud Carlos III. Duration: 2020-2023, 180,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 55.629 · Mean Impact Factor: 4.2792

Alijotas-Reig J., Esteve-Valverde E., Ferrer-Oliveras R., Saez-Comet L., Lefkou E., Mekinian A., Belizna C., Ruffatti A., Tincani A., Marozio L., Espinosa G., Cervera R., de Carolis S., Latino O., Llorba E., Meroni P.L., Chighizola C.B., *et al.*, The European Registry on Obstetric Antiphospholipid Syndrome (EUROAPS): A survey of 1000 consecutive cases (2019) *AUTOIMMUN REV*, 18 (4), 406-414. **IF: 7.7160**

Alijotas-Reig J., Esteve-Valverde E., Llorba E., Gris J.M., Treatment of refractory poor aPL-related obstetric outcomes with TNF-alpha blockers: Maternal-fetal outcomes in a series of 18 cases (2019) *SEMIN ARTHRITIS RHEU*, 49 (2), 314-318. **IF: 5.0720**

Alijotas-Reig J., Esteve-Valverde E., Ferrer-Oliveras R., Sáez-Comet L., Lefkou E., Mekinian A., Belizna C., Ruffatti A., Hoxha A., Tincani A., Nalli C., Marozio L., Maina A., Espinosa G., Ríos-Garcés R., Cervera R., De Carolis S., Monteleone G., Latino O., Udry S., Llorba E., Garrido-Gimenez C., *et al.* Comparative study of obstetric antiphospholipid syndrome (OAPS) and non-criteria obstetric APS (NC-OAPS): report of 1640 cases from the EUROAPS registry [published online ahead of print, 2019 Oct 3]. *RHEUMATOLOGY (Oxford)*. 2019. **IF: 5.149**

Basile L., Ciruela P., Requena-Méndez A., Vidal MJ, Dopico E, Martín-Nalda A, Sulleiro E, Gascon J, Jané M, The Working Group Of Congenital Chagas Disease In Catalonia (Llorba E, Garrido C). Epidemiology of congenital Chagas disease 6 years after implementation of a public

health surveillance system, Catalonia, 2010 to 2015. *Euro Surveill*. 2019;24(26):1900011. **IF: 7.400**

Bautrant E, Porta O, Murina F, Mühlrad H, Levêque C, Riant T, Ploteau S, Valancogne G, Levesque A. Provoked vulvar vestibulodynia: Epidemiology in Europe, physio-pathology, consensus for first-line treatment and evaluation of second-line treatments. *J GYNECOL OBSTET HUM REPROD*. 2019;48(8):685-688. **IF: 1.039**

Blanch Fons L, Estadella Tarríel J, Simó Gonzalez M, Rams Llop N, Longo A, Porta Roda O. Use of an Intrauterine Foley Probe for Ultrasound-Assisted Hysteroscopic Resection of Complete Uterine Septum [published online ahead of print, 2019 Jul 25]. *J MINIM INVASIVE GYNECOL*. 2019;51553-4650(19)30317-6. **IF: 2.414**

Dosouto C., Calaf J., Polo A., Haahr T., Humaidan P., Growth hormone and reproduction: Lessons learned from animal models and clinical trials (2019) *FRONT ENDOCRINOL*, 10 (JUN). **IF: 3.6340**

Hadi Zafarmand M, Goossens S MTA, Tajik P, Bossuyt P MM, Asztalos EV, Gardener G J, Willan A R, Roumen F JME, Mol B W, Gynecology Yosef Jon Barrett, Twin Birth Study Collaborative Group (Llorba E). Planned Cesarean or Planned Vaginal Delivery for Twins: A Secondary Analysis of a Randomized Controlled Trial. *ULTRASOUND OBSTET GYNECOL*. 2019 Oct 31. **IF: 5.595**

Mazarico E., Llurba E., Cabero L., Sanchez O., Valls A., Martin-Ancel A., Cardenas D., Gomez Roig M.D., Associations between neural injury markers of intrauterine growth-restricted infants and neurodevelopment at 2 years of age (2019) *J MATERN-FETAL NEO M*, 32 (19), 3197-3203. **IF: 1.5690**

Mendoza Cobaleda M, Ribera I, Maiz N, Goya M, Carreras E. Cervical Modifications After Pessary Placement in Singleton Pregnancies With Maternal Short Cervical Length: 2D and 3D Ultrasound Evaluation. *ACTA OBSTET GYNECOL SCAND*, 2019; 98 (11), 1442-1449. **IF: 2.741**

Paules C, Dantas A P, Miranda J, Crovetto F, Eixarch E, Rodriguez-Sureda V, Dominguez C, Casu G, Rovira C, Nadal A, Crispi F, Gratacós E. Premature placental aging in term small-for-gestational-age and growth-restricted fetuses. *ULTRASOUND OBSTET GYNECOL*. 2019;53(5):615-622. **IF: 5.595**

Ribera I, Ruiz A, Sánchez O, Eixarch E, Antolín E, Gómez-Montes E, Pérez-Cruz M, Cruz-Lemini M, Sanz-Cortés M, Arévalo S, Ferrer Q, Vázquez E, Vega L, Dolader P, Montoliu A, Boix H, Simões R V, Masoller N, Sánchez-de-Toledo J, Comas M, Bartha J M, Galindo A, Martínez J M, Gómez-Roig L, Crispi F, Gómez O, Carreras E, Cabero L, Gratacós E, Llurba E. Multicenter prospective clinical study to evaluate children short-term neurodevelopmental outcome in congenital heart disease (children NEURO-HEART): study protocol. *BMC Pediatr*. 2019;19(1):326. **IF: 2.110**

Zeisler H, Llurba E, Chantraine F J, Vatish M, Staff A C, Sennström M, Olovsson M, Brennecke S P, Stepan H, Allegranza D, Schoedl M, Grill S, Hund M, Verlohren S. Soluble fms-like tyrosine kinase-1 to placental growth factor ratio: ruling out pre-eclampsia for up to 4 weeks and value of retesting. *Ultrasound Obstet Gynecol*. 2019;53(3):367-375. **IF: 5.595**

Diffusion Activities

Dissemination Activities to Society

- ▶ BISC Project:
 - <https://www.isglobal.org/-/bisc-barcelona-life-study-cohort->
 - <http://www.projectebisc.org/es/inicio/>
 - <http://www.santpau.es/web/public/-/ja-ha-nascut-a-sant-pau-el-primer-nado-de-la-cohort-bisc>
- ▶ Programa Cuida't (Ana Polo, oral communications):
 - Relaxació i fertilitat. Yoga workshop with She Oak. Hospital de Sant Pau, 30 January 2019.
 - Consells pràctics durant els tractaments. With She Oak. 20 February 2019.
 - Nutrició i fertilitat. With She Oak. 6 March 2019.
 - Teràpies naturals i reproducció assistida. With She Oak. 27 March 2019.

Scientific Dissemination

National Congresses

- ▶ Medina, M. Carmen. Diabetes gestacional: población de riesgo, complicaciones embrionarias y fetales, manejo durante la gestación, parto o cesárea y puerperio. (oral communication) 1er Congreso Nacional de Ginecología y Obstetricia AGOC. Castellón de la Plana, Spain, 27-29 November 2019.
- ▶ Vega L, Llurba E, Ruiz CW, Montoliu A, Sánchez O, Sánchez-de-Toledo J. Evaluación del neurodesarrollo en niños con cardopatía congénita. Análisis de marcadores de lesión neuronal como indicador de mal pronóstico neurológico. (poster) XXVII Congreso de Neonatología y Medicina Perinatal. Madrid, Spain, 2-4 October 2019.

International Congresses

- ▶ Oriol Porta, Pathophysiology reminder and the Convergences PP consensus for the first line treatment – CONVERGENCES PP, Convergences in pelviperineal pain. (oral communication and moderator). Madrid, Spain, 14-16 November 2019.
- ▶ Jose Pardos-Gea, Jaume Alijotas-Reig, Enrique Esteve-Valverde, Elisa Llurba and Josep M Gris. Treatment of Refractory Poor APL-Related Obstetric Outcomes with TNF-Alpha Blockers: Results of 18 Patients (poster). 16th International Congress on Antiphospholipid Antibodies (ICAPA). Manchester, UK, 17-20 September 2019.
- ▶ Elisa Llurba (oral communication/docent activity). I Congreso Internacional de Técnicas y Cortes Ecográficas en Medicina Fetal. Lima, Perú, 30-31 August-1 September 2019.
- ▶ Perú Garcia M, Porta Roda O, Alserawan De Lamo L, Canovas Noé M, Casani Arazo L, Castells Sala C, Florit Carbonell S, Grandal Rejo B, Juan Babot J, Longo A, Lopez Chicon P, Minovas Granja G, Moga Naranjo M, Pérez Rodríguez M, Tur Tur V. Feasibility of New Zealand rabbit as an animal model for the study of biological grafts in pelvic reconstructive surgery (poster). 49th Annual Meeting of the International Continence Society (ICS 2019). Gothenburg, Sweden, 3-6 September 2019.

- ▶ Porta O, Cornet A, Font A, Huguet E, Lleberia J, Solà I. Vaginal packing after vaginal hysterectomy with or without colpography: a systematic review of the literatura (poster). 49th Annual Meeting of the International Continence Society (ICS 2019). Gothenburg, Sweden, 3-6 September 2019.
- ▶ Zanini MJ, Llurba E, Gómez-Roig MD, Sunyer J, Dadvand P, Ribera I, Sánchez O, Bustamante M, Álvarez M, Foraster M, Gascón M, Eixarch E, Crispi F. Barcelona Life Cohort Study (BiSC) a prospective cohort study of pregnant women, their offspring and partners exposed to urban pollution. BiSC project presentation and pregnant women follow-up (poster). 18th World Congress in Fetal Medicine. Alicante, Spain, 25-29 June 2019.
- ▶ Fernández-Oliva A, Mora J, Mendoza M, Valle L, Pelegay MJ, Ruiz A, Maroto A, Mazarico E, Rodríguez A, Martínez J, Abellan M, Llurba E. Randomized open-label control trial to evaluate if the incorporation of sFlt-1/PlGF ratio in the diagnosis and classification of preeclampsia, improves maternal and perinatal outcomes. EUROPE Study: protocol presentation (poster). 18th World Congress in Fetal Medicine. Alicante, Spain, 25-29 June 2019.
- ▶ Trilla C, Ribera I, Zanini MJ, Fernández-Oliva A, Mora J, Llurba E. Contingent screening for preeclampsia in the first trimester: the additional value of Placental Growth Factor (poster). 18th World Congress in Fetal Medicine. Alicante, Spain, 25-29 June 2019.
- ▶ Trilla C, Fernández-Oliva A, Parra J, Mora J, Antonijuan A, Orantes V, Llurba E. Relationship between placental biometry, uterine artery Doppler and biochemical markers in the first trimester (poster). 18th World Congress in Fetal Medicine. Alicante, Spain, 25-29 June 2019.
- ▶ Elisa Llurba Early prophylactic Enoxaparin for the prevention of preeclampsia and intrauterine growth restriction. 18th World Congress in Fetal Medicine (oral communication). Alicante, Spain, 25-29 June 2019.
- ▶ Esteve-Valverde, E., J. Alijotas-Reig, E. Llurba, R. Ferrer-Oliveras, D. Ruiz-Hidalgo, L. Sáez-Comet, C. Belizna, A. Mekinian, E. Lefkou, G. Espinosa on behalf of EUROAPS study group. Obstetric antiphospholipid syndrome (OAPS) vs. with obstetric morbidity related with antiphospholipid antibodies (OMAPS): a survey of 1650 cases from EUROAPS registry (poster). European Congress of Rheumatology (EULAR). Madrid, Spain, 12-15 June 2019.
- ▶ Elisa Llurba. Protocol for IOL: A Shared Experience (oral communication). 4th European Congress of Intrapartum Care. Turin, Italy, 14-16 March 2019.
- ▶ Oriol Porta. Obstetric trauma and pelvic floor dysfunction: from knowledge to prevention (oral communication and moderator). 1st World Federation of Incontinence Patients (WFIP) Forum. Barcelona, Spain, 3 June 2019.
- ▶ Oriol Porta. Vaginal therapies in menopausal sexual and orgasmic dysfunction (oral communication). VI Mediterranean Incontinence and Pelvic Floor Society (MIPS) Annual Meeting. Barcelona, Spain, 25-27 April 2019.

Meetings/Seminars

- ▶ Ana Polo. Diagnóstico e indicaciones en IA (oral communication). I Foro Inseminación en Sanidad Pública. Madrid, Spain, 8 March 2019.
- ▶ Ana Polo. Incorporación del screening de portadores en nuestra práctica clínica diaria IX Symposium Fertilidad Ferring. Sevilla, Spain, 16 February 2019.
- ▶ Ana Polo. TRA en el contexto de una enfermedad reumática (oral communication). Jornada de embarazo y enfermedades reumáticas. Madrid, Spain, 19 February 2019.
- ▶ Ana Polo. Diagnóstico e indicaciones en IA (oral communication). I Foro sobre Inseminación en Sanidad Pública. Madrid, Spain, 8 March 2019.
- ▶ Oriol Porta. Atrofia vaginal y nuevos tratamientos con dosis ultrabajas de estradiol (oral communication and moderator). 8ª Reunión científica GINEP (Ginecólogos Privados). Granada, Spain, 25-26 October 2019.

Teaching Activity

- ▶ Oriol Porta. (professor) Máster propio profesional medico-quirúrgico sobre disfunciones del suelo pélvico. Universidad Miguel Hernández Elche (UMH). October 2019 – June 2020.
- ▶ Oriol Porta (oral communication and director), and Carmen Garrido (oral communication). Curs de Formació Teòrica en Obstetrícia i Ginecologia. Nivell 1. Societat Catalana d'Obstetrícia i Ginecologia. Barcelona, Spain, 18 September 2018-11 June 2019.

AREA 5 · Uronephrology and Experimental Surgery

Gynecologic and Peritoneal Oncology Group



Coordinator

Céspedes Navarro, M. Virtudes (IR)
mcespedes@santpau.cat

Members

Baitg Roso, Cristina (FGS)
Carmona Guede, Silvia (IR)
Caruana Santiago, Pablo (IR)
Caruana Santiago, Jaime (IR)
Español Lloret, M. Pia (FGS)
González López, José Antonio (FGS)
Luna Guibourg, Rocío (FGS)
Martín Lorente, Cristina (FGS)

Rovira Negre, Ramon (FGS)
Soler Moreno, Cristina (FGS)

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 Gynecological 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 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 tumor progression of gynecological cancers
- ▶ Achieve antitumor and antimetastatic effects by targeting drugs at cancer stem cells in gynecological and peritoneal cancers.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Oncogenesis and Antitumour Drug Group (Dr. Ramon Mangues)
- ▶ Oncological Hematology and Transplant Dept. (Dr. Joan Carles Souto)
- ▶ Hepatobiliopancreatic Surgery Unit (Dr. Santiago Sánchez)
- ▶ Endocrinology, Diabetes and Nutrition Group (Dr. Eugenia Mato)
- ▶ Anatomy and Pathology Dept. (Dr. Enrique Lerma and Dr. Alberto Gallardo)
- ▶ Clinic Oncology Dept. (Dr. López Pousa). RETOS Project. RTC-2017-6347-1
- ▶ Pharmacy Dept. (Dr. María Gámez)
- ▶ Radio-Oncology Dept. (Dr. Josep Balart)
- ▶ Salut de la Dona i Perinatal, Obstetric and Gynecological Dept. (Dr. Elisa Llorba)
- ▶ R. Rovira, P. Español and C. Soler have participated in the project Evaluación de biomarcadores angiogénicos séricos y en tejido en endometriosis ovárica, peritoneal y profunda. (PI: E Llorba). Institut de Recerca of the Hospital Sant Pau and Fundació Institut de Recerca of the Hospital Vall d'Hebron. Duration: 2015-2020.

- ▶ Obstetric and Gynecological Dept. (Dr. Misericordia Guinot Gasull)
- ▶ R. Rovira, P. Español and C. Soler have participated in the project Protocol IIBSP health – IOP – 2012-109. Multicentric observational epidemiological study in patients with Premature Ovarian Insufficiency. PI: Misericordia Guinot Gasull. Duration: 2017-2019.

External Collaborations

National Collaborations

- ▶ Maria Macías. Biomedical Research Institute (IRB). Barcelona, Spain.
- ▶ José Luis Corchero. CIBER-BBN and Institut de Biotecnologia i de Biomedicina. Universitat Autònoma de Barcelona, Barcelona, Spain.
- ▶ Antoni Benito. Laboratori d'Enginyeria, Departament de Biologia. Universitat de Girona, Girona, Spain.
- ▶ Antonio Villaverde. Institut de Biotecnologia i de Biomedicina. Universitat Autònoma de Barcelona, Spain.
- ▶ Centro de Investigación Biomédica en Red de Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN). Instituto de Salud Carlos III, Madrid, Spain.
- ▶ Universitat Autònoma de Barcelona and Universitat de Barcelona. Departament de Contractació i Convenis, Barcelona, Spain.

- ▶ Grupo GEICO, R. Rovira. Grupo Español de Investigación en Cáncer de Ovario, Madrid, Spain.
- ▶ Ramón Eritja. Institute for Advanced Chemistry of Catalonia (IQAC). Spanish Council for Scientific Research (CSIC), Barcelona Spain.
- ▶ Xavier Matias-Guiu. Hospital de Bellvitge, Barcelona, Spain.
- ▶ María Jesús Delgado. Faculty of Biology, Universidad Complutense, Madrid, Spain.
- ▶ Paolo Micheli. Institute for Cancer Research and Treatment, Candiolo, Turin (Italy).
- ▶ Arne Östman. Cancer Center Karolinska, Karolinska Institutet, Stockholm (Sweden).
- ▶ ATMP-EATRIS, European Union. Member of the Working Group on Advanced Therapies and Biologicals of ATMP (Advanced Therapy Medicinal Products), EATRIS (European Infrastructure for Translational Medicine) Network.

International Collaborations

- ▶ Luis Ulloa. New Jersey Medical School, Rutgers University, Newark, New Jersey (USA).
- ▶ Julie Pannequin. SIRIC Montpellier Cancer Institut, Montpellier, France.
- ▶ ETP 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).

Active Grants

- ▶ María Virtudes Céspedes Navarro. Contratos Miguel Servet I 2015. MS15/00163. Instituto de Salud Carlos III. Duration: 2016-2021. 202,500 €.
- ▶ María Virtudes Céspedes Navarro. Nanoconjugates for targeted therapy against CXCR4+ cancer stem cells in pancreatic cancer. CP15/00163. Instituto de Salud Carlos III. Duration: 2016-2019. 121,500 €.
- ▶ María Virtudes Céspedes Navarro. Terapia dirigida para la eliminación selectiva de células madre metastáticas CXCR4+ en cáncer de endometrio. FMM 2017. Fundación Mutua Madrileña. Duration: 2017-2021. 133,333.33 €.
- ▶ María Virtudes Céspedes Navarro. Nanoterapia dirigida y radioterapia SBRT combinada para la eliminación selectiva de células madre tumorales en cáncer de páncreas. PI17/00150. Instituto de Salud Carlos III. Duration: 2018-2020. 123,000 €.
- ▶ María Virtudes Céspedes Navarro. Preclinical trial to assess safety, tolerability, and efficacy of CEB-01 membrane in mouse cancer models. CEBIOTEX S.L. Duration: 2018-2019.
- ▶ María Virtudes Céspedes Navarro. Neuroimmune modulation in metastatic pancreatic cancer. Therapeutic implications. MV18/00027. IS-CIII. Duration: 2019. 14,640 €
- ▶ Berta Díaz-Feijoo. Patients survival evaluation after extraperitoneal laparoscopic lymphadenectomy in locally advanced cervix cancer. Code Protocol PR(AMI). Fundació Institut de Recerca de l'Hospital Vall d'Hebron. 159/2015 Duration: 2017-2019.

Note: Total amount granted to PI. It does not include indirect costs.

Patents

- ▶ Alicia Casals Gelpí, Albert Hernansanz Prats, Ramón Rovira Negre, Joan Basomba Feliu, Roger Comas Pérez. Device for simulating an endoscopic operation via natural orifice, WO2017098036A1 WIPO (PCT). Utility patent, 15/06/2017
- ▶ Alicia Casals Gelpí, Albert Hernansanz Prats, Ramón Rovira Negre. Procedure and device for learning and training operations of laparoscopic surgery and similar interventions, ES2534140B1. Utility patent, 17/03/2016.
- ▶ Antonio Pedro Villaverde Corrales, Esther Vázquez Gómez, Neus Ferrer Miralles, Ugutz Unzueta Elorza, Ramón Mangues Bafalluy, María Virtudes Céspedes Navarro, Isolda Casanova Rigat. Methods and reagents for efficient and targeted delivery of therapeutic molecules to cxc4 cells, EPO 11382005.41216. Utility patent, 03/03/2011.
- ▶ Antonio Pedro Villaverde Corrales, Esther Vázquez Gómez, Ugutz Unzueta Elorza, Ramón Mangues Bafalluy, María Virtudes Céspedes Navarro, Isolda Casanova Rigat. Therapeutic nanoconjugates and uses thereof, PCT/EP2018/069303. Utility patent, 16/07/2018.
- ▶ Antonio Villaverde Corrales, Esther Vázquez Gómez, Naroa Serena Romero, Laura Sánchez García, Ugutz Unzueta Elorza, Ramón Mangues Bafalluy, María Virtudes Céspedes Navarro, Isolda Casanova Rigat. Nanostructured proteins and uses thereof. WO2018202921A2 WIPO (PCT). Utility patent, 08/11/2018.

Transfer Products

- ▶ Spin off: Surgitrainer S.L. Start-up. Ramon Rovira. Method and device for learning and training operations laparoscopic surgery and similar procedures. C-66663303 15/03/2016. Active
- ▶ Technology Transfer Agreement: 2016 2016-101. Surgitrainer and Hystrainer Licence/Transference Agreement. Surgitrainer SL. 13/9/2016

Scientific Production

Total Impact Factor: 33.971 · Mean Impact Factor: 4.246

Arroyo-Solera I., Pavon M.A., Leon X., Lopez M., Gallardo A., Céspedes M.V., Casanova I., Pallares V., Lopez-Pousa A., Mangues M.A., Barnadas A., Quer M., Mangues R., Effect of serpinE1 overexpression on the primary tumor and lymph node, and lung metastases in head and neck squamous cell carcinoma (2019) HEAD NECK-J SCI SPEC, 41 (2), 429-439. **IF: 2.4420**

Bru A., Bosch R., Céspedes M.V., Carmona-Guedes S., Pascual E., Bru I., Souto J.C., Antitumoral effect of maintained neutrophilia induced by rhG-CSF in a murine model of pancreatic cancer (2019) SCI REP-UK, 9 (1). **IF: 4.0110**

Casanova I., Unzueta U., Arroyo-Solera I., Céspedes M.V., Villaverde A., Mangues R., Vazquez E., Protein-driven nanomedicines in oncotherapy (2019) CURR OPIN PHARMACOL, 47, 1-7. **IF: 5.2030**

Falgàs A, Pallarès V, Unzueta U, Céspedes MV, Arroyo-Solera I, Moreno MJ, Sierra J, Gallardo A, Mangues MA, Vázquez E, Villaverde A, Mangues R, Casanova I. CXCR4-targeted nanocarrier achieves highly selective tumor uptake in diffuse large B-cell lymphoma mouse models. A HAEMATOLOGICA. 2020 Mar;105(3):741-753. **IF: 7.5**

Lucas Guerrero V., Zerpa Martin C., Gonzalez Lopez J.A., Rebasa P., Navarro Soto S., Giant lumbar incisional hernia reparation by «sandwich»

technique Reparación de eventración lumbar gigante mediante técnica sándwich (2019) CIR ESPAN, 97 (3), 177-178. **IF: 0.8350**

Pados G, Becker S, Rovira Negre R, Rabischong B, Ferreira H, Rossitto C. Surgical steps of total laparoscopic hysterectomy: Part 1: Benign disease by the European Society for Gynaecological Endoscopy (ESGE). Working group of ESGE. *FACTS VIEWS VIS OBGYN*. 2019 Jun;11(2):103-110. **IF: 4.9**

Pavon M.A., Arroyo-Solera I., Leon X., Tellez-Gabriel M., Viros D., Gallardo A., Cespedes M.V., Casanova I., Lopez-Pousa A., Barnadas A., Quer M., Mangues R., The combined use of EFS, GPX2, and SPRR1A expression

could distinguish favorable from poor clinical outcome among epithelial-like head and neck carcinoma subtypes (2019) *HEAD NECK-J SCI SPEC*, 41 (6), 1830-1845. **IF: 2.4420**

Sala R., Sanchez-Garcia L., Serna N., Cespedes M.V., Casanova I., Roldan M., Sanchez-Chardi A., Unzueta U., Vazquez E., Mangues R., Villaverde A., Collaborative membrane activity and receptor-dependent tumor cell targeting for precise nanoparticle delivery in CXCR4+ colorectal cancer (2019) *ACTA BIOMATER*, 99, 426-432. **IF: 6.6380**

Diffusion Activities

- ▶ María Virtudes Céspedes. Referee in *Microb Cell Fact* journal 2019
- ▶ María Virtudes Céspedes. Referee in *Biomolecules* journal 2019
- ▶ María Virtudes Céspedes. Codirector of 5 Doctoral Theses in Cellular Biology (1), Surgery (1) and Pediatric Obstetric and Gynecology (2) Programmes at the UAB, and in Biotechnology Program at the UB.
- ▶ Training for technical assistant activities to Nuria Guerra Rioja, Escola Bonanova-IR Sant Pau agreement. Barcelona, Spain.
- ▶ Pia Español. Associate-Professor in Clinical Practices in Gynecology and Obstetrics. Degree in Medicine (Campus Sant Pau - Universitat Autònoma de Barcelona). Barcelona, 2016-2019.

Communications to Congresses

- ▶ R. Rovira Negre. Expert speaker. Pelvic pain solving the puzzle. 4th International Edition. EndoDubai. Dubai, United Arab Emirates. 21-23 February 2019.
- ▶ P. Español, C. Soler, R. Luna. Clinical and survival implication of surgical staging on endometrial cancer in Hospital de la Santa Creu i Sant Pau de Barcelona. 21st European Gynaecological Oncology Congress of the European Society of Gynaecological Oncology (ESGO). Athens, Greece, 2-5 November 2019.

AREA T1

Epidemiology, Public Health and Healthcare Services

230 Clinical Epidemiology and Healthcare Services

236 Evaluation of Public Health Policies and Programmes

240 Transport and Health: Injuries and Mobility

242 Transmissible Diseases

246 Health Inequalities

249 Epidemiology of Addictions

251 Primary Care Research

Public Health and

S



AREA T1 · Epidemiology, Public Health and Healthcare Services

Clinical Epidemiology and Healthcare Services



Coordinator

Alonso Coello, Pablo Ignacio (IR)
palonso@santpau.cat

Members

Aguilar López, Raúl (IR)
Álvarez Bustins, Gerard (ACCIB)
Antequera Martín, Alba M. (IR)
Auladell Rispau, Ariadna (IR)
Beltrán Puerta, Jessica (IR)
Bolíbar Ribas, Ignasi (FGS)
Bonfill Cosp, Xavier (FGS)
Canelo Aybar, Carlos Gilberto (CIBERESP)
Cervera Alepuz, Andrea (ACCIB)
Elizondo Alzola, Usué (IR)
García López, Yasmín (ACCIB)

Gich Saladich, Ignasi Josep (FGS)
Girós Boixadós, Meritxell (IR)
Gorgues Sendra, Marta (FGS)
Leo Rosas, María Victoria (ACCIB)
León García, Montserrat (IR)
Martínez García, Laura (FGS)
Martínez Zapata, María José (IR)
Merchán Galvis, Ángela María (IR)
Millán Portillo, Olga (IR-external)
Niño de Guzmán Quispe, Ena Pery (IR)
Pardo Hernández, Héctor (CIBERESP)
Popova, Ekaterina (IR)
Puig Reixach, Maria Teresa (FGS)
Quintana Ruíz, María Jesús (FGS)
Rabassa Bonet, Montserrat (IR)

Requeijo Lorenzo, Carolina (FGS)
Rigau Comas, David (ACCIB)
Rocha Calderón, Claudio Alfonso (IR)
Roqué Fíguls, Marta Cristina (IR)
Salas Gama, Karla Rocío (FGS)
Samsó Jofra, Laura (FGS)
Solà Arnau, Ivan (FGS)
Solà Roca, Judit (FGS)
Song, Yang (UAB)
Sucuple Obregón, Stefanie Chriss (ACCIB)
Urrútia Cuchí, Gerard (FGS)
Valli, Claudia (IR)
Vázquez Niebla, Juan Carlos (ACCIB)

Main Lines of Research

Main lines of research

- ▶ Evidence-based medicine: systematic reviews, clinical practice guidelines and clinical trials.
- ▶ Health service evaluations.
- ▶ Methodological research.

Areas of interest

- ▶ Evidence-based medicine.
- ▶ Cancer.
- ▶ Perioperative medicine.
- ▶ Cardiovascular medicine.
- ▶ Public health.
- ▶ Appropriateness.

Scientific Challenges

- ▶ To develop and promote systematic-review production on 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 solving clinical or healthcare problems that are relevant to the needs of the system (applied clinical studies, healthcare services assessment studies, clinical trials).
- ▶ To foster, organize 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

Collaborations with other IIB Sant Pau Groups

- ▶ Addictive Behaviours
- ▶ Anaesthesiology
- ▶ Angiology, Vascular Biology and Inflammation
- ▶ Blood and Tissue Bank
- ▶ Central Clinical Research and Clinical Trials Unit
- ▶ Clinical and Translational Cardiology
- ▶ Clinical Oncology

- ▶ Evaluation of Public Health Policies and Programmes – Agència de Salut Pública de Barcelona
- ▶ Locomotor System Research
- ▶ Palliative Care
- ▶ Plastic Surgery
- ▶ Primary Care Research - EAP Sardenya
- ▶ Thrombosis and Haemostasis
- ▶ Urology
- ▶ Women and Perinatal Health Research

External Collaborations

- ▶ Population Health Research Institute, McMaster University (Canada)
- ▶ Clinical Trial Service Unit and Epidemiological Studies Unit, University of Oxford (United Kingdom)
- ▶ European Respiratory Society
- ▶ Facultad de Ciencias de la Salud, Universidad Tecnológica Equinoccial (Ecuador)
- ▶ GRADE Working Group
- ▶ Guidelines International Network
- ▶ Cochrane Collaboration
- ▶ Joint Research Centre - European Commission
- ▶ Applied Health Research Center - Saint Michael's Hospital (Canada)
- ▶ Universitat Pompeu Fabra - Nutrimedia

Active Grants

- ▶ Xavier Bonfill Cosp. Centro de Investigación Biomédica en Red de Epidemiología y Salud Pública. CIBERESP. CB06/02/1010. Ministerio de Sanidad y Política Social. Duration: 2007-2020. 605,008.34 €.
- ▶ Pablo Ignacio Alonso Coello. Contratos Miguel Servet II 2015. MSII15/00034. Instituto de Salud Carlos III. Duration: 2016-2019. 101,250 €.
- ▶ Xavier Bonfill Cosp. Estudio de adecuación de la terapia hormonal intermitente en pacientes con cáncer de próstata. PI15/00886. Instituto de Salud Carlos III. Duration: 2016-2020. 81,500 €.
- ▶ Laura Martínez García. Elaboración de una herramienta de priorización para la actualización de preguntas clínicas y aplicación a las guías de práctica clínica del Sistema Nacional de Salud. PI15/00325. Instituto de Salud Carlos III. Duration: 2016-2020. 50,000 €.
- ▶ María José Martínez Zapata. Contratos Miguel Servet I 2015. MS15/00116. Instituto de Salud Carlos III. Duration: 2016-2021. 202,500 €.
- ▶ María José Martínez Zapata. International, multi-centre, randomized controlled trial to assess transfusion thresholds in patients undergoing cardiac surgery (TRICS III). CP15/00116. Instituto de Salud Carlos III. Duration: 2016-2020. 114,350 €.
- ▶ Pablo Ignacio Alonso Coello. Perioperative myocardial ischemia: implementation of troponin monitoring, economic analysis and further insights in pathophysiology. MARATO 20150110. Fundació La Marató de TV3. Duration: 2016-2019. 159,202.88 €.
- ▶ Laura Martínez García. Contratos Juan Rodés 2015. JR15/00004. Instituto de Salud Carlos III. Duration: 2016-2019. 135,000 €.
- ▶ Ekaterine Popova. Mecanismos implicados en la lesión miocárdica perioperatoria: estudio mediante angiografía coronaria computerizada y resonancia magnética cardíaca. PI16/01162. Instituto de Salud Carlos III. Duration: 2017-2020. 74,500 €.
- ▶ María José Martínez Zapata. Ensayo clínico aleatorizado multicéntrico paralelo en pacientes antiagregados con fractura peritrocantérea de fémur que evalúa una estrategia para acortar el tiempo hasta la cirugía. PI16/01879. Instituto de Salud Carlos III. Duration: 2017-2020. 71,500 €.
- ▶ Montserrat Rabassa Bonet. Contratos posdoctorales "Sara Borrell" 2016. CD16/00157. Instituto de Salud Carlos III. Duration: 2017-2020. 80,598 €.
- ▶ Pablo Ignacio Alonso Coello. COMPAR-EU - Comparing effectiveness of self-management interventions in 4 high priority chronic diseases in Europe. 754936-IR. European Union. Duration: 2018-2022. 456,109 €.
- ▶ Gerard Urrutia Cuchi. The effect of additional core stability exercises on improving dynamic sitting balance, trunk control and functional rehabilitation for subacute stroke patients: A randomized controlled trial. MARATO 20173710. Fundació La Marató de TV3. Duration: 2018-2021. 159,530 €.
- ▶ Ena Pery Niño de Guzmán Guispe. Contractes de formació en recerca "Río Hortega" 2017. CM17/00199. Instituto de Salud Carlos III. Duration: 2018-2020. 53,732 €.
- ▶ Ángela María Merchán Galvis. Evaluación de intervenciones para disminuir el riesgo de sangrado y/o trombosis asociada a la cirugía por fractura proximal de fémur. FI17/00190. Instituto de Salud Carlos III. Duration: 2018-2022. 82,400 €.
- ▶ Pablo Ignacio Alonso Coello. La toma de decisiones compartida de la terapia trombotrófica durante el embarazo: el valor añadido del método de Análisis de Decisión. PI17/01874. Instituto de Salud Carlos III. Duration: 2018-2020. 52,000 €.
- ▶ Xavier Bonfill Cosp. Grup de Recerca Clínica i Sanitària Aplicada. 2017 SGR 01760. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Xavier Bonfill Cosp. Análisis y mejora de adecuación de la prescripción de quimioterapia al final de la vida. PI18/00034. Instituto de Salud Carlos III. Duration: 2019-2021. 56,000 €.
- ▶ Alba María Antequera Martín. Contratos Río Hortega 2018. CM18/00141. Instituto de Salud Carlos III. Duration: 2019-2021. 53,732 €.
- ▶ María José Martínez Zapata. Diseño e implementación de ensayos clínicos multicéntricos y de ámbito internacional focalizados principalmente en la seguridad del paciente quirúrgico. MV18/00028. Instituto de Salud Carlos III. Duration: 2019. 4,880 €.
- ▶ Laura Martínez García. 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. Duration: 2019-2024. 202,500 €.
- ▶ Montserrat León García. La toma de decisiones compartida de la terapia trombotrófica durante el embarazo: el valor añadido del método de análisis de decisión. FI18/00014. Instituto de Salud Carlos III. Duration: 2019-2023. 82,400 €.
- ▶ Ignasi Bolibar Ribas. Optimisation of antibiotic prescription in acute non-complicated respiratory tract infections in children: a multi-center randomised controlled clinical trial with a 2x2 factorial design to assess two strategies targeting health professionals and parents. MARATO 20180410. Fundació La Marató de TV3. Duration: 2019-2022. 159,718.50 €.
- ▶ Pablo Ignacio Alonso Coello. COCOCARE - European partnership on Competencies for high Value Cost Concious Care. 2018-1-NL01-KA203-039070. European Union. Duration: 2018-2021. 43,288 €.
- ▶ Laura Martínez García. 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. Duration: 2019-2022. 40,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Laura Martínez García. Extraordinary PhD Prize. Universitat Autònoma de Barcelona (Awarded in 2019).

Doctoral Theses

- ▶ Carlos Zaror Sánchez. Calidad de vida relacionada con la salud oral en niños y adolescentes. Universitat Autònoma de Barcelona. Director: M. José Martínez Zapata. Date of defense: 26/07/2019
- ▶ Mónica Ballesteros Silva. Retos y oportunidades de la diseminación de la investigación clínica del cáncer, Universitat Autònoma de Barcelona. Directors: Xavier Bonfill Cosp, Gerard Urrútia Cuchí. Date of defense: 24/07/2019
- ▶ Daniel Alejandro Simancas Racines. Evidencias científicas sobre las estrategias utilizadas para la prevención de reacciones adversas asociadas a la transfusión de concentrados de glóbulos rojos. Universitat Autònoma de Barcelona. Directors: Xavier Bonfill Cosp, Gerard Urrútia Cuchí. Date of defense: 5/11/2019
- ▶ Jorge Antonio Coronado Daza. Tamizaje de la enfermedad renal crónica y uso de eritropoyetina para el manejo de la anemia en pacientes en diálisis. Universitat Autònoma de Barcelona. Directors: Xavier Bonfill Cosp, Gerard Urrútia Cuchí. Date of defense: 13/12/2019
- ▶ María Amparo de la Poza Abad. Prescripció diferida d'antibiòtics en infeccions respiratòries agudes no complicades ateses en atenció primària. Universitat de Barcelona. Director: Pablo Alonso Coello. Date of defense: 13/12/2019

Scientific Production

Total Impact Factor: 316.5300 · Mean Impact Factor: 5.7551

- Agbata E.N., Morton R.L., Bisoffi Z., Bottieau E., Greenaway C., Biggs B.-A., Montero N., Tran A., Rowbotham N., Arevalo-Rodriguez I., Myran D.T., Noori T., Alonso-Coello P., Pottie K., Requena-Mendez A., Effectiveness of screening and treatment approaches for schistosomiasis and strongyloidiasis in newly-arrived migrants from endemic countries in the EU/EEA: A systematic review (2019) *INT J ENV RES PUB HE*, 16 (1). **IF: 2.4680**
- Agbata E.N., Padilla P.F., Agbata I.N., Armas L.H., Sola I., Pottie K., Alonso-Coello P., Migrant Healthcare Guidelines: A Systematic Quality Assessment (2019) *J IMMIGR MINOR HEALT*, 21 (2), 401-413. **IF: 1.5820**
- Alvarez-Garcia J., de Nadal M., Popova E., Myocardial Injury After Non-cardiac Surgery. Could Dabigatran Be a First Step in Its Management? Lesió miocárdica tras la cirugía no cardíaca: ¿el dabigatrán puede ser un primer paso para su tratamiento? (2019) *REV ESP CARDIOL*, 72 (10), 803-805. **IF: 5.1260**
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Diffusion Activities

Dissemination Activities to Society, invited talks

- ▶ Gerard Urrútia Cuchí. Las revisiones sistemáticas en salud. Pontificia Universidad Javeriana, Bogotá (Colombia), 6 March 2019.
- ▶ Ivan Solà Arnau. Las revisiones sistemáticas Cochrane: actualización y perspectivas de uso. Biblioteca Nacional de Ciencias de la Salud, Madrid, 13 March 2019.
- ▶ Xavier Bonfill Cosp. La Colaboración Cochrane: su impacto en la investigación y en la toma de decisiones de práctica clínica. Instituto Mexicano del Seguro Social (IMSS), México, 16 May 2019.
- ▶ Montserrat Rabassa Bonet. Guías de alimentación y nutrición: ¿qué sabemos sobre su calidad? Congreso Iberoamericano de Nutrición. Pamplona, 3 July 2019.
- ▶ Pablo Alonso-Coello. El uso de GRADE para la toma de decisiones clínicas. Hospital Ramón y Cajal, Madrid, 18 July 2019.
- ▶ Xavier Bonfill Cosp. Recerca clínica de qualitat per a informar de les decisions terapèutiques en salut: reptes i perspectives. Universitat Catalana d'Estiu, Prada (El Conflent), 20 August 2019.
- ▶ Gerard Urrútia Cuchí. Salud Basada en Evidencia: ¿Teoría o Práctica? I Jornada de Investigación Científica. Universidad de Valparaíso, Chile, 26 September 2019.

- ▶ Xavier Bonfill Cosp. La Biblioteca Cochrane en el marco de una atención sanitaria basada en la evidencia. Ministerio de Sanidad, Consumo y Bienestar Social. Madrid, 1 October 2019.
- ▶ Ivan Solà Arnau. Iniciativas para reducir el sesgo de selección y para elaborar recomendaciones clínicas y sanitarias. Ministerio de Sanidad, Consumo y Bienestar Social. Madrid, 1 October 2019.
- ▶ Ivan Solà Arnau. Búsqueda de revisiones sistemáticas y otros materiales en la Biblioteca Cochrane. Colegio de Médicos de Madrid, 1 October 2019.
- ▶ Xavier Bonfill Cosp. Recerca clínica de qualitat per informar les decisions terapèutiques en salut: reptes i perspectives. Institut d'Investigació Sanitària Illes Balears. Palma de Mallorca. 29 November 2019.
- ▶ Niño de Guzmán EP, Martínez-García L, Pérez-Bracchiglione J, Fraile-Navarro D, Salas-Gama K, Viteri-García A, Alonso-Coello P. What do patients and their caregivers value on self-management interventions for chronic conditions? A scoping review of systematic reviews for the COMPAR-EU project (oral session). Cochrane Colloquium Santiago, 2-6 December 2019.
- ▶ Pérez-Bracchiglione J, Niño de Guzmán E, Rocha C, Salas Gama K, Viteri García A, Alonso-Coello P, Martínez García L. The perspective of patients living with type 2 diabetes mellitus on self-management interventions: a mixed-method overview for the COMPAR-EU project (oral session). Cochrane Colloquium Santiago, 2-6 December 2019.
- ▶ Selva Olid A, Solà Arnau I, Sanabria AJ, Niño de Guzmán E, Ballesteros M, Valli C, Zhang Y, Yepes Nuñez JJ, Schünemann H, Alonso-Coello P. Patient's perspective in clinical recommendations: a case study of colorectal cancer guidelines (oral session). Cochrane Colloquium Santiago, 2-6 December 2019.

Scientific Dissemination

- ▶ Puig T, Bellmunt S, Gayarre R, Solà J, Guarch A, González-Moreno M, Lowak M, Fité J, Requeijo C. Programa piloto de cribado poblacional de aneurisma de aorta abdominal mediante ecografía realizada en atención primaria. XXXVII Reunión Científica de la Sociedad Española de Epidemiología and XIV Congresso da Associação Portuguesa de Epidemiologia. Oviedo, 3 September 2019.
- ▶ Alonso-Coello P. The European Breast Guidelines on screening and diagnosis of breast cancer: piloting of an updating strategy (oral session). G-I-N & JBI 2019. Adelaide (Australia), 31 October 2019.
- ▶ McFarlane E, Pardo-Hernández H, Sanabria AJ, Ballesteros M, Canelo-Aybar C, Niño de Guzman E, Penman K, Posso M, Roqué i Figuls M, Selva A, Vernooij R, Alonso-Coello P, Martínez García L. The UpPriority Tool: A prioritisation tool for updating clinical questions within guidelines (oral session). G-I-N & JBI 2019. Adelaide (Australia), 31 October 2019.
- ▶ Orrego C, Ballester M, González-González AI, Camus E, Heymans M, Alonso-Coello P, van der Gaag M, Pardo-Hernandez H, Valli C, Niño de Guzman E, Canelo-Aybar C, Groene O, Sunol R. Incorporating patients' preferences in the development of core outcome sets for four chronic conditions: COMPAR-EU project (oral session). G-I-N & JBI 2019. Adelaide (Australia), 1 November 2019.
- ▶ Niño de Guzmán E, Alonso-Coello P, Valli C, Pérez-Bracchiglione J, Karla Salas-Gama, Viteri-García A, Martínez-García L. The perspective of patients living with chronic heart failure on self-management interventions: A mixed-methods overview for guideline recommendations for the COMPAR-EU project (oral session). G-I-N & JBI 2019. Adelaide (Australia), 1 November 2019.
- ▶ Song Y, Ballesteros M, Martínez García L, Alonso-Coello P, Vernooij RWM, Arayssi T, Bhaumik S, Chen Y, Cluzeau F, Ghersi D, Fuentes Padilla P, Langlois E. V, Norris S, Schünemann H. J., Akl E. Extending the RIGHT statement for Reporting Adapted Practice Guidelines in Health Care: the RIGHT-Ad@pt Checklist (oral session). G-I-N & JBI 2019. Adelaide (Australia), 1 November 2019.
- ▶ Salas Gama K, Viteri-García A, Martínez García L, Montesinos-Guevara C, Pérez-Bracchiglione J, Alonso-Coello P, Niño de Guzman E. The perspective of people living with obesity on self-management interventions: a mixed-method overview for the COMPAR-EU project (oral session). Cochrane Colloquium Santiago, 2-6 December 2019.
- ▶ Orrego C, Ballester M, Gonzalez Gonzalez AI, Camus E, Heymans M, Alonso-Coello P, Van Der Gaag M, Pardo H, Valli C, Niño De Guzman Ep, Canelo-Aybar C, Groene O, Suñol R, for the COMPAR-EU Group. Incorporating patients' preferences in the development of a core outcome set for four chronic conditions: COMPAR-EU Project (oral session). Cochrane Colloquium Santiago, 2-6 December 2019.
- ▶ Pérez-Bracchiglione J, Niño de Guzmán E, Roqué Figuls M, Urrútia G. Graphical representation of overlap degree of primary studies in systematic reviews included in overviews (oral session). Cochrane Colloquium Santiago, 2-6 December 2019.
- ▶ Buitrago-García D, Vergel-Martínez JC, Arévalo-Rodríguez I, Pardo-Hernández H, Bonfill X. Identification and quality assessment of controlled clinical trials published in gynecology and obstetrics journals in Andean countries (oral session). Cochrane Colloquium Santiago, 2-6 December 2019.
- ▶ Alemán A, Solà I, Tomasso G, Antequera Martín AM, Colomar M, Cafferata ML. Sustainable Development Goals and health research: are high priority health problems being addressed with high quality studies and with equity? (oral session). Cochrane Colloquium Santiago, 2-6 December 2019.
- ▶ Martínez-Zapata MJ, Niño de Guzmán E, Canelo C, Vásquez-Mejía A, Merchán-Galvis A, Madera M, Viteri-García A, Muñoz P, Zaror C. Agreement in the assessment of systematic reviews with the AMSTAR 2 tool: novice versus expert methodologists. Cochrane Colloquium Santiago, 2-6 December 2019.

AREA T1 · Epidemiology, Public Health and Healthcare Services

Evaluation of Public Health Policies and Programmes



Coordinator

Ariza Cardenal, Carles (ASPB)
cariza@aspb.cat

Members

Continente García, Xavier (ASPB)
García Altés, Anna (ASPB)
Leon Pujadas, Gabriel (ASPB)
López Medina, María José (ASPB)
Pérez Giménez, Anna (ASPB)
Puigpinós Riera, Rosa (ASPB)
Sánchez Martínez, Francesca (ASPB)

Serral Cano, Gemma (ASPB)
Villalbí Hereter, Joan Ramon (ASPB)

Main Lines of Research

- ▶ Evaluation of public health policies and programs.
- ▶ Monitoring behavior and other health risk factors such as environmental exposure.
- ▶ Process and impact evaluation of public health programs and services (school-based prevention programs for obesity, smoking, alcohol and cannabis consumption, breast cancer screening programs and memory training workshops for elderly people) and public policies (Barcelona mental health action plan, energy poverty, guaranteed minimum income, “superilles” [superblocks]).
- ▶ Evaluation of ICT innovation in public health.
- ▶ Evaluation of food contaminants.

Scientific Challenges

- ▶ Promote research into the evaluation of policies and programs.
- ▶ Support the debate on conceptual and methodological aspects of results evaluation in prevention and health promotion.
- ▶ Consolidate the group's research, fostering less developed aspects such as financial assessment and evaluation of health protection interventions.
- ▶ Develop a theoretical corpus of concepts, principles, methods and examples that contribute to filling the gap in undergraduate and postgraduate teaching regarding the design and evaluation of risk prevention and health promotion interventions.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Clinical Epidemiology and Healthcare Services (PI: Xavier Bonfill)
- ▶ Transport and Health: Injuries and Mobility (PI: Catherine Pérez)
- ▶ Health Inequalities (PI: Carme Borrell)
- ▶ Epidemiology of Addictions

External Collaborations

- ▶ CIBER-Epidemiology and Public Health (Group 18: Evaluation of public health policies and programmes)
- ▶ CIBER-Obesity and Nutrition (Group PI: Fernando Fernández de Aranda)
- ▶ AGAUR Consolidated Research Group (Evaluation of public health policies and programmes)
- ▶ Tobacco Working Group of the Spanish Epidemiology Society

- ▶ Social Determinants Group of the Spanish Epidemiology Society
- ▶ Foreign universities: Johns Hopkins University, USA
- ▶ Spanish universities: Universitat Pompeu Fabra, Universitat Ramon Llull, Universitat de Vic, Universitat Internacional de Catalunya, Universitat Oberta de Catalunya, Universidad de Santiago de Compostela, Universidad de Alcalá de Henares
- ▶ Primary care centres: Ciutat Meridiana, Roquetes, Sant Rafael and Sardenya (Barcelona)
- ▶ Institut Català d'Oncologia (ICO)
- ▶ Municipal bodies: Institut Barcelona Esports (IBE), Institut Municipal d'Educació (IME)
- ▶ Regional bodies: Agència de Salut Pública de Catalunya (Promoting Health through Physical Activity and Healthy Eating Plan) and Agència de Qualitat i Avaluació Sanitàries de Catalunya (AQUAS)
- ▶ Other bodies: Fundació Catalana per a l'Esport (FCE)
- ▶ Companies: Fontvella and Danone (Health Affairs Departments)

Active Grants

- ▶ María José López Medina. Exposición al humo ambiental y residual del tabaco en niños y niñas: cohorte HUMO. PI17/01359. Instituto de Salud Carlos III. Duration: 2018-2020. 73,000 €.
- ▶ Joan Ramon Villalbí Hereter. Disponibilidad, accesibilidad, visibilidad de consumo, promoción y publicidad del alcohol en el entorno urbano y su relación con el consumo de alcohol en adolescentes. 2016I029. Ministerio de Sanidad, Servicios Sociales e Igualdad. Duration: 2017-2020. 37,000 €.
- ▶ Carles Ariza Cardenal. Evaluación de un proyecto de prevención integral de la obesidad infantil en la etapa pre-escolar en Barcelona (proyecto POIBA-2ª fase). PI16/00701. Instituto de Salud Carlos III. Duration: 2017-2019. 66,500 €.
- ▶ María José López. Tackling secondhand tobacco smoke and e-cigarette emissions: exposure assessment, novel interventions, impact on lung diseases and economic burden in diverse European populations (project ID: 681040). European Commission (H2020). Duration: 2015-2019. 426,940.97 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ María José López Medina, Desigualtats socials en salut en la població infantil a Catalunya. DI-61 AGAUR. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2019-2022. 30,072 €.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Carolina Lapena. Avaluació d'intervencions de promoció de la salut per a la millora de la qualitat de vida en gent gran. Universitat Autònoma de Barcelona. Duration: M. José López. Date of defense: 19/11/2019

Transfer Products

- ▶ Olga Juárez, Anna Pérez, Francesca Sánchez. Barcelona Salut als Barris. Memòria 2018. ASPB, Barcelona, March 2019.
- ▶ Carles Ariza, Xavier Contente, Olga Juárez, M. José López, Rosa Puigpinós. Enquesta de Salut de Barcelona 2016/2017. ASPB, Barcelona, November 2019.
- ▶ M. José López. Enquesta salut als carrers. Informe de resultats Horta 2018. ASPB, Barcelona, September 2019.
- ▶ Gemma Serral, Francesca Sánchez, Carles Ariza. Programa de prevenció de l'obesitat infantil a Barcelona. ASPB, Barcelona, Octubre 2019.
- ▶ M. José López, Olga Juárez. Escola de Salut de les Persones Grans. Protocol. ASPB, Barcelona, July 2019.
- ▶ Xavier Contente, M. José López, Olga Juárez, Carles Ariza, Francesca Sánchez, Rosa Puigpinós. La salut a Barcelona 2018. ASPB, Barcelona, November 2019.
- ▶ Olga Juárez, Carles Ariza, Gemma Serral. La salut i els seus determinants en l'alumnat adolescent de Barcelona. ASPB, Barcelona, December 2019.
- ▶ Francesca Sánchez. Diagnòstic de salut Bon Pastor. 2019. ASPB, Barcelona, September 2019.
- ▶ Programes de promoció de la salut en centres d'educació primària i secundària de Barcelona. Avaluació curs 2017-18. ASPB, Barcelona, May 2019.
- ▶ Programa de revisió de menús escolars a la ciutat de Barcelona. Informe curs 2017-18. ASPB, Barcelona, June 2019.
- ▶ Xavier Contente, M. José López. Tabaquisme ambiental i salut perinatal i infantil. ASPB, Barcelona, April 2019.
- ▶ M. José López. ATLAS de los determinantes sociales de la salud en España. ASPB, Barcelona, June 2019.

Scientific Production

Total Impact Factor: 53.41 · Mean Impact Factor: 2.2254

Arechavala T., Contente X., Perez-Rios M., Schiaffino A., Fernandez E., Lopez M.J., Sociodemographic factors associated with secondhand smoke exposure and smoking rules in homes with children (2019) EUR J PUBLIC HEALTH, 29 (5), 843-849. **IF: 2.2340**

Ariza C., Sanchez-Martinez F., Serral G., Valmayor S., Juarez O., Pasarin M.I., Castell C., Rajmil L., Lopez M.J., The Incidence of Obesity, Assessed as Adiposity, Is Reduced after 1 Year in Primary Schoolchildren by the POIBA Intervention (2019) J NUTR, 149 (2), 258-269. **IF: 4.4160**

Cabrera-León A, Daponte-Codina A, Mateo I, Arroyo-Borrell E, Bartoll X, Bravo MJ, Domínguez-Berjón MF, Renart G, Álvarez-Dardet C, Marí-Dell'Olmo M, Bolívar-Muñoz J, Saez M, Escribà-Agüir V, et al. Corrigendum a: Indicadores contextuales para evaluar los determinantes sociales de la salud y la crisis económica española. GACETA SANITARIA. 2019 Sep-Oct;33(5):497. **IF: 1.656**

Cainzos-Achirica M., Capdevila C., Vela E., Cleries M., Bilal U., Garcia-Altes A., Enjuanes C., Garay A., Yun S., Farre N., Corbella X., Comin-Colet J., Individual income, mortality and healthcare resource use in patients with chronic heart failure living in a universal healthcare system: A population-based study in Catalonia, Spain (2019) INT J CARDIOL, 277, 250-257. **IF: 3.4710**

Carreras G., Lugo A., Gallus S., Cortini B., Fernandez E., Lopez M.J., Soriano J.B., Lopez-Nicolas A., Semple S., Gorini G., Castellano Y., Fu M., Ballbe M., Amalia B., Tigova O., Contente X., Arechavala T., Henderson E., Liu X., et al., Burden of disease attributable to second-hand smoke exposure: A systematic review (2019) PREV MED, 129. **IF: 3.4490**

Chamorro C, Díaz-Echenique L, Oliván J, Villalbí JR. Los servicios locales de salud pública: estudio descriptivo de los municipios de Cataluña en 2016. REVISTA ESPAÑOLA DE SALUD PÚBLICA. 2019 May 1;93. pii: e201905026. **IF: 0.635**

Contente X., Arechavala T., Fernandez E., Perez-Rios M., Schiaffino A., Soriano J.B., Carreras G., Lopez-Nicolas A., Gorini G., Lopez M.J., Burden of respiratory disease attributable to secondhand smoke exposure at home in children in Spain (2015) (2019) PREV MED, 123, 34-40. **IF: 3.4490**

Contente X, Arechavala T, Fernández E, Pérez-Ríos M, Schiaffino A, Soriano JB, Carreras G, López-Nicolás Á, Gorini G, López MJ. Response regarding the methodological approach used to calculate the burden of respiratory disease attributable to secondhand smoke exposure in children in Spain for the year 2015. PREVENTIVE MEDICINE. 2019 May 24 pii: S0091-7435(19)30185-9. **IF: 3.449**

García-Altes A., Peiro M., Artells J.J., Prioritising measures for consolidating shared decision-making in the services rendered by the Spanish National Health System Priorización de medidas para la consolidación de la toma de decisiones compartidas en las prestaciones del Sistema Nacional de Salud español (2019) GAC SANIT, 33 (5), 408-414. **IF: 1.6560**

Gonzalez-Rabago Y., La Parra D., Puigpinos-Riera R., Pons-Vigues M., How to measure the migration status of the child and young population? Studies on health and inequalities in health in Europe ¿Cómo medir el estatus migratorio de la población infantil y juvenil? Estudios sobre salud y desigualdades en salud en Europa (2019) GAC SANIT. **IF: 1.6560**

Jacques-Aviñó C, Dvorzak JL, Mari-Dell'Olmo M, Arjona DR, Peralta A, Carrere J, Benach J, Ramos C, Plana M, López MJ. Qualitative evaluation of an intervention to reduce energy poverty. REVISTA DE SAUDE PUBLICA. 2019 Sep 2;53:62. **IF: 1.968**

Lobato-Pajares M.T., Villalbi J.R., Public health services: reading their available reports Los servicios de salud pública: una lectura de los informes disponibles (2019) GAC SANIT, 33 (3), 293-295. **IF: 1.6560**

Londono T., Trabado V., García-Rodríguez A., Balfagon P., Villalbi J.R., Improving the control of food allergy and intolerance risks in school settings: qualitative inputs from focus groups Mejorando el control del riesgo por alergias e intolerancias alimentarias en los comedores escolares: aportaciones cualitativas de los grupos focales (2019) GAC SANIT, 33 (1), 89-91. **IF: 1.6560**

Lopez M.J., Lapena C., Sanchez A., Continente X., Fernandez A., Perez A., Astorga C., Cortina C., Rey C., Díez E., Pujol E., Daban F., Castillo G., Robles I., Artazcoz L., Pons M., Mari-Dell'Olmo M., Petit M., Sagarra N., Calzada N., Juárez O., Bartoll X., Community intervention to reduce social isolation in older adults in disadvantaged urban areas: Study protocol for a mixed methods multi-approach evaluation (2019) BMC GERIATR, 19 (1). **IF: 2.8180**

Lopez M.J., Continente X., Soong A., Stillman F., Zheng L., García-Esquinas E., Pang Y., Navas-Acien A., E-cigarettes in airports and on flights: Europe and the us Cigarrillos electrónicos en aeropuertos y en vuelos: Europa y EEUU (2019) ADICCIONES, 31 (3), 196-200. **IF: 3.1670**

Mehdipanah R, Novoa AM, León-Gómez BB, López MJ, Palència L, Vasquez H, Díez È, Borrell C, Pérez K. Effects of Superblocks on health and health inequities: a proposed evaluation framework. JOURNAL OF EPIDEMIOLOGY AND COMMUNITY HEALTH. 2019 Jul;73(7):585-588. **IF: 3.872**

Puigpinos-Riera R., Castillo Gomez A., Romero Morales A., Aller M., Castells X., Sala M., Social and clinical determinants of the use of health services in women with breast cancer (Cohort DAMA) Determinantes sociales y clínicos del uso de servicios sanitarios en mujeres con cáncer de mama (Cohorte DAMA) (2019) GAC SANIT, 33 (5), 434-441. **IF: 1.6560**

Ribera A., Vela E., García-Altes A., Cleries M., Abilleira S., Trends in healthcare resource use and expenditure before and after ischaemic stroke. A population-based study Evolución del gasto en servicios sanitarios antes y después del ictus isquémico: análisis de base poblacional (2019) NEUROLOGIA. **IF: 2.0380**

Serral Cano G., Bru Ciges R., Sanchez-Martinez F., Ariza Cardenal C., Overweight and childhood obesity according to socioeconomic variables in third grade school-age children in the city of barcelona Sobre peso y obesidad infantil según variables socioeconómicas en escolares de tercero de primaria de la ciudad de barcelona (2019) NUTR HOSP, 36 (5), 1043-1048. **IF: 0.7590**

Torá-Rocamora I, Grau J, Oliver-Vall-Ilosera B, Bargalló X, Aldea M, Puigpinós-Riera R y grupo Cohort Dama. Influencia de la vía diagnóstica en las características de los tumores, tratamientos, complicaciones y utilización de terapias no convencionales en mujeres diagnosticadas de cáncer de mama - Cohorte DAMA. GACETA SANITARIA. 2019 Apr 15. pii: S0213-9111(19)30078-0. **IF: 1.656**

Vela E., Cleries M., Vella V.A., Adroher C., García-Altes A., Population-based analysis of the Healthcare expenditure in Catalonia (Spain): what and who consumes more resources? Análisis poblacional del gasto en servicios sanitarios en Cataluña (España): ¿qué y quién consume más recursos? (2019) GAC SANIT, 33 (1), 24-31. **IF: 1.6560**

Villalbi J.R., Espelt A., Sureda X., Bosque-Prous M., Teixido-Compano E., Puigcorbe S., Franco M., Brugal M.T., The urban environment of alcohol: A study on the availability, promotion and visibility of its use in the neighborhoods of Barcelona Entorno urbano de alcohol: Un estudio sobre disponibilidad, promoción y visibilidad del consumo en barrios de Barcelona (2019) ADICCIONES, 31 (1), 33-40. **IF: 3.1670**

Villalbí JR, Suelves JM, Martínez C, Valverde A, Cabezas C, Fernández E. El control del tabaquismo en España: situación actual y prioridades. REVISTA ESPAÑOLA DE SALUD PÚBLICA. 2019 Jul 15;93. **IF: 0.635**

Diffusion Activities

Dissemination Activities to Society

- ▶ X Continente, C Ariza. Training aimed at teachers and educators from healthy leisure and social service entities on the intervention of selective prevention of alcohol and cannabis consumption in vulnerable youth in the community "REPTES". November 2019.
- ▶ C Ariza, G Serral. La salut i els seus determinants en l'alumnat adolescent de Barcelona. Grup Infància i igualtat d'oportunitats del Consell Municipal de Benestar Social (presentation with teachers and social services staff). 2019.
- ▶ G Serral. Informative talks for women in the districts of Barcelona on the program for the early detection of breast cancer. 2019.
- ▶ JR Villalbí. Gestió en salut pública. Màster de Salut Pública. Universitat Pompeu Fabra. 2019.
- ▶ JR Villalbí. Curs de Promoció de la Salut. Màster de Salut Pública. Universitat Pompeu Fabra. 2019.

Scientific Dissemination

- ▶ E. Henderson, MJ. López, X. Continente. Exposición al Humo Ambiental de Tabaco (HAT) en parques infantiles en 11 países europeos. XXXVII Annual Meeting of the Sociedad Española de Epidemiología. Oviedo, Spain, 3-6 September 2019.
- ▶ E. Henderson, MJ. López, X. Continente. Exposición al Humo Ambiental de Tabaco (HAT) en terrazas de hostelería de 11 países. XXXVII Annual Meeting of the Sociedad Española de Epidemiología. Oviedo, Spain, 3-6 September 2019.
- ▶ C Ariza, G Serral, F Sánchez. Desigualdades sociales en obesidad infantil en Barcelona. XXXVII Annual Meeting of the Sociedad Española de Epidemiología. Oviedo, Spain, 3-6 September 2019.

- ▶ X Continente, C Ariza, A Pérez, MJ López, F Sánchez. Evaluación de proceso del programa de prevención selectiva del consumo de alcohol y cánnabis "REPTES". XXXVII Annual Meeting of the Sociedad Española de Epidemiología. Oviedo, Spain, 3-6 September 2019.
- ▶ X Continente, MJ López, C Ariza. Evaluación de proceso del Plan de Salud Mental de Barcelona (2016-2022). XXXVII Annual Meeting of the Sociedad Española de Epidemiología. Oviedo, Spain, 3-6 September 2019.
- ▶ C Ariza, JR Villalbí. Intervenciones comunitarias para reducir el consumo de alcohol en adultos. ¿Qué funciona? XXXVII Annual Meeting of the Sociedad Española de Epidemiología. Oviedo, Spain, 3-6 September 2019.
- ▶ C Ariza. The Barcelona Action Plan on Mental Health: contents and where we are. International workshop Cities with mental health in mind. Barcelona, Spain, 22 March 2019.
- ▶ C Ariza. La evaluación de las intervenciones en promoción de la salud. Máster de Promoción de la Salud y Salud Comunitaria. Zaragoza, Spain, 2 October 2019.
- ▶ C. Ariza. Estilos de vida y gestión de riesgos. La atención a la salud de la infancia y la adolescencia. Màster Universitari d'Infància i Adolescència de la Universitat Ramon Llull. Barcelona, Spain, 30 January 2019.
- ▶ A García-Altés. Dificultades en la organización de la innovación en procesos en un hospital. Round table. Jornada "Innovación e mejora de procesos: Retos y oportunidades. Auditori Taulí, 11 December 2019.
- ▶ A García-Altés, M Guilbert, H Aguado, I Carrillo, M Sala, JJ Mira. ¿Cómo quieres que sea la Central de Resultados del futuro? Resultados de un estudio cualitativo con profesionales (oral communication). XXXVII

- Congress of the Sociedad Española de Calidad Asistencial. San Sebastián, 23-25 October 2019.
- ▶ A García-Altés. Èxits i fracassos de l'Economia de la salut en la política sanitària (paper). 40è aniversari de la Comissió d'Economia de la Salut. Col·legi d'Economistes de Catalunya. Barcelona, 12 March 2019.
 - ▶ A García-Altés. Utilització dels serveis públics de salut per part dels immigrants irregulars (paper). Jornada Immigració i Salut. Barcelona, 25 February 2019.

AREA T1 · Epidemiology, Public Health and Healthcare Services

Transport and Health: Injuries and Mobility



Coordinator

Pérez González, Catherine (ASPB)
cperez@aspb.cat

Members

Bordera Vidal, Laura (IR)
Carrere Balcells, Julio (IR)
Gómez Gutiérrez, Anna (ASPB)
Novoa Pardo, Ana (ASPB)
Olabarria Saenz de Viguera,
Marta (ASPB)
Santamariña Rubio, Elena (ASPB)

Main Lines of Research

- ▶ Health impacts of urban health, including housing, urban planning and mobility.
- ▶ Public health injury surveillance.
- ▶ Evaluation of road safety strategies at the urban level.
- ▶ Indicators of mobility exposure and risk of traffic injuries.
- ▶ Determinants of walking as a mode of transport.
- ▶ Health impact assessment of active transport (walking and cycling).
- ▶ Inter-sector policies in transport: impact on sustainable environment, health and equity.

Scientific Challenges

- ▶ Study the nature of injuries and their severity according to the characteristics of the collision and the vehicles involved, particularly in urban settings.
- ▶ Evaluate road safety policies and interventions.
- ▶ Calculate risk indicators using mobility exposure.
- ▶ Study motorized and non-motorized mobility and its impact on health.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Health Inequalities (PI: Carme Borrell)
- ▶ Safety indicators for IRTAD Cities (Joint Transport Research Centre of the OECD and the International Transport Forum, JTRC)

External Collaborations

- ▶ All members of the group are members of the group of Social Inequalities of CIBERESP (Consortio de Investigación Biomédica de Epidemiología y Salud Pública).
- ▶ Catherine Pérez González is member of the European Committee of The Transport and Health Study Group (THSG) (UK).

- ▶ Joint action on monitoring injuries in Europe (JAMIE) (European Agency for Health and Consumers).
- ▶ Member of the Scientific Committee of the Institut Français des Sciences et Technologies des Transports, de l'Amenagement et de Réseaux (IFSTTAR) from 2016.
- ▶ Collaborators /Partners of the Safety CaUsation, Benefits and Efficiency (SafetyCube) (H2020 N. 633485), a research project funded by the European Commission under Horizon 2020. Loughborough University (England)
- ▶ Partners of the Pan-European urban Climate Services (PUCS) (H2020 N 730004), a research project funded by the European Commission under Horizon 2020. (Ana Novoa investigator team)

Active Grants

- ▶ Ana Novoa Pardo. Impacto en salud y bienestar de la vivienda cooperativa en cesión de uso. PI18/01761. Instituto de Salud Carlos III. Duration: 2019-2021. 62,000 €.
- ▶ Environmental, health effects and health inequalities of Superblocks in Barcelona (Salut als Carrers). Vital Strategies. Partnership for Healty Cities. Duration: 2018-2019. 80,000 €.
- ▶ Avaluació de les Superilles, les Zones de Baixes Emissions i d'altres polítiques de mobilitat i contra la contaminació de l'aire. Duration: 2017-2019. 352,000 €.
- ▶ Partners of the Participatory Urban Living for Sustainable Environments (PULSE) (H2020 N. 727816), a research project funded by the European Commission under the Horizon 2020. Duration: 2017-2020. 320,000 €. (partner)

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 19.2700 · Mean Impact Factor: 2.4087

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Other Publications

- ▶ Artazcoz, L., Garrido, A., Juárez, O., Otero, I., Pasarín, M., Pérez, K., Pérez, G., Salvador, M., 2019. Violència masclista en l'àmbit de la parella des d'una perspectiva de salut pública: marc conceptual. *Barcelona Soc*. 21, 39-50.

Diffusion Activities

- ▶ Catherine Pérez. Supermanzanas en Barcelona. ¿Mejoran la salud las políticas de urbanismo y movilidad? El municipio como espacio generador de salud (oral communication). V Jornadas de Salud Comunitaria y Promoción de la Salud. Bilbao, 4 April 2019.
- ▶ Catherine Pérez. Round table coordinator: I si tothom gaudís d'una ciutat saludable? Biennial de Ciència, Barcelona 2019. Barcelona, 27 March 2019.
- ▶ Catherine Pérez. Són les superilles una resposta als reptes en salut de Barcelona? (oral communication). Round table: I si tothom gaudís d'una ciutat saludable? Biennial de Ciència. Barcelona, 27 March 2019.
- ▶ Catherine Pérez. Barcelona: A participatory strategy towards a healthy and inclusive city. The Big data Revolution for Public health (oral communication). Regions & Cities European Week. Brussels, 8 October 2019.
- ▶ Brenda Biaani León-Gómez, Laia Palència, Anna Puig Ribera, Xavier Bartoll, Katherine Pérez. Comportamiento Sedentario viendo Televisión y salud auto-percibida (Proyecto Salud als Carrers). XXXVII Reunión Científica de la Sociedad Española de Epidemiología and XIV Congresso da Associação Portuguesa de Epidemiologia. Oviedo, September 2019.
- ▶ Brenda Biaani León-Gómez, Juli Carrere, Laura Bordera, Hugo Vázquez-Vera, Laia Palència, Katherine Pérez. Uso de redes sociales para el reclutamiento en una intervención de eSalut. XXXVII Reunión Científica de la Sociedad Española de Epidemiología and XIV Congresso da Associação Portuguesa de Epidemiologia. Oviedo, September 2019.
- ▶ Catherine Pérez, Laia Palencia, Brenda Biaani León-Gómez, Laura Bordera, Xavier Bartoll, Juli Carrere, Elia Díez, Laia Font, Anna Gómez, María José López, Marc Mari del Ollmo, Roshanak Mehdipanah, Marta Olabarria, Gloria Pérez, Anna Puig, Marc Rico, David Rojas-Rueda, Hugo Vázquez. Superblocks, an opportunity to improve health in Barcelona. Climate Change, cities, health and well-being. Ascoli Piceno, December 2019.

AREA T1 · Epidemiology, Public Health and Healthcare Services

Transmissible Diseases



Coordinator

Rius Gibert, Cristina (ASPB)
crius@aspb.cat

Members

Álamo Junquera, M. Dolores (ASPB)
Artigas Baeza, Alba (ASPB)
Avellanes Gil, Ingrid (ASPB)
Bruguera Torrella, Sílvia (ASPB)
Camprubí Garreta, Esteve (ASPB)
Clos Guix, Roser (ASPB)
De Andrés Aguayo, Anna (ASPB)

De Benito Langa, Javier (ASPB)
Estruga Garcia, M. Lluïsa (ASPB)
Forns Cantón, M. Lluïsa (ASPB)
García Carrasco, Mireia (ASPB)
García de Olalla Rizo, Patricia (ASPB)
Gorrindo Lambán, Pilar (ASPB)
Guillaumes Puigbarraca, Montserrat (ASPB)
Hernández Pineda, Anna (ASPB)
Marcos Arroita, Isabel (ASPB)
Masdeu Corcoll, Eva (ASPB)
Mercuriali, Lilas (ASPB)

Millet Vilanova, Joan Pau (ASPB)
Molinero Ruiz, Emilia (ASPB)
Montalvo Porro, Tomás (ASPB)
Moreno Martínez, Antonio (external entity)
Orcau Palau, Àngels (ASPB)
Ospina Valencia, Jesús E. (ASPB)
Prieto García, Raquel (ASPB)
Rodríguez López, Raquel (ASPB)
Ros Samsó, Miriam (ASPB)
Simón Viván, Pere (ASPB)

Main Lines of Research

LINE 1. Tuberculosis prevention and treatment adherence

- ▶ Investigate the impact of incorporating new technologies and circuits to favor the control of TB transmission, treatment adherence and TB contact tracing (Farma TITL project, Video DOT, etc.). Describe the incidence and epidemiological characteristics of multidrug resistant TB and TB in people infected with HIV in Europe (Study groups: TB-Net and EuroTB are carrying out observational epidemiological studies to get a more accurate view of this illness). Develop network information tools with different people in charge of controlling TB in other European cities, which makes it possible to develop TB care and control strategies most suitable for large cities. We participate in the group "TB in Big Cities" promoted by the European CDC and with which we have drafted a consensus document on control strategies in large cities. Describe socio-demographic, epidemiological and clinical characteristic of certain vulnerable groups that suffer from TB, such as children, immigrants, the homeless, etc.

LINE 2. Surveillance and control of HIV and other STIs

- ▶ Evaluation of interventions based on reducing the delay in diagnosis of HIV and other sexually transmitted infections (STI): study of sexual contacts, especially vulnerable groups (men who have sex with men, immigrant population, etc.) and provide HIV and STI tests. The aims are: 1. To provide the HIV test and tests for other STIs to men who have sex with men and other users of gay saunas. 2. To increase vaccination coverage of hepatitis A and B in this group. 3. To improve awareness of sauna users and employees on the risk of exposing themselves to situations that favor transmission and on the need to take preventive measures and facilitate access to preventive materials for HIV/STI/Hepatitis. 4. Involve entrepreneurs and employees of these centers in the implementation of this initiative. 5. Provide information on access to other prevention services outside of saunas.

LINE 3. Research on other notifiable diseases

- ▶ This line focuses on the study of the evolution and transmission patterns of parotiditis, pertussis, other STI, epidemic outbreaks and other emerging diseases over time, both in Spanish and foreign-born patients. The aims are: 1. Describe the epidemiological pattern of these diseases in the last 10 years, with the objective of detecting possible changes during the 2014-2018 period, and its relationship with the economic crisis. We always try to strengthen prevention and control measures in order to prevent the appearance of new cases. 2. Describe the evolution of measles and mumps over time in relation to the systematic vaccination policies developed in Catalonia. 3. Investigate transmission lines during epidemic measles periods, pro-

moting the identification of strains using molecular epidemiology. 4. Investigate lines of transmission of pertussis during periods of epidemic in order to establish the discussion about different strategies for preventing the disease. 5. Investigate the sources of infection and intrafamily secondary transmission rates of pertussis, and establish lines of transmission of pertussis within the family nucleus. 6. Determine the epidemiological pattern of malaria in order to identify potential previous cases of autochthonous transmission of the disease. 7. In hepatitis, we are working with the European project, Hepscreen, whose objective is to compare 2 strategies: passive (prevalence of infection is seen in immigrants who consult) and active (prevalences are studied among immigrants recruited by community health workers).

LINE 4. Community health workers and notifiable disease control among foreign-born patients

- ▶ For more than fifteen years, we have had a team of community health workers (CHW) who act as sociocultural mediators and translators. They are from six different regions worldwide and collaborate within the team of epidemiologists and the public-health nursing team. Using a strategy of complementary profiles, they accompany patients in the diagnosis and treatment of diseases such as TB, hepatitis and HIV in populations with language barriers or risk of social exclusion (undocumented immigrants). With their cultural and linguistic profile, they can treat patients from Eastern Europe, Asian countries with high incidence of communicable diseases such as China and India, Latin America, Maghreb countries and sub-Saharan African countries. The aims are: 1. To evaluate the impact of their intervention in prevention and control of communicable diseases (HIV, TB and STIs) in immigrants. 2. To adapt and disseminate information for the prevention disease and promotion of healthy habits. 3. To increase knowledge of the risk factors among these groups, as well as providing adequate access to the Catalan health system and. 4. To reinforce patients' social relations in the communities so that they can become a useful resource in the fight against HIV, other STIs, and TB.

LINE 5. Vaccine hesitancy

- ▶ To identify attitudes, beliefs, and knowledge regarding vaccines among the health care workers who involved in the administration of systematic childhood vaccines in the public primary care setting in Barcelona, Spain. To describe and compare knowledge, attitudes, and beliefs regarding the vaccination schedule of pediatric primary care teams (doctors and nurses) and determine the factors associated with vaccine hesitancy in Barcelona in 2016-17.

LINE 6. Vector-borne diseases

▶ Arbovirus diseases and other arthropod-borne diseases such as malaria, are diseases transmitted via arthropods. Many of them are capable of producing infection in humans. Some of the arboviruses such as West Nile Virus (WNV), Chikungunya (CHK), Dengue or Zika Virus (ZV) are emerging and have a high potential for generating epidemic outbreaks in European non-endemic countries. The threat of the emergence and re-emergence of arbovirus diseases has created a risk scenario for global public health. ZV, CHK, dengue and WNV are notifiable diseases in Spain. Furthermore, an active epidemiological surveillance system is in force in Barcelona, based on a close relationship with the doctors in charge of imported diseases and on the electronic system for disease notification. It is precisely this concern that has led several countries to adopt new protocols

and procedures that adapt to these new situations in order to respond to this public health problem. After the first cases of imported arbovirus disease were diagnosed in the city, they were seen to pose a potential risk to public health, as *A. albopictus* is endemic in our setting. For this reason, a system of active epidemiological and entomological surveillance of notifiable diseases records (EDO) for each detected case has been implemented and the Epidemiology and Entomological Surveillance Services, both from the Barcelona Public Health Agency, are working very hard to minimize the risk of autochthonous cases. The aims are: 1. To explain the epidemiological and entomological surveillance that took place against vector-borne diseases. 2. To identify the possible areas for improvement in the procedures in order to control ZV and other emerging arbovirus diseases that may be transmitted by local competent vectors.

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 contact tracing.
- ▶ Cost effective analysis on public health interventions.
- ▶ Describe the threats and improve the procedures of vector born transmitted diseases.

Collaborations

External Collaborations

- ▶ HEPSCREEN: Screening for hepatitis Project. <http://hepscreen.eu/>
- ▶ CASCADE
- ▶ GEMES
- ▶ COHERE
- ▶ 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, 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/>
- ▶ Serveis Clínics, SAU
- ▶ UITB: Unitat d'Investigació en Tuberculosis de Barcelona

Active Grants

- ▶ Patricia Garcia de Olalla Rizo. Uso de las aplicaciones para telefonía móvil en la promoción de las pruebas del VIH y otras infecciones de transmisión sexual en hombres que tienen sexo con hombres. PI16/02025. Instituto de Salud Carlos III. Duration: 2017-2020. 46,500 €.
- ▶ Antonio Moreno Martínez. Asociación de diabetes y tuberculosis en un distrito con alta incidencia de tuberculosis. Estudio de casos y controles, 2007-2016. PI16/01751. Instituto de Salud Carlos III. Duration: 2017-2019. 46,500 €.
- ▶ Àngels Orcau Palau. Asociación de diabetes y tuberculosis en un distrito con alta incidencia de tuberculosis. Estudio de casos y controles, 2007-2016. PI16/01751. Instituto de Salud Carlos III. Duration: 2017-2020. 46,500 €.
- ▶ Cristina Rius Gibert. 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. Duration: 2018-2020. 32,200 €.
- ▶ Amparo Lurrari. Community-driven big data intelligence to fight mosquito-borne disease. HR18-00336. La Caixa. Duration: 2019-2022. 166,245 €
- ▶ José Antonio Domínguez. Nuevas aproximaciones diagnósticas y terapéuticas en el control de la infección y la enfermedad tuberculosa. INNOVA4TB. H2020-MSCA-RISE-2018. Horizon 2020 European Union. Duration: 2019-2022. 1,250,000 €
- ▶ Joan Pau Millet. Estudio piloto sobre la factibilidad y aceptación del tratamiento de la tuberculosis mediante tratamiento directamente observado por vídeo. 688/18. SEPAR. Duration: 2019-2020. 9,000 €
- ▶ Diana Gómez. Mapas de riesgo de vectores y enfermedades emergentes o reemergentes en España. PI18/00850. FIS. Duration: 2018-2021.
- ▶ Cristina Rius. Photovoices pediátrico en TB. CIBERESP. Duration: 2019. 5,851.20 €
- ▶ Cristina Rius. Prueba rápida de hepatitis C en hombres que tienen sexo con hombres: conocimientos, prevalencia, incidencia e implicaciones para el cribado en VIH negativos. Duration: 2019-2020. PI17/02077 FIS. 38,962 € and CIBERESP 7,221 €
- ▶ Cristina Rius. La retención vacunal y los profesionales de salud. CIBERESP. Duration: 2019. 6,361.70 €
- ▶ Patricia Garcia de Olalla. Proporción de enfermedad inflamatoria pélvica causada por *Chlamydia trachomatis* o *Neisseria gonorrhoeae* en Barcelona. CIBERESP. Duration: 2018-2019. 7,387.05
- ▶ José Antonio Gullón. Estudio de contactos de pacientes con tuberculosis en España. 378/2018 SEPAR. Duration: 2018-2019. 18,000 €
- ▶ Àngels Orcau. Estudio de mejora de la adherencia y seguimiento del tratamiento de la infección tuberculosa latente mediante un programa de dispensación y seguimiento en farmacias comunitarias. 561/17 SEPAR. Duration: 2018-2019. 6,000 €
- ▶ Tomás Montalvo. Ecología del movimiento de la gaviota argétea (*Larus michahellis*) y su relación en la dispersión de patógenos en zonas urbanas. Fundación Barcelona Zoo. Duration: 2018-2019. 6,000 €
- ▶ Joan Pau Millet. Barcelona Tb Photovoices Project. Duration: 2016-2019.

- ▶ Israel Molina. PICAT (Plataforma integral para el control de arbovirosis en Cataluña). Departament de Salut. Duration: 2017-2019. 599,934 €
- ▶ Patricia García de Olalla. Uso de las aplicaciones para telefonía móvil en la promoción de las pruebas del VIH y otras infecciones de transmisión sexual en hombres que tienen sexo con hombres. PI16/02025. FIS. Duration: 2017-2019. 82,761.58 €
- ▶ Àngels Orcau. Asociación de diabetes y tuberculosis en un distrito con alta incidencia de tuberculosis. Estudio de casos y controles, 2007-2016. PI16/01751. FIS. Duration: 2017-2019. 56,265 €
- ▶ Tomás M. Pérez-Porcuna. Estudio observacional de la infección tuberculosa en niños VFR (visiting friends and relatives) que viajan a

países con elevada incidencia de tuberculosis. FIS PI16/00314. Duration: 2017-2019. 50,215 €

- ▶ Ángela Domínguez. Factores asociados a los brotes de gastroenteritis aguda por norovirus en instituciones cerradas y semicerradas. PI16/02005 FIS. Duration: 2017-2019. 116,765 €

Note: Total amount granted to PI. It does not include indirect costs.

Transfer Products

- ▶ Technological transfer product. Innovation in Epidemiology and Public Health. Project financed by GILEAD: Smartphone application for aging HIV-infected men who have sex with men to prevent sexually transmitted infections. Creation of an App for smartphones whose objective is to promote sexual health and provide knowledge about ITS among men who have sex with other men (MSM) who live with HIV through the use of messages with or without geo-location. 13/01/2016.
- ▶ Technological transfer product. Innovation in Epidemiology and Public Health. Use of applications for mobile telephony in the promotion of HIV testing and other sexually transmitted infections in men who have sex with men. Use of profiles in Apps of contacts such as Grindr or Gay Romeo to launch messages offering HIV and other ITS tests for free and confidential. These messages are launched individually or in mass campaigns. A cohort has been created for this initiative to carry out tests of ITS and HIV. 10/01/2016.

Scientific Production

Total Impact Factor: 87.35 · Mean Impact Factor: 3.494

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Diffusion Activities

- ▶ García de Olalla P. Pacients asimptomàtics. II Jornada d'Atenció Compartida en Malalties Infeccioses. Actualització Pràctica en Infeccions de Transmissió Sexual. Barcelona, 22 February 2019.
- ▶ Ospina JE. Agents Comunitaris de Salut i malalties de declaració obligatòria més rellevants entre els immigrants a Barcelona, 2002-2018. Jornada Immigració i Salut. Barcelona, 25 February 2019.
- ▶ Montalvo T, Rius C, Millet JP, Mercuriali L, Valsecchi A, Bueno-Marí R, López J, Peracho V. Evolution of arbovirolosis surveillance and control in the city of Barcelona (Spain) 2014-2018. IX International EMCA Conference. La Rochelle, France, 10-14 March 2019.
- ▶ Ospina JE. Estrategias para el estudio de contactos en tuberculosis con poblaciones inmigrantes. IV Jornada sobre Tuberculosis en Sevilla. Sevilla, 20 March 2019.
- ▶ Millet JP. Gestión de casos complicados de TB en Catalunya. La experiència de Serveis Clínics, centro de TDO y de internamiento de pacientes con tuberculosis. 1a Jornada Anual Multidisciplinaria de Enfermedades Infecciosas y Microbiología Clínica de Lleida. Lleida, 29 March 2019.
- ▶ García de Olalla P. Evolución de las ITS en Barcelona (2007-2018). IX Jornada de Enfermedades Emergentes. Barcelona, 29 May 2019.
- ▶ Cristina Rius. Conocimientos, actitudes y creencias en personal de pediatría de atención primaria de Barcelona 2016-2017. IX Jornada de Enfermedades Emergentes. Barcelona, 29 May 2019.
- ▶ Orcau A. Round table: Estudios en curs. Día Mundial de la Tuberculosis. Barcelona, 20 March 2019.
- ▶ Parrón I, Barrabeig I, Alseda M, Camrpubí E, Razquin E, Cornejo T, Coronas L, Jané M, Domínguez A. Brotes por norovirus en geriátricos: relación entre carga viral y presencia de sintomatología. XXXVII Reunión Anual de la Sociedad Española de Epidemiología (SEE), XIV Congreso da Associação Portuguesa de Epidemiologia (APE). Oviedo, 3-6 September 2019.
- ▶ De Andrés A, Millet JP, Gómez A, Gallés P, Sabaté S, Álvarez G, Rodríguez V, Cornejo T, Rius C. Brote de *Clostridium perfringens* y criptosporidiosis asociado a una Fuente de juegos de agua en la ciudad de Barcelona. XXXVII Reunión Anual de la Sociedad Española de Epidemiología (SEE), XIV Congreso da Associação Portuguesa de Epidemiologia (APE) and XVIII Congreso de la Sociedad Española de Sociedad Española de Salud Pública y Administración Sanitaria (SESPAS). Oviedo, 6 September 2019.
- ▶ Orcau A. Innovaciones en el programa de TB de Barcelona. XXIII Jornadas Internacionales sobre Tuberculosis. Barcelona, 25-26 November 2019.
- ▶ Jové N, Masdeu E, Brugueras S, Millet JP, Ospina JE, Orcau A, Rius I, Caylà JA, Sanchez F. Incidentes en el tratamiento de la tuberculosis. Acciones para mejorar la adherencia. XXII Encuentro Internacional de Investigación en Cuidados. 23rd International Nursing Research Conference. Barcelona, 20-22 November 2019.
- ▶ Millet JP. Del TDO con fármacos antituberculosos al TDO con antirretrovirales. XXIII Jornadas Internacionales sobre Tuberculosis. Barcelona, 25-26 November 2019.
- ▶ García de Olalla P. Inaugural lecture: Epidemiologia de les malalties de transmissió sexual: relació amb drogues i sexe. VII Jornada del GRENFIG: Sexe, Drogues i VIH. Barcelona, 27 November 2019.
- ▶ Jové N, Masdeu E, Brugueras S, Millet JP, Ospina JE, Orcau A, Rius C, Caylà JA, Sánchez F. Incidentes en el tratamiento de la tuberculosis. Acciones para mejorar la adherencia y el estudio de contactos. 1a Jornada de Recerca Infermera PSMAR. Barcelona, 11 December 2019.

AREA T1 · Epidemiology, Public Health and Healthcare Services

Health Inequalities



Coordinator

Borrell Thió, Carme (ASPB)
cborrell@aspb.cat

Members

Artazcoz Lazcano, Lucía (ASPB)
Aygua Senosa Soro, Noemí (IR)
Bartoll Roca, Xavier (ASPB)
Cortés Franch, Immaculada (ASPB)
Díez David, Elia (ASPB)
Gotsens Miquel, Mercè (ASPB)
Mari Dell'Olmo, Marc (ASPB)
Oliveras Puig, Laura (IR)

Palencia Fernández, Laia (ASPB)
Pasarín Rua, Maria Isabel (ASPB)
Pascuet Cerrillo, Laura (ASPB)
Pérez Albarracín, Gloria (ASPB)
Porzio, Laura (IR)
Quijal Zamorano, Marcos (IR)
Rodríguez Sanz, Maica (ASPB)
Sánchez Castiñeira, Sergio (IR)
Vásquez Vera, Hugo Erick (IR)

Main Lines of Research

Social class and geographical inequalities in health

- ▶ Study of health inequalities according to social class in Spain and worldwide.
- ▶ Exploitation of information at the census section level as the maximum disaggregation unit and at higher geographic aggregation levels such as neighborhood, town and region.

Gender inequalities in health

- ▶ Sexual division between productive and reproductive work (gender roles) and differences in male and female identities as the 2 main structural factors that generate gender inequalities in health.

Social and political determinants of health and their impact on policy building and interventions

- ▶ Evidence of the macroeconomic determinants of health inequalities between countries.
- ▶ The impact of the political context on the health of the population and the conclusion that countries with better developed welfare states have better levels of health.

Scientific Challenges

Health inequalities according to different inequality axes

- ▶ Study of social determinants of health in terms of social class and gender, with the purpose of integrating these 2 axes and analyzing inequalities among immigrants.
- ▶ Research into the impact of area of residence, especially smaller urbanized areas, on the health of the population.

Gender inequalities in health

- ▶ Further explore the theoretical framework and explanatory charts developed to guide comprehension of the gender determinants that affect health.

Social and political determinants of health and their impact on policy building and interventions

- ▶ Study the influence of policies on the health of populations and on social inequalities in health.

Sex and reproductive inequalities in health

- ▶ Establish a line of research to investigate different aspects of sexual and reproductive health (sexuality, contraception, pregnancy, birth, miscarriage, abortion, birth rates, etc).

Collaborations

External Collaborations

- ▶ Vlaamse Instelling Voor Technologisch Onderzoek N.V. (VITO), Mol, Belgium
- ▶ Meteotest Société Cooperative (METEOTEST), Bern, Switzerland
- ▶ GISAT S.R.O. (GISAT), Praha, Czech Republic
- ▶ Katholieke Universiteit Leuven (KU Leuven), Leuven, Belgium
- ▶ Fundacion Privada Instituto de Salud Global Barcelona (ISGLOBAL), Barcelona, Spain
- ▶ Joanneum Research Forschungsgesellschaft MBH (JR), Graz, Austria
- ▶ T6 Ecosystems SRL (T6ECO), Roma, Italy

- ▶ Arctik SPRL (ARCTIK), Bruxelles, Belgium
- ▶ Stad Antwerpen, Antwerpen, Belgium
- ▶ Bikecityguide Apps GMBH (BikeCityGuide), Graz, Austria
- ▶ Soprintendenza Speciale Colosseo Mnr e Area Archeologica di Roma (SSColosseo), Roma, Italy
- ▶ Ines Energieplanung GMBH (INES), Bern, Switzerland
- ▶ IURS - Institut Pro Udrzitelny Rozvoj Sidel ZS (IURS), Ostrava Poruba, Czech Republic
- ▶ Universidade de Coimbra, Coimbra, Portugal
- ▶ Department of Health (DH), Leeds, United Kingdom

- ▶ Université Paris Ouest Nanterre La Defense (UPO), Nanterre, France
- ▶ Instituto Superior Tecnico (IST), Lisboa, Portugal
- ▶ Universiteit Maastricht, Maastricht, Netherlands
- ▶ University College London (UCL), London, United Kingdom
- ▶ Karolinska Institutet (KI), Stockholm, Sweden
- ▶ Beuth-Hochschule Fuer Technik Berlin, Berlin, Germany
- ▶ Univerzita Karlova V Praze, Praha, Czech Republic
- ▶ Ethniko Kai Kapodistriako Panepistimio Athinon (UoA), Athina, Greece
- ▶ Consorzio per il Sistema Informativo (CSI Piemonte), Torino, Italy
- ▶ Ekonomicka Univerzita V Bratislave (EUBA), Bratislava, Slovakia
- ▶ Vrije Universiteit Brussel (VUB), Brussels, Belgium
- ▶ Universitat Pompeu Fabra. Departament de Polítiques Públiques i Departament de Ciències Experimentals i de la Salut. Barcelona, Spain
- ▶ Departamento de Salud del Gobierno Vasco. Vitoria, Spain
- ▶ Departamento de Salud de la Comunidad de Madrid. Madrid, Spain
- ▶ Escuela Andaluza de Salud Pública. Granada, Spain
- ▶ IGOB. Barcelona, Spain
- ▶ Universidad de Antioquia. Medellín, Colombia

Active Grants

- ▶ Marc Marí dell'Olmo. Pobreza energética y salud desde múltiples perspectivas: análisis individual, geográfico y temporal. PI15/02006. Instituto de Salud Carlos III. Duration: 2016-2020. 84,150 €.
 - ▶ Gloria Pérez Albarracín. Promoción de activos protectores de la violencia de género en la adolescencia y pre-adolescencia. PI18/00544. Instituto de Salud Carlos III. Duration: 2019-2021. 23,000 €.
 - ▶ Carme Borrell Thió. PULSE. PULSE 2018-IR. Agència de Salut Pública de Barcelona. Duration: 2018-2021. 38,914.42 €.
 - ▶ Carme Borrell Thió. PULSE. PULSE 2018-ASPB. Agència de Salut Pública de Barcelona. Duration: 2018-2021. 213,378.65 €.
 - ▶ Marc Marí dell'Olmo. Projecte PUCS (Pan-European Urban Climate Services). PUCS-IR. Agència de Salut Pública de Barcelona. Duration: 2018-2020. 37,916.70 €.
 - ▶ Marc Marí dell'Olmo. Projecte PUCS (Pan-European Urban Climate Services). PUCS-ASPB. Agència de Salut Pública de Barcelona. Duration: 2018-2020. 28,083.30 €.
 - ▶ Carme Borrell Thió. Proyecto B-MINCOME. Convenio B-MINCOME. Agència de Salut Pública de Barcelona. Duration: 2018-2020. 228,269.76 €.
 - ▶ Maica Rodríguez Sanz. Evolución de las desigualdades socioeconómicas y medioambientales en la distribución geográfica de la mortalidad en Barcelona (1996-2015): MEDEA3. PI16/00961. Instituto de Salud Carlos III. Duration: 2017-2021. 27,000 €.
 - ▶ M. Isabel Pasarín. Evaluación de un proyecto de prevención integral de la obesidad infantil en la etapa pre-escolar en Barcelona (POIBA-2a fase). PI16/00701. Instituto de Salud Carlos III. Duration: 2016-2019. 80,465 €.
 - ▶ Catherine Pérez González. Safety CaUsation, Benefits and Efficiency - SAFETYCUBE 633485. European Commission Horizon 2020. 120,000 €.
 - ▶ Carme Borrell Thió. Joint Action Health Equity Europe, 801600 - JA-HI. European Commission. Duration: 2018-2021. 26,122.23 €.
 - ▶ Marc Marí dell'Olmo. Blue, Green & Grey_Adapting Schools to Climate Change From school vulnerable to heat to an open climate shelter for all the citizenship: implementation of blue, green and traditional solutions against heat in school equipments and CC consciousness. GBG_AS2C, Urban Innovation Action. Duration: 2018-2021. 238,000.80 €.
- Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Laura Oliveras Puig. Contratos Río Hortega 2019. CM19/00184. Instituto de Salud Carlos III. Duration: 2020-2022. 53,732 €.

Note: Total amount granted to PI. It does not include indirect costs.

Transfer Products

- ▶ Report La salut a Barcelona 2018 (Health in Barcelona 2018). Available at: https://www.aspb.cat/wp-content/uploads/2020/02/Informe-breu_Informe-Salut-2018-web.pdf
- ▶ Barcelona Salut als Barris. Memòria 2018. Available at: <https://www.aspb.cat/documents/barcelona-salut-als-barris-memoria-2018>
- ▶ Enquesta Salut als Carrers. Informe de resultats Horta 2018. Available at: https://www.aspb.cat/documents/aspb_informe-salut-carrers-2018
- ▶ Programa de revisió de menús escolars a la ciutat de Barcelona. Informe curs 2017-2018. Available at: <https://www.aspb.cat/documents/programa-menús-escolars-curs-2017-2018>
- ▶ Avaluació de la qualitat de l'aire de Barcelona. Informe 2018. Available at: <https://www.aspb.cat/documents/qualitat-aire-2018>
- ▶ Què fa Barcelona per prevenir i reduir el consum de drogues? Pla d'acció sobre drogues de Barcelona 2017-2020. Available at: <https://www.aspb.cat/documents/que-fa-barcelona-per-prevenir-i-reduir-el-consum-de-drogues>

Scientific Production

Total Impact Factor: 69.73 · Mean Impact Factor: 2.4903

Alvarenga A., Bana E Costa C.A., Borrell C., Ferreira P.L., Freitas A., Freitas L., Oliveira M.D., Rodrigues T.C., Santana P., Lopes Santos M., Vieira A.C.L., Scenarios for population health inequalities in 2030 in Europe: The EURO-HEALTHY project experience (2019) INT J EQUITY HEALTH, 18 (1). **IF: 2.4730**

Arias-de la Torre J., Molina A.J., Fernandez-Villa T., Artazcoz L., Martin V., Mental health, family roles and employment status inside and outside the household in Spain Salud mental, rol familiar y situación laboral

dentro y fuera del hogar en España (2019) GAC SANIT, 33 (3), 235-241. **IF: 1.6560**

Asensio A., Nebot L., Estruga L., Perez G., Diez E., Contraception in the Roma population living in two low-income neighborhoods of Barcelona (Spain) Anticoncepción en la población gitana residente en dos barrios con bajo nivel de renta de Barcelona (2019) GAC SANIT, 33 (2), 119-126. **IF: 1.6560**

- Bartoll X., Gil J., Ramos R., Temporary employment, work stress and mental health before and after the Spanish economic recession (2019) *INT ARCH OCC ENV HEA*, 92 (7), 1047-1059. **IF: 2.0250**
- Bartoll X., Ramos R., Quality of work, economic crisis, and temporary employment (2019) *INT J MANPOWER*, 41 (1), 37-51. **IF: 0.8820**
- Bosakova L., Madarasova Geckova A., Borrell C., Hajduova Z., van Dijk J.P., Reijneveld S.A., How adults and children perceive the impact of social policies connected to unemployment on well-being in the household: a concept mapping approach (2019) *INT J PUBLIC HEALTH*, 64 (9), 1313-1323. **IF: 2.3730**
- Bosch J., Palencia L., Malmusi D., Mari-Dell'Olmo M., Borrell C., The impact of fuel poverty upon self-reported health status among the low-income population in Europe (2019) *HOUSING STUD*, 34 (9), 1377-1403. **IF: 1.8820**
- Cortes-Franch I., Puig-Barrachina V., Vargas-Leguas H., Arcas M.M., Artazcoz L., Is being employed always better for mental wellbeing than being unemployed? Exploring the role of gender and welfare state regimes during the economic crisis (2019) *INT J ENV RES PUB HE*, 16 (23). **IF: 2.4680**
- Costa C., Santana P., Dimitroulopoulou S., Burstrom B., Borrell C., Schweikart J., Dzurova D., Zangarini N., Katsouyanni K., Debosee P., Freitas A., Mitsakou C., Samoli E., Vardoulakis S., Mari Dell'Olmo M., Gotsens M., Lustigova M., Corman D., Costa G., Population health inequalities across and within european metropolitan areas through the lens of the euro-healthy population health index (2019) *INT J ENV RES PUB HE*, 16 (5). **IF: 2.4680**
- Ferrando J., Palencia L., Gotsens M., Puig-Barrachina V., Mari-Dell'Olmo M., Rodriguez-Sanz M., Bartoll X., Borrell C., Trends in cancer mortality in Spain: the influence of the financial crisis Evolución de la mortalidad por cáncer en España: influencia de la crisis económica (2019) *GAC SANIT*, 33 (3), 229-234. **IF: 1.6560**
- Forcadell-Diez L., Baroja J., Perez G., Overcoming the difficulty of recruiting young people. Keys to obtaining qualitative data in a study of sexualities Superando la dificultad de captar jóvenes. Claves para la obtención de datos cualitativos en un estudio de sexualidades (2019) *GAC SANIT*. **IF: 1.6560**
- Jacques-Avino C., De Andres A., Roldan L., Fernandez-Quevedo M., De Olalla P.G., Diez E., Romani O., Cayla J.A., Male sex workers: Between safe sex and risk. ethnography in a gay sauna in Barcelona, Spain (2019) *CIENC SAUDE COLETIVA*, 24 (12), 4707-4716. **IF: 1.0080**
- Lopez M.J., Lapena C., Sanchez A., Continente X., Fernandez A., Perez A., Astorga C., Cortina C., Rey C., Diez E., Pujol E., Daban F., Castillo G., Robles I., Artazcoz L., Pons M., Mari-Dell'Olmo M., Petit M., Sagarra N., Calzada N., Juarez O., Bartoll X., Community intervention to reduce social isolation in older adults in disadvantaged urban areas: Study protocol for a mixed methods multi-approach evaluation (2019) *BMC GERIATR*, 19 (1). **IF: 2.8180**
- Lopez-Contreras N., Rodriguez-Sanz M., Novoa A., Borrell C., Medallo Muniz J., Gotsens M., Socioeconomic inequalities in suicide mortality in Barcelona during the economic crisis (2006-2016): A time trend study (2019) *BMJ OPEN*, 9 (8). **IF: 2.3760**
- Mari-Dell'Olmo M., Tobias A., Gomez-Gutierrez A., Rodriguez-Sanz M., Garcia de Olalla P., Camprubi E., Gasparrini A., Borrell C., Social inequalities in the association between temperature and mortality in a South European context (2019) *INT J PUBLIC HEALTH*, 64 (1), 27-37. **IF: 2.3730**
- Mehdipanah R., Novoa A.M., Leon-Gomez B.B., Lopez M.J., Palencia L., Vasquez H., Diez E., Borrell C., Perez K., Effects of Superblocks on health and health inequities: A proposed evaluation framework (2019) *J EPIDEMIOLOG COMMUN H*, 73 (7), 585-588. **IF: 3.8720**
- Peralta A., Benach J., Borrell C., Espinel-Flores V., Cash-Gibson L., Queiroz B.L., Mari-Dell'Olmo M., Evaluation of the mortality registry in Ecuador (2001-2013) - Social and geographical inequalities in completeness and quality (2019) *POPUL HEALTH METR*, 17 (1). **IF: 2.9530**
- Peralta A., Espinel-Flores V., Gotsens M., Perez G., Benach J., Mari-Dell'Olmo M., Developing a deprivation index to study geographical health inequalities in Ecuador (2019) *REV SAUDE PUBL*, 53, 97-. **IF: 1.9680**
- Perez G., Gotsens M., Cevallos-Garcia C., Felicitas Dominguez-Berjon M., The impact of the economic recession on inequalities in induced abortion in the main cities of Spain (2019) *EUR J PUBLIC HEALTH*, 29 (2), 279-281. **IF: 2.2340**
- Recalde M., Peralta A., Oliveras L., Tirado-Herrero S., Borrell C., Palencia L., Gotsens M., Artazcoz L., Mari-Dell'Olmo M., Structural energy poverty vulnerability and excess winter mortality in the European Union: Exploring the association between structural determinants and health (2019) *ENERG POLICY*, 133. **IF: 4.8800**
- Reyes A., Vasquez-Vera H., Novoa A., Gonzalez-Marin P., Puig-Barrachina V., Borrell C., How does employment status influence the effects of residential insecurity on health? ¿Cómo influye la situación laboral en los efectos de la inseguridad residencial sobre la salud? (2019) *GAC SANIT*. **IF: 1.6560**
- Rius Ulldemolins A., Benach J., Guisasola L., Artazcoz L., Why are there gender inequalities in visual impairment? (2019) *EUR J PUBLIC HEALTH*, 29 (4), 661-666. **IF: 2.2340**
- Rodriguez-Sanz M., Gotsens M., Mari Dell'Olmo M., Borrell C., Trends in mortality inequalities in an urban area: The influence of immigration (2019) *INT J EQUITY HEALTH*, 18 (1). **IF: 2.4730**
- Su J.G., Dadvand P., Nieuwenhuijsen M.J., Bartoll X., Jerrett M., Associations of green space metrics with health and behavior outcomes at different buffer sizes and remote sensing sensor resolutions (2019) *ENVI-IRON INT*, 126, 162-170. **IF: 7.9430**
- Trujillo-Aleman S., Perez G., Reynolds J., Rueda S., Borrell C., Processes and contexts influencing health inequalities among women who are mothers (2019) *J EPIDEMIOLOG COMMUN H*. **IF: 3.8720**
- Vasquez-Vera H., Fernandez A., Novoa A.M., Delgado L., Barcala J., Macias C., Borrell C., Our lives in boxes: Perceived community mediators between housing insecurity and health using a PHOTOVOICE approach (2019) *INT J EQUITY HEALTH*, 18 (1). **IF: 2.4730**
- Vazquez N., Molina M.C., Ramos P., Artazcoz L., Effectiveness of a parent-training program in Spain: reducing the Southern European evaluation gap Efectividad de un programa de educación parental en España: reducir la brecha en cuanto a evaluación en el sur de Europa (2019) *GAC SANIT*, 33 (1), 10-16. **IF: 1.6560**

Diffusion Activities

- ▶ Turisme i qualitat de vida de les veïnes i veïns del Gòtic: aproximació participativa des de la fotografia. Available at: <https://www.aspb.cat/documents/turisme-veins-del-gotic>
- ▶ Recomanacions per abordar el joc patològic a la ciutat de Barcelona. Available at: <https://www.aspb.cat/documents/recomanacions-joc-patologic/>

AREA T1 · Epidemiology, Public Health and Healthcare Services

Epidemiology of Addictions



Coordinator

Brugal Puig, Maria Teresa (ASPB)
tbrugal@aspb.cat

Members

Barbaglia, María Gabriela (ASPB)
Bartoli Checa, Montse (ASPB)
Bosque Prous, Marina (ASPB)
Bruguera Guitart, Anna Maria (ASPB)
Espelt Fernández, Albert (ASPB)
Guitart Garcia, Anna (ASPB)
Jiménez Dueñas, Miriam (ASPB)
Moreno España, José (ASPB)

Parés Badell, Oleguer (ASPB)
Pérez Guitart, Aina (ASPB)
Puigcorbé Alcalà, Susanna (IR)
Sanz Asín, Pedro (ASPB)
Serrano Jordán, Jaime (ASPB)
Vázquez Vázquez, José María (ASPB)

Main Lines of Research

Epidemiology of drug consumption and patterns of abuse

- ▶ Estimating cocaine abuse incidence and consumption patterns.
- ▶ Estimating heroin abuse incidence and consumption patterns.
- ▶ Estimating the prevalence of problematic cocaine, heroin and alcohol users.

Health problems associated with drug abuse

- ▶ Quality of life and psychiatric comorbidity in cocaine abusers.
- ▶ Service use in cocaine and alcohol abusers.
- ▶ Factors associated with cocaine-addict and alcoholic retention in treatment programs.
- ▶ Violent behavior and aggressive attitudes in young cocaine consumers.

- ▶ Mortality and its determinants in cohorts with substance abuse disorders (alcohol, heroin and cocaine).
- ▶ Factors associated with acute health problems developing after cocaine and heroin abuse.
- ▶ Social and health discrepancies between immigrants and native drug abusers.

Health policies

- ▶ Social inequalities in the evaluation of results and adherence to treatment.
- ▶ Infectious diseases related to drug abuse.
- ▶ Brief motivational intervention programs as a treatment alternative for teenage users of psychoactive substances.
- ▶ Role of the workplace in drug consumption.

Scientific Challenges

Epidemiology of drug consumption and patterns of abuse

- ▶ Determine incidence and patterns of cocaine abuse.
- ▶ Determine incidence and patterns of heroin abuse.
- ▶ Determine prevalence of cocaine, heroin and alcohol abuse.

Health problems associated with drug abuse

- ▶ Analyze aggressive and violent attitudes and behavior in young cocaine abusers.
- ▶ Assess quality of life in substance abusers with psychiatric comorbidity.
- ▶ Determine use of services among young heroin, cocaine and alcohol abusers.
- ▶ Analyze factors associated with retention in treatment programs for cocaine and alcohol addiction.

- ▶ Assess mortality and its determinants in cohorts of alcohol and cocaine-dependent subjects.
- ▶ Analyze factors associated with acute health problems following cocaine abuse.
- ▶ Analyze differential social and health determinants among immigrant users of illegal drugs.

Health policies

- ▶ Evaluate supervised drug consumption rooms and other policies to reduce harm.
- ▶ Study social inequalities in evaluating results and adherence to treatment.
- ▶ Evaluate brief motivational intervention programs as an alternative to disciplinary measures in teenage abusers of psychoactive substances.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Evaluation of Public Health Policies and Programmes (PI: Carlos Ariza)
- ▶ Health Inequalities (PI: Carme Borrell)

External Collaborations

- ▶ Several CIBERSAM and CIBERESP groups.

Active Grants

- ▶ Maria Teresa Brugal Puig. Evaluación del tratamiento en una cohorte de pacientes con trastorno por uso de alcohol y/o cocaína: Análisis del impacto de la Comorbilidad Psiquiátrica, Uso de Servicios y Análisis Costes. PI16/01075. Instituto de Salud Carlos III. Duration: 2017-2019. 66,500 €.
- ▶ Maria Teresa Brugal Puig. Red de Trastornos Adictivos. RD16/0017/0013. Instituto de Salud Carlos III. Duration: 2017-2021. 101,975 €.
- ▶ Albert Espelt Fernández. Disponibilidad, accesibilidad, visibilidad de consumo, promoción y publicidad del alcohol en el entorno urbano y su relación con el consumo de alcohol en adolescentes. 2016I029. Ministerio de Sanidad y Servicios Sociales e Igualdad. Duration: 2017-2019. 37,000 €.
- ▶ Maria Teresa Brugal Puig. Drug Addiction Research and Epidemiology (DARE group). 2017 SGR 01418. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Marina Bosque Prous. Disponibilidad, accesibilidad, visibilidad de consumo, promoción y publicidad del alcohol en el entorno urbano y su relación con el consumo de alcohol en adolescentes. 2016I029. Ministerio de Sanidad y Servicios Sociales e Igualdad. Duration: 2017-2019. 37,000 €.
- ▶ Maria Teresa Brugal Puig. Estudio transversal y multicéntrico para el desarrollo de un modelo de predicción clínico y farmacogenético de la satisfacción del paciente dependiente de heroína con la metadona como un medicamento. SLT006/17/00179. Departament de Salut. Duration: 2018-2020. 18,849.81 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 4.5870 · Mean Impact Factor: 2.2935

Mangot-Sala L., Bosque-Prous M., Bartoli M., Teixido-Compano E., Brugal M.T., Espelt A., The Role of Individual and Social Mediators in the Association Between Drug Consumption and Mental Health Among Adolescents in Barcelona (2019) INT J MENT HEALTH AD, 17 (6), 1374-1388. **IF: 1.4200**

Villalbi J.R., Espelt A., Sureda X., Bosque-Prous M., Teixido-Compano E., Puigcorbe S., Franco M., Brugal M.T., The urban environment of alcohol: A study on the availability, promotion and visibility of its use in the neighborhoods of Barcelona Entorno urbano de alcohol: Un estudio sobre disponibilidad, promoción y visibilidad del consumo en barrios de Barcelona (2019) ADICCIONES, 31 (1), 33-40. **IF: 3.1670**

AREA T1 · Epidemiology, Public Health and Healthcare Services

Primary Care Research



Coordinator

Brotons Cuixart, Carles
(EAP Sardenya)
cbrotons@eapsardenya.cat

Members

Aguado Jodar, María Alba
(external entity)
Agustí Roca, Berta
(EAP Sardenya)
Balagué Galito, Enriqueta
(EAP Sardenya)
Blasi Codinach, Anna (external
entity)
Casasa Plana, Albert
(EAP Sardenya)
Coderch Aris, Marta
(EAP Sardenya)
De la Figuera Von Wichmann,
Mariano (EAP Sardenya)

Delgado Álvarez, Beatriz
(EAP Sardenya)
Fernández Valverde, Diana
Elizabeth (IR)
Galan Díez, María Luisa
(EAP Sardenya)
Gil Calvo, Joan Josep (external
entity)
Ichazo Tobella, Begoña
(EAP Sardenya)
Jiménez Muñoz, Beatriz (external
entity)
Martí Braso, Agnès (external
entity)
Martínez Gil, Mireia
(EAP Sardenya)
Monteserín Nadal, Rosa
(EAP Sardenya)
Moral Peláez, Irene
(EAP Sardenya)

Muñoz Pena, Aser (EAP Sardenya)
Palasi Bargalló, Carme
(EAP Sardenya)
Pedro Pijoan, Anna Maria
(external entity)
Peix Sambola, Maria Amor
(EAP Sardenya)
Puig Palma, Mireia
(EAP Sardenya)
Rayo Martínez, Elisabet
(EAP Sardenya)
Sellarès Sallas, Jaume
(EAP Sardenya)
Serrano Pons, Helena
(EAP Sardenya)
Verdú Arnal, Montserrat
(external entity)
Vila García, Judit (EAP Sardenya)
Vilella Moreno, Maria Teresa (IR)

Main Lines of Research

- ▶ Cardiovascular risk estimation.
- ▶ Health promotion in primary care settings.
- ▶ Ageing.
- ▶ Hypertension.
- ▶ Diabetes.
- ▶ Immunization.
- ▶ Psychiatrics.
- ▶ Technology (Telemedicine).

Scientific Challenges

- ▶ Cooperate with other research teams in IIB Sant Pau.
- ▶ Cooperate with other European institutions in implementing projects on risk prevention and health promotion in primary care settings.
- ▶ Encourage research into medical ethics in family medicine training.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Clinical Epidemiology and Health Care Services
- ▶ Evaluation of Public Health Policies and Programmes
- ▶ Ageing Institute
- ▶ Lipids and Cardiovascular Pathology Research, Hospital de Sant Pau
- ▶ Molecular Biology Laboratory, Fundació Puigvert
- ▶ Agència de Salut Pública de Barcelona

External Collaborations

- ▶ Ibermutua, mutual insurance company collaborating with National Social Security
- ▶ Mental Health Research Group - IMIM, Hospital del Mar
- ▶ Spanish Society of Atherosclerosis

Active Grants

- ▶ Carles Brotons Cuixart. Performance of the SCORE (Systematic Coronary Risk Evaluation) model for European low risk countries and the new US American College of Cardiology (ACC)/American Heart Association (AHA) Risk Equation in a Spanish Cohort: the VALID study. MARATO 20150310. Fundació La Marató de TV3. Duration: 2016-2019. 92,300 €.
- ▶ Carles Brotons Cuixart. Ensayo clínico multicéntrico, aleatorizado y abierto, para evaluar la eficacia en la reducción del riesgo cardiovascular de una intervención dirigida a mejorar la información a los pacientes con riesgo cardiovascular alto. Estudio INFORISK. SLT002/16/00313. Departament de Salut. Duration: 2017-2019. 93,831.62 €.

- ▶ Mariano de la Figuera Von Wichmann. Prueba piloto de un programa de cribado poblacional de aneurisma de aorta abdominal realizada en atención primaria mediante ecografía. SLT002/16/00441. Departament de Salut. Duration: 2017-2019. 52,737.31 €.
 - ▶ Diana Elizabeth Fernández Valverde. Avaluació de l'eficàcia de la telemedicina en la insuficiència cardíaca: programa @tendidos. ACADÉMIA 2017. Acadèmia de Ciències Mèdiques. Duration: 2017-2020. 22,727.27 €.
 - ▶ Carles Brotons Cuixart. Ensayo clínico multicéntrico, aleatorizado y abierto, para evaluar la eficacia en la reducción del riesgo cardiovascular de una intervención dirigida a mejorar la información a los pacientes con riesgo cardiovascular alto. Estudio INFORISK. SLT002/16/00313-01. Departament de Salut. Duration: 2017-2019. 46,034.03 €.
 - ▶ Mariano de la Figuera Von Wichmann. Prueba piloto de un programa de cribado poblacional de aneurisma de aorta abdominal realizada en atención primaria mediante ecografía. SLT002/16/00441-01. Departament de Salut. Duration: 2017-2019. 61,591.76 €.
 - ▶ Carles Brotons Cuixart. Validación externa de una ecuación de riesgo cardiovascular de por vida. PI17/01031. Instituto de Salud Carlos III. Duration: 2018-2020. 41,000 €.
 - ▶ Investigación Clínicoepidemiológica en Arterioesclerosis. Fundación Española de Arterioesclerosis. Duration: 2019.
- Note: Total amount granted to PI. It does not include indirect costs.

Patents

- ▶ Carles Brotons. Iberliferisk. Fundació Institut de Recerca Hospital de la Santa Creu i Sant Pau, 4012240, en clase/s 44 Int., 27/03/2019

Scientific Production

Total Impact Factor: 63.0870 · Mean Impact Factor: 7.8859

Bertomeu-Gonzalez V., Soriano Maldonado C., Bleda-Cano J., Carrasco-Gonzalez S., Navarro-Perez J., Lopez-Pineda A., Carratala-Munuera C., Gil Guillen V.F., Quesada J.A., Brotons C., Orozco-Beltran D., Predictive validity of the risk SCORE model in a Mediterranean population with dyslipidemia (2019) *ATHEROSCLEROSIS*, 290, 80-86. **IF: 4.2550**

Brotons C., Moral I., Fernandez D., Puig M., Calvo Bonacho E., Martinez Munoz P., Catalina Romero C., Quevedo Aguado L.J., Estimation of Lifetime Risk of Cardiovascular Disease (IBERLIFERISK): A New Tool for Cardiovascular Disease Prevention in Primary Care Estimación del riesgo cardiovascular de por vida (IBERLIFERISK): una herramienta nueva en prevención primaria de las enfermedades cardiovasculares (2019) *REV ESP CARDIOL*, 72 (7), 562-568. **IF: 5.1260**

Cainzos-Achirica M., Fedeli U., Sattar N., Agyemang C., Jenum A.K., McEvoy J.W., Murphy J.D., Brotons C., Elosua R., Bilal U., Kanaya A.M., Kandula N.R., Martinez-Amezcuca P., Comin-Colet J., Pinto X., Epidemiology, risk factors, and opportunities for prevention of cardiovascular disease in individuals of South Asian ethnicity living in Europe (2019) *ATHEROSCLEROSIS*, 286, 105-113. **IF: 4.2550**

Catalina-Romero C., Sanchez Chaparro M.A., Valdivielso P., Quevedo-Aguado L., Brotons C., Ruilope L.M., Calvo-Bonacho E., Estimating the impact of obesity and metabolic phenotype on sickness absence. Results from the ICARIA study (2019) *NUTR METAB CARDIOVAS*, 29 (4), 383-389. **IF: 3.3400**

de Gonzalo-Calvo D., Vea A., Bar C., Fiedler J., Couch L.S., Brotons C., Llorente-Cortes V., Thum T., Circulating non-coding RNAs in biomarker-guided cardiovascular therapy: A novel tool for personalized medicine? (2019) *EUR HEART J*, 40 (20), 1643-1650. **IF: 23.2390**

Fernandez D., Brotons C., Moral I., Bulc M., Afonso M., Akan H., Pinto S., Vucak J., da Silva Martins C.M., Lifestyle behaviours in patients with established cardiovascular diseases: A European observational study (2019) *BMC FAM PRACT*, 20 (1), 162-. **IF: 2.4310**

Johnston B.C., Zeraatkar D., Han M.A., Vernooij R.W.M., Valli C., El Dib R., Marshall C., Stover P.J., Fairweather-Tait S., Wojcik G., Bhatia F., De Souza R., Brotons C., Meerpohl J.J., Patel C.J., Djulbegovic B., Alonso-Coello P., Bala M.M., Guyatt G.H., Unprocessed red meat and processed meat consumption: Dietary guideline recommendations from the nutritional recommendations (NUTRIRECS) consortium (2019) *ANN INTERN MED*, 171 (10), 756-764. **IF: 19.3150**

Mearin F., Caballero A.M., Serra J., Brotons C., Tantina A., Fort E., Martinez-Cerezo F.J., Perello A., Sanchez-Antolin G., Rey E., Angos Musgo R., Berdier R., Gomez-Rodriguez B., Clave P., Garcia-Alonso M., Toran-Monserrat P., Tack J., A retrospective and prospective 12-month observational study of the socioeconomic burden of moderate to severe irritable bowel syndrome with constipation in Spain Estudio observacional, retrospectivo y prospectivo a 12 meses del coste socioeconómico del síndrome del intestino irritable moderado a grave con estreñimiento en España (2019) *GASTROENT HEPAT-BARC*, 42 (3), 141-149. **IF: 1.1260**

Other Publications

- ▶ Brotons Cuixart, Carles. Las tablas de riesgo cardiovascular. Presente y futuro. *Hipertens Riesgo Vasc*. 2019;36(4):173-175.
- ▶ Garcia Mora, Gissellth; Salas Gama, Karla Rocío; Brotons, Carles; Requeijo Lorenzo, Carolina. Avaluació de l'adequació de l'ús de bifosfonats per al tractament de l'osteoporosi en dones postmenopàusiques ateses en un centre d'atenció primària. *APSalut*; 7: 5, article 147.
- ▶ Fernández, Diana; Moral, Irene; Puig, Mireia; Vilella, Teresa; Brotons, Carles. Actividad física y prevención cardiovascular. *APSalut*; 7: 3, article 136.
- ▶ González-Quevedo Pedrayes, Irma; Rosende Tuya, Alicia; García Fernández, María; Bueno Pérez, Arancha. Conectando Cangues d'Onís. Visibilización y Dinamización de Activos para la Salud. *APSalut*; 7: 4, article 143.
- ▶ Garcia Mora, Gisellth; Teixidor Camp, Mariona; Casasa Plana, Albert. Activitat física, exercici i qualitat de vida en tutors i residents. *APSalut*; 7: 3, article 137.

Diffusion Activities

Dissemination Activities to Society

Talks for patients at EAP Sardenya

- ▶ Llet materna. EAP Sardenya pediatric team in collaboration with Banc de Llet Materna. EAP Sardenya, 29 October 2019.

- ▶ Dona i salut, in collaboration with PIAD and Laia Buldó (social worker at EAP Sardenya). EAP Sardenya, 21 November 2019.

Talks at the Casal de Gent Gran del Baix Guinardó and schools

- ▶ Maria Amor Peix and Ester Mansilla. Alimentació. In collaboration with Projecte Xarxes. Escola Mas Casanovas, 27 March 2019.

- ▶ Carme Palasí. Nutrició. Save the Children.
- ▶ Carme Palasí. Pubertat. Escola Sant Fruituós de Gelabert, 26 March 2019.
- ▶ Odontopediatria. In collaboration with Clínica Sardenya. Escola Mas Casanovas, 12 May 2019.
- ▶ Gregorio Aznar. Adiós al dolor cervical. Casal de Gent Gran Municipal del Baix Guinardó, 22 January 2019.
- ▶ Sandra Almarcha. Arriba la calor. Casal de Gent Gran Municipal del Baix Guinardó, 21 May 2019.

Congresses

- ▶ T. Iruela, J. Ferrer, M. Serrarols, L. Garcia, M. Rovira, X. Bria, M. Borell, S. Zamora, L. Aulet, M. Aguilar, Y. Caballero, L. Tuneu, I. Moral. Qualitat de vida dels professionals d'ACEBA (poster). XXII Jornades d'ACEBA "Salut a totes les polítiques". Perelada, 22 November 2019.
- ▶ Carlos Brotons. Balance of benefits and risk in primary prevention of cardiovascular diseases: the case of aspirin. 2019 European Forum on Prevention and Primary Care. Oporto, Portugal, 4-5 November 2019.
- ▶ Irene Moral Pelaez; Diana E. Fernandez Valverde; Carlos Brotons Cuixart; Mireia Puig Palma; M. Teresa Vilella Moreno. The rise of vitamin D prescription in primary care. 2019 European Forum on Prevention and Primary Care. Oporto, Portugal, 4-5 November 2019.
- ▶ Carlos Brotons. Frail patient with atrial fibrillation (oral session). European Society of Cardiology Congress. Paris, France, 31 August – 4 September 2019.
- ▶ Carlos Brotons. Impact of the european and american guidelines on the management and treatment of dyslipidemia in a spanish working population (poster). European Society of Cardiology Congress. Paris, France, 31 August – 4 September 2019.
- ▶ Carlos Brotons. Implications for clinical practice (oral session). European Society of Cardiology Congress. Paris, France, 31 August - 4 September 2019.
- ▶ Carlos Brotons, Irene Moral, Diana Fernandez-Valverde, Teresa Vilella, Mireia Puig, Ruben Fuentes, Lluís Cuixart, Gemma Ferriz, Anna Pedro, Roger Codinachs. Open, randomized, multicentre clinical trial to evaluate the effectiveness of an intervention to reduce cardiovascular risk: the INFORISK study (oral communication). 24th WONCA Europe Conference. Bratislava, Eslovaquia, 26-29 June 2019.
- ▶ Carlos Brotons, Irene Moral, Mireia Puig, Eva Calvo-Bonacho, Luis Quevedo-Aguado, Carlos Catalina-Romero, Carlos Fernandez-Labandera, Paloma Martinez-Muñoz, Diana Fernandez-Valverde, Teresa Vilella. Validation of the SCORE (systematic coronary risk evaluation) model for estimation of cardiovascular risk in a southern european country (oral communication). 24th WONCA Europe Conference. Bratislava, Eslovaquia, 26-29 June 2019.
- ▶ Luis Miguel Ruilope, Carlos Fernández-Labandera, Carlos Brotons, Irene Moral, Diana Fernández, Mireia Puig, Luis Quevedo-Aguado, Carlos Catalina-Romero, Eva Calvo-Bonacho. Validation of the score (systematic coronary risk evaluation) model adjusted to estimate risk of fatal and non-fatal events in a southern European country (poster). 29th European Meeting on Hypertension and Cardiovascular protection. Milan, Italy, 21-24 June 2019.
- ▶ Carlos Brotons Cuixart, Irene Moral Pelaez, Maria Teresa Vilella Moreno, Ruben Fuentes Garcia, Diana Elizabeth Fernandez Valverde, Mireia Puig Palma. Ensayo clínico, multicéntrico, aleatorizado y abierto para evaluar la eficacia de una intervención en la reducción del riesgo cardiovascular en sujetos de riesgo: estudio inforisk (poster with defense). XXXIX Congreso de la semFYC. Málaga, 8-11 May 2019.
- ▶ Maria Teresa Vilella Moreno, Diana Elizabeth Fernandez Valverde, Mireia Puig Palma, Irene Moral Pelaez, Montserrat Redondo Prieto, Carlos Brotons Cuixart Utilización de la telemedicina en insuficiencia cardíaca: programa @tendidos (poster with defense). XXXIX Congreso de la semFYC. Málaga, 8-11 May 2019.
- ▶ Laura Coll Planas, Sergi Blancafort Alias, Irene Moral Pelaez, Marta Roque Figols, Ester Cob Peña, Rosa Monteserín Nadal. Impacto de una intervención de promoción de la salud en zonas urbanas desfavorecidas: resultados del ensayo clínico AEQUALIS. XXXIX Congreso de la semFYC. Málaga, 8-11 May 2019.
- ▶ Lluís Cuixart, Beatriz Jiménez Muñoz, Mariano de la Figuera, Carles Brotons. Projecte TAO-Press: Grau de control tensional en pacients amb HTA, fibil·lació auricular no valvular i anticoagulació oral en Atenció Primària: Característiques i perfil clínic (poster). XXXI Congrés de la Societat Catalana de Cardiologia. Barcelona, 6-7 June 2019.
- ▶ Lluís Cuixart, Beatriz Jiménez Muñoz, Mariano de la Figuera, Carles Brotons. Projecte TAO-Press: Grau de control tensional en pacients amb HTA, fibil·lació auricular no valvular i anticoagulació oral en Atenció Primària: Tractament i compliment farmacològic (poster). XXXI Congrés de la Societat Catalana de Cardiologia. Barcelona, 6-7 June 2019.
- ▶ Carles Brotons. Encuentro Investigación en atención primaria en los Institutos de Investigación Sanitaria. Escuela de Salud Pública de Menorca, 19-20 September 2019.

AREA T2

Molecular, Genomic Kinetic-Dynamic Bases and their Treatment

256 Molecular Bases of Disease

258 Pharmacokinetic/Pharmacodynamic Modelling and Simulation

260 Regenerative Medicine & Tissue Bioengineering

264 Clinical Research in Transfusion Medicine

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AREA T2 · Molecular, Genomic, Cellular and Kinetic-Dynamic Bases for Diseases and their Treatment

Molecular Bases of Disease



Coordinator

Fuentes Prior, Pablo (IR)
pfuentes@santpau.cat

Members

Antón López, Rosa (IR)
Nadal Rovira, Marta (IR)

Main Lines of Research

Cancer

- ▶ Structural and functional analysis of the androgen receptor (AR). Design and structure-function characterization of AR homodimerization inhibitors.
- ▶ Analysis of mutations and SNPs that affect the TET2 gene and implications for hematopoietic and lymphoid neoplasms.

Neurodegenerative diseases

- ▶ Analysis of the structural bases of exon-7 exclusion from SMN2 and implications for the pathobiology of spinal muscular atrophy (SMA).
- ▶ Structural and functional investigations of the PINK1 kinase and implications for Parkinson disease.

Thrombosis and hemostasis

- ▶ Structural and functional investigations of blood coagulation factors, with emphasis on thrombin interactions with physiological substrates (factor VIII and protease-activated receptors).

Lipid metabolism and dyslipidemias

- ▶ Bioinformatics analysis of STAP1 mutations identified in individuals with hypercholesterolemia.

Scientific Challenges

- ▶ Consolidate and extend research within the HSCSP Research Institute and the rest of the IIB Sant Pau in a context of limited access to financial support. To this end, the group needs to participate in at

least one financed structure-and-function project in each of three major research areas (cardiovascular diseases, neurodegenerative diseases and cancer and innate immune responses).

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Metabolic Bases of Cardiovascular Risk
- ▶ Parkinson Disease and Movement Disorders
- ▶ Haematological Diagnosis
- ▶ Genetic Diseases
- ▶ Molecular Physiology of the Synapse

External Collaborations

- ▶ Dra. Eva Estébanez-Perpiña, Institut de Biomedicina, Universitat de Barcelona
- ▶ Dr. Jun Xu, Sun Yat-Sen University, Guangzhou, China.

Active Grants

- ▶ Pablo Fuentes Prior. A novel splicing therapeutic approach for Spinal Muscular Atrophy. Daniel Bravo 2015. Fundació Privada Daniel Bravo-Andreu. Duration: 2016-2020. 157,717 €.

- ▶ Pablo Fuentes Prior. Grup d'investigació bases moleculars de processos fisiopatològics fonamentals. 2017 SGR 1089. Fundació Institut de Recerca Biomèdica (IRB Barcelona). Duration: 2017-2020. 8,400 €.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Pablo Fuentes Prior. Bases estructurales de las interacciones del receptor de andrógenos con ERG y modificadores epigenéticos: implicaciones para el desarrollo de nuevas estrategias terapéuticas. RTI2018-101500-B-100. Ministerio de Ciencia, Innovación y Universidades. Duration: 2019-2021. 120,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 7.2220 · Mean Impact Factor: 3.6110

Bussaglia E., Anton R., Nomdedeu J.F., Fuentes-Prior P., TET2 missense variants in human neoplasia. A proposal of structural and functional classification (2019) MOL GENET GENOM MED, 7 (7). **IF: 2.4480**

Jimenez-Panizo A., Perez P., Rojas A.M., Fuentes-Prior P., Estebanez-Perpina E., Non-canonical dimerization of the androgen receptor and other nuclear receptors: Implications for human disease (2019) ENDOCR-RELAT CANCER, 26 (8), R479-R497. **IF: 4.7740**

Other Publications

- ▶ Rojas-Murcia, J., Arce-Solano, S., Fuentes-Prior, P., Hernández-Carvajal, E. Mutagénesis dirigida del conector interdominio ácido FVIIIa3 del factor VIII de la coagulación como estrategia para favorecer la cristalización de sus complejos con la trombina. (2019).REVISTA TECNOLOGIA EN MARCHA, 32(4); 39-50.

AREA T2 · Molecular, Genomic, Cellular and Kinetic-Dynamic Bases for Diseases and their Treatment

Pharmacokinetic/Pharmacodynamic Modelling and Simulation



Coordinator

Valle Cano, Marta (IR)
mvallec@santpau.cat

Members

Domínguez Clavé, Elisabet (IR)
Pla Juncà, Francesc (IR)

Main Lines of Research

- ▶ Population pharmacokinetic analysis aimed at establishing the pharmacokinetic characteristics of drugs and at differentiating and quantifying the degree of intravariability and intervariability.
- ▶ Pharmacokinetic/pharmacodynamic analysis of continuous response aimed at the analysis of effects (in the presence or absence of drugs) where the variable being evaluated changes values gradually.
- ▶ Pharmacokinetic/pharmacodynamic analysis of noncontinuous response for responses most frequently observed in clinical practice, such as categorical responses, survival, frequency and censored responses.
- ▶ Simulation of clinical trials and therapeutic dosage selection aimed at assisting with the design of clinical trials to help the development of new drugs (for pharmaceutical companies) and at improving the design of clinical trials (basic research and nonprofit clinical studies) and to help in applications of daily clinical practice.

Scientific Challenges

- ▶ Maintain existing external cooperation agreements.
- ▶ Establish new cooperation agreements within the HSCSP RI.
- ▶ Generate sufficient financial resources to maintain and expand group staffing.
- ▶ Communicate the group's activities.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Pharmacological Research in Humans.
- ▶ Pharmacy Service. Project "Population pharmacokinetics of busulfan".
- ▶ Epidemiology and Traumatology Services. Project "Pharmacokinetics of tranexamic acid".

External Collaborations

- ▶ Lluita Contra la SIDA Foundation, Germans Trias i Pujol Hospital, Badalona, Spain. Project "Population pharmacokinetics of dolutegravir in HIV infected patients".
- ▶ Pharmacy Service, Hospital Quiron, Mallorca, Spain. PhD thesis: "Antimicrobial use in a small-medium size hospital".
- ▶ Department of Pharmacology, Torino University, Italy. Project: "Population pharmacokinetics of dolutegravir in HIV infected patients".
- ▶ Department of Oncology, Hospital Vall d'Hebron. PhD thesis: "Pharmacokinetics of oncologic drugs in patients with hepatic or renal impairment".

Active Grants

- ▶ Marta Valle Cano. Targeted nanoconjugates for the selective elimination of stem cells in disseminated cancer. PIE15/00028. Instituto de Salud Carlos III. Duration: 2016-2019. 82,640 €.
- ▶ Marta Valle Cano. Grup d'Investigació en Farmacologia Humana. 2017 SGR 01133. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.
- ▶ Marta Valle Cano. Use of modeling and simulation for the development of a new entity in oncology. ORIZON GENOMICS SA. 25,900 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 18.3390 · Mean Impact Factor: 4.5848

Carmona i Farres C., Elices M., Soler J., Dominguez-Clave E., Pomarol-Clotet E., Salvador R., Pascual J.C., Effects of Mindfulness Training on Borderline Personality Disorder: Impulsivity Versus Emotional Dysregulation (2019) MINDFULNESS, 10 (7), 1243-1254. **IF: 3.0000**

Carmona i Farres C., Elices M., Soler J., Dominguez-Clave E., Martin-Blanco A., Pomarol-Clotet E., Salvador R., Martinez-Horta S., Pascual J.C., Effects of mindfulness training on the default mode network in borderline personality disorder (2019) CLIN PSYCHOL PSYCHOT, 26 (5), 562-571. **IF: 2.3350**

Dominguez-Clave E., Soler J., Pascual J.C., Elices M., Franquesa A., Valle M., Alvarez E., Riba J., Ayahuasca improves emotion dysregulation in a community sample and in individuals with borderline-like traits (2019) PSYCHOPHARMACOLOGY, 236 (2), 573-580. **IF: 3.4240**

Ferreri L., Mas-Herrero E., Zatorre R.J., Ripolles P., Gomez-Andres A., Alicart H., Olive G., Marco-Pallares J., Antonijoan R.M., Valle M., Riba J., Rodriguez-Fornells A., Dopamine modulates the reward experiences elicited by music (2019) P NATL ACAD SCI USA, 116 (9), 3793-3798. **IF: 9.5800**

AREA T2 · Molecular, Genomic, Cellular and Kinetic-Dynamic Bases for Diseases and their Treatment

Regenerative Medicine & Tissue Bioengineering



Coordinator

Casaroli Marano, Ricardo Pedro (BST)
rcasaroli@ub.edu

Members

Agustí Rovira, Elba (BST)
Aloy Reverte, Caterina (external entity)
Baptista Piteira, A. Rita (BST)
Bermudo Gascón, Raquel (BST)
Bofill Ródenas, Ana María (external entity)
Buitrago, Paola Andrea (BST)
Fariñas Barbera, Óscar (BST)

López Chicón, Patricia (BST)
Martínez Conesa, Eva María (BST)
Nieto Nicolau, Núria (BST)
Otero Areitio, Nausica (BST)
Riba Tietz, Tatiana (BST)
Tabera, Jaime (BST)
Trias Adroher, Esteve (BST)
Villarrodona Serrat, Anna (BST)

Main Lines of Research

- ▶ Tissue procurement, clinical application, ethics, and regulation.
- ▶ Tissue decellularization approaches for clinical applications.
- ▶ Cell-based therapy for ocular diseases.
- ▶ 3D bioprinting and biocompatible substrates.
- ▶ Ex-vivo cell expansion for regenerative purposes.

Scientific Challenges

- ▶ Optimization and improvement of technical procedures related to the donor and tissues.
- ▶ Advances in the elaboration of criteria, regulation and ethics for donor and tissues.
- ▶ Technical excellence related to the processing cells, tissues, and advanced therapies medical products (ATMP).
- ▶ The development of new approaches and ATMPs for regenerative medicine.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Ophthalmology (Dr. José Antonio Buil, Dra. Zoraida del Campo)
- ▶ Locomotor System Research (Dr. Pablo Gelber)
- ▶ Women and Perinatal Health Research Group (Dr. Josep Oriol Porta, Dra. Elisa Llorba)
- ▶ Genomics and Bioinformatics for Genetically Complex Disease (Dr. José Manuel Soria)
- ▶ Metabolic Bases of Cardiovascular Risk (Dr. Josep Julve)

External Collaborations

National Collaborations

- ▶ Department of Surgery, University of Barcelona
- ▶ Biophysics and Bioengineering Unit, University of Barcelona
- ▶ Institute for Bioengineering of Catalonia (IBEC)
- ▶ Center of Regenerative Medicine (CMR), Barcelona
- ▶ Center of Genomic Regulation (CRG), Barcelona
- ▶ Image Diagnostic Institute (IDI), Barcelona

- ▶ Vall d'Hebron Research Institute (VHIR)
- ▶ Advanced Therapies Committee, Hospital Clínic de Barcelona
- ▶ ICREC Group, Hospital Germans Trias i Pujol (Badalona)
- ▶ Department of Cell Biology (UAB)
- ▶ Bioengineering Department, Institut Químic de Sarrià (IQS), University of Ramon Llull
- ▶ Gilab Group of Research, University of Girona

International Collaborations

- ▶ 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

- ▶ Óscar Fariñas Barbera. Ampliació criteri edat al-loempelts tendinosos. CONVENI BST 2017-1. Banc de Sang i Teixits. Duration: 2017-2019. 27,000 €.
- ▶ Ricardo Pedro Casaroli Marano. Bioenginyeria de Teixits i Medicina Regenerativa.. 2017 SGR 01113. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2020.

- ▶ Ricardo Pedro Casaroli Marano. Células pluripotentes inducidas y reprogramación celular en las aproximaciones de terapia basada en células para la regeneración de la córnea. PI18/00355. Instituto de Salud Carlos III. Duration: 2019-2021. 92,000 €.
- ▶ Óscar Fariñas Barbera. Desarrollo matriz ósea desmineralizada con colágeno humano. CONVENI BS1/2014 BTB, PEP:P0000134. Banc de Sang i Teixits. Duration: 2016-2019. 15,500 €.
- ▶ Óscar Fariñas Barbera. Ampliació criteri edat al-loempelts tendinosos. CONVENI BST 2017-1. Banc de Sang i Teixits. Duration: 2017-2019. 27,000 €.
- ▶ Esteve Trias Adroher. Good Practices for demonstrating safety and quality through recipient follow-up - Euro-GTP II. European Union's Health Programme (2014-2020), Grant Agreement number: 709567-EuroGTP II-HP-PJ-2015. Duration: 2015-2019. 1,030,000 €.
- ▶ Caterina Aloy-Reverte. Aislamiento y expansión ex vivo de queratinocitos epidérmicos para aplicación clínica. Banc de Sang i Teixits (BST). Convocatoria de Proyectos Internos 2017 (Ref I.2017.057). Duration: 2017-2019. 38,552 €.
- ▶ Núria Nieto-Nicolau. Obtención de matriz nerviosa descelularizada para la regeneración de nervios periféricos. Banc de Sang i Teixits (BST). Convocatoria de Proyectos Internos 2017 (Ref I.2017.056). Duration: 2017-2020. 136,000 €.
- ▶ Anna Vilarrodona Serrat. Reducción de la lesión post-infarto mediante bioimplantes con capacidades reparadoras: hidrogeles biomiméticos y vesículas extracelulares para la medicina regenerativa cardíaca. Banc de Sang i Teixits (BST). Convocatoria de Proyectos Internos (Ref PEP BT0000000026). Duration: 2019-2021. 76,683.36 €.
- ▶ Cristina Castells-Sala. New human decellularized and re-endothelialized tissue-engineered VAScular gRAFT for coronary artery bypass grafting. Banc de Sang i Teixits (BST). CONVENI BST (Ref PEP BT0000000027). Duration: 2019-2020. 11,780 €.
- ▶ Óscar Fariñas / Patricia López-Chicón. Desenvolupament de biotints per a la seva aplicació a la bioimpresió 3D en l'àmbit osteocondral. Banc de Sang i Teixits (BST). CONVENI BST (Ref PEP BT0000000025). Duration: 2019-2020. 31,024.37 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ 2019 Arno Habicht Award for Research Sciences (Allergan Foundation). Pan American Research Day, Vancouver, 27 April 2019. Best Oral Communication.

Doctoral Theses

- ▶ Ferran Vilaplana Mira. La vitrectomía en las complicaciones de segmento posterior en las osteoqueratoprótesis. Universitat de Barcelona. Directors: Ricardo P Casaroli-Marano, Jeroni Nadal. Date of defense: 09/09/2019.

Patents

- ▶ Casaroli Marano RP, Reina M, Vilaró S, Parente Duena A, García Antón JM. Use of glycoprotein NF3 (Pseudoalteromas antartica) for the treatment and re-epithelization of wounds. EPO 02738185.4-2107-ES0200281. Patent, 07/06/2002.
- ▶ Parente Duena A, Garces Garces J, Guinea Sánchez J, García Antón JM, Casaroli Marano RP, Reina M, Vilaró S., Use of glycoprotein produced by Pseudoalteromonas antartica and having fibroblast adhesion and keratinocyte growth promoting action in topical compositions for woung treatment and re-epithelization. WO2002102406-A1 / EP1402898-A1 / EP1402898-B1. Patent, 27/12/2002.
- ▶ Parente Duena A, Garces Garces J, Guinea Sánchez J, García Antón JM, Casaroli Marano RP, Reina M, Vilaró S. Use of a glycoprotein for the treatment and re-epithelization of wounds. US07022668, patent, 04/04/2006
- ▶ Benet Ferrus D, Corcostegui Guraya B, Prieto García J, (Casaroli-Marano RP). Conjunto de moléculas anti-angiogénicas y su uso. P200801291. License, 01/09/2011.
- ▶ Benet Ferrus D, Corcostegui Guraya B, Prieto García J, (Casaroli-Marano RP)., Set of antiangiogenic molecules and use thereof. PCT/ES2009/000236 / WO2009138533. License, 26/11/2010.
- ▶ Q-Genomics, Maribel Canut Jordana, Casaroli-Marano RP. In Vitro pharmacogenomic screening method for anticipating a patient's response to the treatment of ocular hypertension. EPO 18195545.1. Patent, 19/09/2018.

Transfer Products

- ▶ Programa Fundación redGDPS. Sesiones RedGDPS – La Degeneración Macular Asociada a la Edad (Casaroli-Marano RP). Programa Formativo Acreditado. Comisión de Formación Continuada del Sistema Nacional de Salud (SNS) and Bayer España, 2019. 31 July 2019 - 08 April 2020.

Scientific Production

Total Impact Factor: 30.411 · Mean Impact Factor: 3.3790

Alvarez-Palomo B, Vives-Armengol J, Casaroli-Marano RP, Gómez SG, Rodríguez-Gómez L, Edel MJ, Querol S. Adapting cord blood collection and banking Standard Operating Procedures for HLA-homozygous induced Pluripotent Stem Cells production and banking for clinical application (2019) J CLIN MED, 8(4). **IF: 5.583**

Bofill Ródenas AM, Genís Planella X, Brillas Fructuoso P, Castellà J, Herro L, Tort J, Trias Adroher E, Vilarrodona Serrat A. Out-of-Hospital Tissue Donation: Multidisciplinary Donor Circuit in a Forensic Institute. (2019). TRANSPLANTATION PROCEEDINGS. 51(10):3219-3221. **IF: 0.959**

Canamary Jr AM, Monteiro IR, Machado MKM, Regatieri CVS, Pereira Silva LM, Casaroli-Marano RP, Muccioli C. Quality-of-Life and psychosocial aspects in patients with ocular toxoplasmosis: A clinical study in a tertiary care hospital in Brazil (2019) OCUL IMMUNOL INFLAMM. **IF: 2.231**

Freitas-Simoes TM, Cofán M, Blasco MA, Soberón N, Foronda M, Corella M, Asensio EM, Serra-Mir M, Roth I, Calvo C, Valls-Pedret C, Casaroli-Marano RP, Doménech M, Rajaram S, Sabaté J, Ros E, Sala-Vila A. The red blood cell proportion of arachidonic acid relates to shorter leukocyte

telomeres in Mediterranean elders: A secondary analysis of a randomized controlled trial. (2019) *CLINICAL NUTRITION* 38:958-961. **IF: 6.402**

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Nieto-Nicolau N, Martínez-Conesa E.M., Velasco-García A.M., Aloy-Revete C., Vilarrodona A., Casaroli-Marano R.P., Xenofree generation of limbal stem cells for ocular surface advanced cell therapy (2019) *STEM CELL RES THER*, 10 (1), 374-. **IF: 4.6270**

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as a promising strategy for preventing physical deconditioning on the heart transplant waiting list. (2019) *EUROPEAN JOURNAL OF PREVENTIVE CARDIOLOGY*. **IF: 5.640**

Sanchez-Ibañez J, Vilarrodona A, Seoane T, Rodríguez-Aierbe C, Villalba R, Calvo-Benito J, Pevida M, Fernandez-Paneque S, Vuelta E, Marti-nez-Lorenz MJ, González-Romero M, Cañizares A, Sauleda S. Evaluation of occult hepatitis B infection in tissue donors: a multicenter analysis in Spain (2019). *CELL TISSUE BANK* 20(4):513-526. **IF: 1.648**

Silva L.M.P., Arantes T.E., Casaroli-Marano R., Vaz T., Belfort R., Muccioli C., Quality of Life and Psychological Aspects in Patients with Visual Impairment Secondary to Uveitis: A Clinical Study in a Tertiary Care Hospital in Brazil (2019) *OCUL IMMUNOL INFLAMM*, 27 (1), 99-107. **IF: 2.2310**

Other Publications

- ▶ EuroGTP II guide. Good Practices for evaluating quality, safety and efficacy of novel tissue and cellular therapies and products. Health Program of the European Union, 2019. http://www.goodtissuepractices.site/docs/EuroGTP_II_Guide.pdf

Books or Chapters with ISBN

- ▶ Zarbin MA, Singh MS, Casaroli-Marano RP Edts. Cell-Based Therapy for Degenerative Retinal Disease. Stem Cell Biology and Regenerative Medicine. Humana Press, Springer Nature Customer Service Center LLC, New York, NY, USA. ISBN 978-3-030-05221-8, 2019.
- ▶ Trias E, Fariñas O, López-Chicón P, Castells-Sala C. Banco de huesos y aloinjertos óseos del aparato locomotor en soporte del salvamento de extremidades tras resección tumoral en edad infantil. In: Torner F. Tumores óseos malignos en la infancia y adolescencia. Sociedad Española de Ortopedia Pediátrica, 2019. ISBN: 978-84-941943-2-0.
- ▶ Guide to the Quality and Safety of Tissues and Cells. 4th edition. European Directorate for the Quality of Medicines & Healthcare (Council of Europe), 2019. ISBN: 978-92-871-8945-5.
- ▶ Casaroli-Marano RP. Cell-based Therapy Using Pluripotent Stem Cells. Alio J., del Barrio JA, Arnalich-Montiel F, Edts. Corneal Regeneration: Therapy and Surgery. Essentials in Ophthalmology. Chapter 18, pp 263-276, 2019. Spring Nature Customer Service Center LLC, New York, NY, USA. ISBN:978-3-030-01304-2.
- ▶ Casaroli-Marano RP, Nieto-Nicolau N, Martínez-García de la Torre RA. Degenerative Retinal Diseases: Cell Sources for Cell-Based Therapy. In: Zarbin MA, Singh MS, Casaroli-Marano RP Edts. Cell-Based Therapy for Degenerative Retinal Disease. Stem Cell Biology and Regenerative Medicine. Chapter 4, pp 53-80, 2019. Humana Press, Springer Nature Customer Service Center LLC, New York, NY, USA. ISBN 978-3-030-05221-8.

Diffusion Activities

Congress Communications

- ▶ Torrico C, Pérez ML, Aití A, Tabera J, Fariñas O, Vilarrodona A. Is there any relation between facilities and skin donor microbiology? 28th Congress of the European Association of Tissue and Cell Banks. Leiden, 2019.
- ▶ Fariñas O, López-Chicón P, Tabera J, Vito S, Gelber PE, Vilarrodona A. Establishing a transplant program for fresh osteochondral allografts. Two years of experience. 28th Congress of the European Association of Tissue and Cell Banks. Leiden, 2019.
- ▶ Fariñas O, López-Chicón P, Riba-Tietz T, Usarralde X, Tabera J, Vilarrodona A. Biomechanical evaluation of patellar ligament and achilles tendon from donors over 60 yo. 28th Congress of the European Association of Tissue and Cell Banks. Leiden, 2019.
- ▶ Fariñas O, Nieto-Nicolau N, López-Chicón P, Bolívar S, Navarro X, Udina E, Vilarrodona A. Analysis of the cytotoxicity and tolerance of a decellularization protocol for decellularized nerve matrix generation. 28th Congress of the European Association of Tissue and Cell Banks. Leiden, 2019.
- ▶ Agustí E, Martínez-Conesa E, Pérez M, Ferran M, Casaroli-Marano RP, Fariñas O, Vilarrodona A. Clinical outcomes of AMex (Amniotic Membrane Extract eye drops) for corneal surface disorders. 28th Congress of the European Association of Tissue and Cell Banks. Leiden, 2019.
- ▶ Pérez ML, Castells-Sala C, Peró M, Casani L, Juan-Babot JO, Moga E, López-Chicón P, Fariñas O, Porta O, Vilarrodona A. Preliminary results of the implantation of acellular matrix for reconstruction of pelvic floor in animal model. 28th Congress of the European Association of Tissue and Cell Banks. Leiden, 2019.
- ▶ Bolívar S, Contreras E, Nieto-Nicolau N, López-Chicón P, Fariñas O, Vilarrodona A, Casaroli-Marano RP, Navarro X, Udina E. In Vivo Peripheral Nerve Regeneration with Decellularized Nervous Matrix. 5th International Symposium on Peripheral Nerve Regeneration. Porto, 2019.
- ▶ Pérez ML, Castells-Sala C, Peró M, Casani L, Babot OJ, Moga E, López-Chicón P, Fariñas O, Porta O, Vilarrodona A. Primeros resultados de la aplicación de matriz dérmica para refuerzo de suelo pélvico en modelo animal. XVI Congress of the AEBT. Oviedo, 2019.
- ▶ Pérez ML, Aití A, Pujagut N, Tabera J, Fariñas O, Vilarrodona A. Evolución de los resultados de microbiología de los donantes de piel procesados entre el 2014 y el 2018 en el banco de tejidos. XVI Congress of the AEBT. Oviedo, 2019.
- ▶ Nieto-Nicolau N, López-Chicón P, Fariñas O, Bolívar S, Navarro X, Tabera J, Udina E, Vilarrodona A. Descelularización del nervio humano en un banco de tejidos. XVI Congress of the AEBT. Oviedo, 2019.
- ▶ Pérez, ML, Aloy C, López-Chicón P, Fariñas O, Tabera J, Vilarrodona A. ¿Es el mantenimiento en condiciones de hipotermia una alternativa para los aloinjertos de piel cuando es necesaria una alta viabilidad celular? XVI Congress of the AEBT. Oviedo, 2019.
- ▶ Brillas P, Pitarch A, Castro M, Savío A, Buitrago P, Bofill A, Castellà J, Vilarrodona A. Creación del circuito de donación de tejidos en el Instituto de Medicina Legal y Ciencias Forenses de Cataluña. XVI Congress of the AEBT. Oviedo, 2019.
- ▶ Bofill-Ródenas AM, Genís X, Brillas P, Castellà P, Herrero L, Tort J, Vilarrodona Serrat A, Trias Adroher E. Donación de tejidos extrahospitalaria. Circuito de donación multidisciplinar. Congress of the Societat Catalana de Trasplantaments. Barcelona, 13-15 March 2019.
- ▶ Agustí E, Otero N, Fariñas O, Martínez-Conesa EM, Pérez ML, Tabera J, Casaroli-Marano RP, Vilarrodona A, Trias E. The success key to bring new therapies into the clinical field. XXXI Annual Meeting of the European Eye Bank Association (EEBA). Rotterdam, The Netherlands, 17-19 January 2019.
- ▶ Parrado Carrillo A, Figueras-Roca M, Casaroli-Marano RP, Zarranz-Ventura J. Aplicando técnicas de big data a terapia intravítrea mediante la plataforma Fight Retinal Blindness: diferencias en respuesta a tratamiento antiVEGF en DMAE naive versus DMAE previamente tratada

a 12 y 24 meses. XXIII Congress of the Sociedad Española de Retina y Vítreo (SERV). Madrid, Spain, 8-9 March 2019.

- ▶ Figueras Roca M, Parrado Carrillo A, Casaroli-Marano RP, Zarranz-Ventura J. Fight retinal blindness Barcelona: resultados con pauta fija versus treat-and-extend a 12 y 24 meses en degeneración macular asociada a la edad neovascular naïve según práctica real. XXIII Congress of the Sociedad Española de Retina y Vítreo (SERV). Madrid, Spain, 8-9 March 2019.
- ▶ Casaroli-Marano RP, Bernal Morales C, Chamorro López L, Dotti Boada M, Figueroa Vercellino JP, Alforja S. Aflibercept en régimen bimestral fijo: resultados en una cohorte no seleccionada y en un entorno real. XXIII Congress of the Sociedad Española de Retina y Vítreo (SERV). Madrid, Spain, 8-9 March 2019.
- ▶ Canamary Jr A, Mangeon M, Ribeiro I, Silva L, Casaroli-Marano RP, Muccioli C. Quality of life and psychosocial aspects in patients with visual impairment secondary to ocular toxoplasmosis: A clinical study in a tertiary care hospital in Brazil. XIX Annual Meeting Pan-American Research Day (PARD). Vancouver, Canada, 27 April 2019.
- ▶ Vilaplana F, Nadal J, Temprano J, Julio G, Olivera M, Casaroli-Marano RP, Barraquer RI. Vitrectomy for endophthalmitis in eyes with osteo-keratoprosthesis. Florence Retina Meeting, FLORetina 2019. Florence, Italy, 6-9 June 2019.
- ▶ Parrado Carrillo A, Figueras Roca M, Casaroli-Marano R, Barthelmes D, Gillies M, Zarranz Ventura J. Big data and intravitreal therapy: comparison of treatment-naïve vs previously treated neovascular age-related macular degeneration (nAMD) eyes. Barcelona's cohort of the fight retinal blindness Project. 19th EURETINA Congress. Paris, France, 5-8 September 2019.
- ▶ Sabater N, Figueras-Roca M, Padró L, Tort J, Trias E, Casaroli-Marano RP. Corneal transplantation activity in Catalonia, Spain, from 2011 to 2017: evolution of indications and surgical techniques. 37th Congress of European Society of Cataract and Refractive Surgery (ESCRS). Paris, France, 14-18 September 2019.
- ▶ Padró L, Sanromà M, Barrio R, Casaroli-Marano RP, Navarro A, Tort J. Calidad versus cantidad en el trasplante de tejido ocular. XXXIV Congreso Nacional de Coordinadores de Trasplantes, 25-27 September 2019. Murcia, España.
- ▶ Padró L, Sanromà M, Barrio R, Casaroli-Marano RP, Navarro A, Tort J. Quality versus quantity in ocular tissue transplants. 28th European Association of Tissue and Cell Banks (EATCB) Congress. Leiden, The Netherlands, 16-18 October 2019.
- ▶ Nieto-Nicolau N, de la Torre RM, Fariñas O, Savio A, Vilarrodona A, Casaroli-Marano RP. Integrin α improves stemness, proliferation and migration in human mesenchymal stem cells. 27th Annual Congress of European Society of Gene and Cell Therapy (ESGCT). Barcelona, Spain, 22-25 October 2019.
- ▶ Martínez-Conesa EM, Nieto-Nicolau N, Velasco-García AM, Aloy-Reverté C, Casaroli-Marano RP. Good manufacturing production of limbal stem cells in a tissue bank for clinical application. 27th Annual Congress of European Society of Gene and Cell Therapy (ESGCT). Barcelona, Spain, 22-25 October 2019.
- ▶ Álvarez-Palomo B, Vives J, Rodríguez-Gomes L, Codinach M, Torrents S, Valdivia E, Rudilla F, Casaroli-Marano RP, Arán B, Kleuber B, Raya A, Veiga A Querol S. IPS-PANIA project to develop a HLA matched bank of iPSC in Spain. 27th Annual Congress of European Society of Gene and Cell Therapy (ESGCT). Barcelona, Spain, 22-25 October 2019.
- ▶ Nieto-Nicolau N, López Chicón P, Fariñas O, Casaroli-Marano RP, Vilarrodona Serrat A. Descel-lularització efectiva de nervis humans per aplicació en medicina regenerativa. 1er Congrés Intern del Banc de Sang i Teixits. Barcelona, Spain, 16 November 2019.

Conferences

- ▶ Fariñas O. 3D printing bone. 28th Congress of the European Association of Tissue and Cell Banks. Leiden, 2019.
- ▶ Fariñas O. Producción de masillas óseas. XVI Congress of the AEBT. Oviedo, 2019.
- ▶ Fariñas O. The Tissue Bank Perspective. Reunión Técnica de TerCel 2019. Ingeniería de tejidos y fabricación aditiva. Madrid, 2019.
- ▶ Vilarrodona A. Quality Management. 28th Congress of Southern African Transplantation Society (SATS) & 5th SATiBA Congress of South

African Tissue Bank Association (SATiBA). Gordons Bay-Cape Town (South Africa).

- ▶ Vilarrodona A. Effective tissue bank management. 28th Congress of Southern African Transplantation Society (SATS) & 5th SATiBA Congress of South African Tissue Bank Association (SATiBA). Gordons Bay-Cape Town (South Africa).
- ▶ Vilarrodona A. Donor selection and physical assessment. 28th Congress of Southern African Transplantation Society (SATS) & 5th SATiBA Congress of South African Tissue Bank Association (SATiBA). Gordons Bay-Cape Town (South Africa).
- ▶ Casaroli-Marano RP. International partnerships. 42^a Simposio Internacional Moacyr (SIMASP). Sao Paulo, Brazil, 15 February 2019.
- ▶ Eylea Ò, Casaroli-Marano RP. Diferenciación. Más allá del VEGF-A: mecanismos de acción. Speakers Experience. Madrid, 28 February 2019.
- ▶ Casaroli-Marano RP. Salud Ocular Comunitaria y Ceguera Evitable: Tracoma. XXXII Curso Monográfico de Iniciación a la Oftalmología. Instituto de Investigaciones Oftalmológicas "Ramón Castroviejo". Madrid, 28 February 2019.
- ▶ Casaroli-Marano RP. Trasplante de cornea: Banco de Ojos y personalización de las indicaciones. Programa de Autosuficiencia de Córneas en España. Módulo IV. Organización Nacional de Trasplantes (ONT). Barcelona, 14-15 March 2019.
- ▶ Casaroli-Marano RP. Optimización en el tratamiento de la DMAE. Más allá del VEGF en el tratamiento de la DMAE. Experiencia Clínica. XLVII Congreso de la Sociedad Canaria de Oftalmología (SCO). La Laguna, Tenerife, 21-22 June 2019.
- ▶ Casaroli-Marano RP. Nuevos fármacos y dianas terapéuticas para la DMAE neovascular. Día de la Subespecialidad de Retina. Actualización en retina médica. 95 Congreso de la Sociedad Española de Oftalmología (SEO). Madrid, 25 September 2019.

Courses and Seminars

- ▶ Gestión de la Autosuficiencia de Tejidos en España. Módulo II: Procesamiento de tejidos. Asociación Española de Bancos de Tejidos. Palma de Mallorca, 2019.
- ▶ Gestión de la Autosuficiencia de Tejidos en España. Módulo I: Donación de tejidos. Asociación Española de Bancos de Tejidos. Barcelona, 2019.
- ▶ El Papel de los Bancos de Ojos en el Programa de Autosuficiencia de Córneas en España. Módulo IV. Curso Teórico-Práctico DMEK. Asociación Española de Bancos de Tejidos. Barcelona, 2019.
- ▶ 18^o Curso de Donación y Trasplante de Órganos y Tejidos. Hospital Vall d'Hebron. Barcelona, 2019.
- ▶ XI Curso de Gestión y Control de Calidad de las Actividades de Obtención, Evaluación, Procesamiento, Almacenamiento, Distribución y Aplicación de Tejidos Humanos. Oficina de Coordinación de Trasplantes de Galicia. A Coruña, 2019.
- ▶ Sufficiència en Teixits. 3er Workshop. Desenvolupament d'un model sectorial de coordinació de trasplantaments a la Regió Sanitària de Girona a partir dels serveis d'urgències i emergències. Girona, 2019.
- ▶ Jornada de Coordinadors de Trasplantaments de Catalunya i Banc de Teixits. Barcelona, 2019.
- ▶ Cursos Directores Instituto Médico Legal y Ciencias Forenses de Barcelona (IMLCF). Barcelona, 2019.
- ▶ Good Practices for Demonstrating Safety and Quality Through Recipient Follow-up. EuroGTPII. Barcelona, 2019.
- ▶ Actualización en Vitrorretinopatía Proliferativa (PVR). 95 Congreso de la Sociedad Española de Oftalmología (SEO), Curso C40. Madrid. 27 September 2019.
- ▶ Actualización sobre DMAE. Curso de Formación Continuada 2019. ¿Quo Vadis Retina? Servicio de Oftalmología, Hospital de la Sant Creus i Sant Pau, Barcelona, 25 January 2109.
- ▶ Retinal Vasculitis. Brazilian Uveitis Course (Uv-Eye 2019), Department of Ophthalmology and Visual Sciences, Federal University of Sao Paulo. Sao Paulo (Brazil), 11 April 2019.

AREA T2 · Molecular, Genomic, Cellular and Kinetic-Dynamic Bases for Diseases and their Treatment

Clinical Research in Transfusion Medicine



Coordinator

Salinas Argente, Ramón (BST)
rsalinas@bst.cat

Members

Bosch Llobet, M. Alba (BST)
Campoy Castaño, Desirée (BST)
Canals Pernas, Tania (BST)
Johansson Barrón, Erik (BST)
Olivera Sumire, Pável Eduardo (BST)
Saez Bruguera, Montserrat (BST)

Collaborations

External Collaborations

Collaboration in Clinical Trials and Observational Studies

- ▶ Pável Olivera. Edoxaban Management in Diagnostic and Therapeutic Procedures. DSE-EDO-02-15 EMIT-AF/VTE.
- ▶ Pável Olivera. A Non-interventional Study on Xarelto for Treatment of Venous Thromboembolism (VTE) and Prevention of Recurrent VTE in Patients With Active Cancer (COSIMO). BAY 59-7939.

- ▶ Pável Olivera. Estudio observacional descriptivo de conveniencia en pacientes tratados con dabigatrán para la prevención del ictus en fibrilación auricular no valvular (RE –SONANCE). BI 1160.253.
- ▶ Pável Olivera Non-Interventional, cross-sectional study to describe NOACs management in elderly patients with non-valvular atrial fibrillation (NVAf) in Spain. RE-BELD Study. RE-BELD 1160-0297.

Scientific Production

Total Impact Factor: 4.241 · Mean Impact Factor: 2.1205

Cerdá M, Cerezo-Manchado J, Johansson E, Martínez F, Fernández M, Varela A, Rodríguez S, Bosch F, Santamaría A. Facing real-life with direct oral anticoagulants in patients with nonvalvular atrial fibrillation: outcomes from the first observational and prospective study in a Spanish population. *J Comp Eff Res.* 2019;8(3):165-178. doi:10.2217/ce-2018-0134. **IF: 2.268**

Jordan M., Aguilera X., Gonzalez J.C., Castillon P, Salomo M., Hernandez J.A., Ruiz L., Mora J.M., Camacho-Carrasco P, Prat-Fabregat S., Bosch A., Rodriguez-Arias A., Martinez-Zapata M.J., Prevention of postoperative bleeding in hip fractures treated with prosthetic replacement: efficacy and safety of fibrin sealant and tranexamic acid. A randomised controlled clinical trial (TRANEXFER study) (2019) *ARCH ORTHOP TRAUM SU*, 139 (5), 597-604. **IF: 1.9730**

Diffusion Activities

Communications

- ▶ The 62nd American Society of Hematology Annual Meeting and Exposition ASH 2020. Orlando. Florida, 7-10 December 2019:
 - Pável E Olivera, César A Velasquez, Desirée Campoy, Gonzalo Artaza, Tania Canals, Katia Flores, Silvia Ruiz, Alessandra Comai, Erik A Johansson, Gabriela S Ene, Gabriela Bastidas, Maricel Subira, Jorge Sierra, Ramón Salinas. Effectiveness and Safety of Direct Oral Anticoagulants Vs. Low Molecular Weight Heparin As Anticoagulant Therapy in Patients with Active Cancer Therapy and Non Valvular Atrial Fibrillation. *Blood* (2019) 134 (Supplement_1): 3661.
 - Tomás José González-López, Pavel Olivera, Isidro Jarque, Jose Maria Bastida, Silvia Bernat, Blanca, Sanchez-Gonzalez, Estefanía Bolaños, Gloria Perez-Rus, Ana R. Huerta, Fernando Fernandez-Fuertes, Violeta Martinez-Robles, Maria Paz Martínez-Badas, Rocio Pérez-Montes, Maria Jesus Penarrubia Ponce, Venancio Conesa, Nuria Bermejo, Gonzalo Caballero, Maria Teresa Alvarez Roman, Carmen Fernandez-Miñano, Lucia Guerrero, Shally Marcellini, Magdalena Sierra Pacho, Emilia Pardal, Carmen Pastoriza, Maria Elsa Lopez Ansoar, Erik de Cabo, Gerardo Hermida, Miguel A. Sanz. Effect of Pregnancy on the Clinical Course of ITP Pregnant Women and Their Newborns. Results of a Spanish Case Series of 297 Primary ITP Pregnancies. *Blood* (2017) 130 (Supplement 1): 4847.

- Desirée Campoy, Gonzalo Artaza, César A Velasquez, Tania Canals, Erik A Johansson, Katia Flores, Gabriela Bastidas, Silvia Ruiz, Gabriela S Ene, Alessandra Comai, Maricel Subira, Ramón Salinas, Jorge Sierra, Pável E Olivera. Anticoagulation Challenges in Hematogeriatrics: Effectiveness and Safety of Direct Oral Anticoagulants Vs Vitamin k Antagonist in Elderly with Atrial Fibrillation. *Blood* (2019) 134 (Supplement_1): 1162.
- ▶ Congress of the International Society on Thrombosis and Haemostasis (ISTH). Melbourne, Victoria, Australia, 6-10 July 2019.
 - D. Campoy, K. Flores, T. Canals, C. Velásquez, A. Comai, G. Bastidas, S. Ruiz, G. Artaza, G. Ene, E. Johansson, M. Subirà, R. Salinas, P. Olivera. Use of low molecular weight heparin during the postoperative period: Perioperative management plan of patients treated with direct oral anticoagulants
 - P. Olivera, D. Campoy, K. Flores, C. Velásquez, T. Canals, G. Artaza, A. Comai, E. Johansson, G. Ene, G. Bastidas, M. Subirà, R. Salinas. Vitamin K Antagonist Vs Direct Oral Anticoagulant As Anticoagulant Therapy in Patients with Inherited and Acquired Thrombophilia
- ▶ XXXV National Congress of the Sociedad Española de Trombosis y Hemostasia (SETH). Oral communication:
 - Campoy Castaño D; Flores Aparco K; Canals Pernas T; Velásquez Escandon C; Bastidas Mora G; Ruiz de Gracia S; Comai A; Artaza Miñano G; Ene G; Subirà Caselles M; Salinas Argente R; Olivera

Sumire P. Manejo perioperatorio de pacientes en tratamiento con anticoagulantes orales directos: uso de heparina de bajo peso molecular posoperatoria. (CO-174) *Thrombosis and Haemostasis. Libro de Ponencias y Comunicaciones Sociedad Española de Trombosis y Hemostasia*. Legal deposit: M-34026-2012

- Olivera Sumire P; Campoy Castaño D; Canals Pernas T; Artaza Miñano G; Johansson E; Comai A; Flores Aparco K; Bastidas Mora G; Ene GS; Ruiz de Gracia S; Velásquez Escandón C; Subirá Caselles M; Salinas Argente R. Anticoagulantes orales directos frente a heparinas de bajo peso molecular en pacientes con fibrilación auricular y terapia antineoplásica activa. (CO-176) *Thrombosis and Haemostasis. Libro de Ponencias y Comunicaciones Sociedad Española de Trombosis y Hemostasia*. Legal deposit: M-34026-2012. SETH and FETH Award, in collaboration with ROVI, for the best oral communication on the treatment of Venous Thromboembolic Disease presented to the 2019 SETH National Congress

Scientific Dissemination

- ▶ Olivera, Pável. Práctica clínica de hematogeriatria en el ámbito de la anticoagulación: efectividad y seguridad de los anticoagulantes orales directos en pacientes frágiles y mayores de 80 años con fibrilación auricular. LXI National Congress of the SEHH and XXXV National Congress of the SETH. Valencia, 25 October 2019.
- ▶ Olivera, Pável. Retos en el manejo de la anticoagulación en el paciente mayor. 25 de octubre. LXI National Congress of the SEHH and XXXV National Congress of the SETH. Valencia, , 25 October 2019.
- ▶ Olivera, Pável. Cáncer y fibrilación auricular. III Jornada Cápsulas de Anticoagulación. Continuous training activity endorsed by the Sociedad Española de Trombosis y Hemostasia. Barcelona, 7 November 2019.

Training Activity

- ▶ Olivera, Pável (director). Curso de formación Online: Manejo Personalizado del Tratamiento Antitrombótico. Acercando la evidencia científica a la práctica clínica. 1st Edition. Online training. 20/05/2019 –20/05/2020. <https://doctopedia.es/course/proximo-curso-manejo-personalizado-del-tratamiento-antitrombotico-modulo-1/>
- ▶ Olivera, Pável (director); Olivera, Pável; Campoy, Desirée; Artaza, Gonzalo; Canals, Tania; Johansson, Erik (teachers). Medicina personalizada en el ámbito de la anticoagulación. Taller práctico: Compartiendo la práctica clínica real del paciente anticoagulado. Unidad de Tratamiento Antitrombótico del Banc de Sang i Teixits. Hospital Universitario Sagrat Cor. Barcelona, April-December 2019.
- ▶ Olivera, Pável; Canals, Tania (directors). Medicina personalizada en el ámbito de la anticoagulación. Taller práctico: Compartiendo la práctica clínica real del paciente anticoagulado. Unidad de Tratamiento Antitrombótico del Banc de Sang i Teixits. Hospital Universitario Sant Joan de Reus. Tarragona, October-December 2019.

Associated Groups

268 Emerging Processes in Prevalent Diseases

270 Radiophysics and Radioprotection

272 Paediatrics

278 Ophthalmology

279 Nuclear Medicine

281 Intensive Medicine

283 Pharmacy

287 Dermatology

289 Anaesthesiology

292 Plastic Surgery

295 Palliative Care

LOR - ENO



297 Andrology

302 Urology

308 Radiation Oncology

311 Locomotor System Research

314 Pain and Neurosciences

316 Nursing Care Research

319 Reproductive Health

320 Cardiac Surgery

Associated Groups

Emerging Processes in Prevalent Diseases

**Coordinator**

Benito Vales, Salvador (FGS)
sbenito@santpau.cat

Members

Agra Montava, Iván (FGS)
Alquézar Arbe, Aitor (FGS)
Álvarez Albarrán, María Teresa (FGS)
Barcons Pujol, Miquel (FGS)
Blázquez Andión, Marta (FGS)
Caballero Flores, Francisco (FGS)
Ceresuela Lobera, Andrés (FGS)
Díez Díez, Verónica (FGS)
Fernández Castaño, Irene (FGS)

Gil Olivas, Eva (FGS)
Guardiola Tey, José María (FGS)
Hernández Ontiveros, Héctor (FGS)
Herrera Mateo, Sergio Antonio (FGS)
Higa Sansone, Jorge Leopoldo (FGS)
Jiménez Calderón, Rut (FGS)
Lazzari, Roberto (FGS)
Leal Febrecos, Jesús (FGS)
López Matas, Mara (FGS)
Lozano Polo, Laura (FGS)
Mateo Roca, Miriam (FGS)
Mauri Plana, Albert (FGS)

Moliné Pareja, Antoni (FGS)
Montiel Dacosta, Josep Antoni (FGS)
Moreno Pinillos, Rosa (FGS)
Mur Arizon, Isabel (FGS)
Piera Salmeron, Aina (FGS)
Puig Campmany, Mireia (FGS)
Ris Romeu, Josep (FGS)
Rizzi, Miguel Alberto (FGS)
Romero Carrete, Carlos José (FGS)
Santaló Bel, Miquel (FGS)
Seres Roig, Montserrat (FGS)
Trejo Gutiérrez, Olga María (FGS)
Turbau Valls, Miquel (FGS)

Main Lines of Research

Emerging Processes in Prevalent Diseases

- ▶ Study and analysis of processes frequently observed in emergency departments so as to transfer the results to clinical practice and provide better care to patients.

Clinical Organization and Management (Mireia Puig and Josep Ris)

- ▶ Patient safety and emergency service quality. PI: Maite Álvarez.
- ▶ Nosocomial infection. PI: Albert Mauri.
- ▶ Short-stay unit. PI: J.M. Guardiola.
- ▶ Undergraduate teaching. PI: J.A. Montiel.

Organ Donation and Coordination (Francisco Caballero and Jesús Leal)**Respiratory System Disorders (Salvador Benito)**

- ▶ Acute Respiratory Failure. PI: A. Moliné.
- ▶ Ventilatory pattern analysis in heart failure. PI: Sergio Herrera.
- ▶ Pneumonia in the emergency department. PI: Miriam Mateo.

- ▶ Noninvasive ventilation. PI: Miquel Turbau.
- ▶ Pulmonary embolism. PI: Laura Lozano.

Cardiovascular System (Miquel Santaló)

- ▶ Acute coronary syndrome PI: Ivan Díaz.
- ▶ Acute coronary syndrome in women. PI: Marta Blázquez.
- ▶ Ultrasensitive markers in acute coronary syndrome. PI: Aitor Alquézar.
- ▶ Cardiac failure. PI: Miguel Rizzi.
- ▶ Supraventricular arrhythmias. PI: Olga Trejo.

Community Disorders

- ▶ Diabetes care in emergency departments. PI: Iván Agra.
- ▶ Infection in emergency departments. PI: J.M. Guardiola.
- ▶ Sepsis syndrome. PI: Ivan Díaz.
- ▶ Elderly patients. PI: Leopoldo Higa.
- ▶ Sexes transmitted disease. PI: Montse Seres.
- ▶ Hematology disease. PI: Marta Blázquez.

Active Grants

- ▶ Mireia Puig Campmany. Nueva área de Urgencias para ancianos frágiles creada en el marco de un Programa de Atención Geriátrica del Servicio: Evaluación de la experiencia del paciente. Quironsalud 2018. Quironsalud. Duration: 2019-2020. 10,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Collaborative network for urgent care for patients with high needs. Award + Futur 2019. Unió Catalana d'Hospitals.
- ▶ Finalists in the Best in Class 2019 Award for Best Emergency Service in Patient Care
- ▶ Plan de Salud Universal para personas adultas con Síndrome de Down. BIC 2019 Award for Best Humanization Project.
- ▶ Geriatric Emergency Department Accreditation (GEDA) by the American College of Emergency Physicians (ACEP).

Scientific Production

Total Impact Factor: 108.513 · Mean Impact Factor: 4.7179

Caballero F, Puig M, Leal J, Ris J. Successful organ donation for transplantation: Targeted actions in the emergency department. *AM J TRANSPLANT*. 2019;19:2960-2961. **IF: 7.163**

García Sarasola A., Alquezar Arbe A., Gil V., Martín-Sánchez F.J., Jacob J., Llorens P., Rizzi M., Fuenzalida C., Calderon S., Miro O., NOVICA: Characteristics and outcomes of patients who have a first episode of heart failure (de novo) NOVICA: características y evolución en los pacientes que presentan un primer episodio de insuficiencia cardiaca (de novo) (2019) *REV CLIN ESP*, 219 (9), 469-476. **IF: 1.0430**

Javaloyes P., Miro O., Gil V., Martín-Sánchez F.J., Jacob J., Herrero P., Takagi K., Alquezar-Arbe A., Lopez Diez M.P., Martín E., Bibiano C., Escoda R., Gil C., Fuentes M., Llopis García G., Alvarez Perez J.M., Jerez A., Tost J., *et al.*, Clinical phenotypes of acute heart failure based on signs and symptoms of perfusion and congestion at emergency department presentation and their relationship with patient management and outcomes (2019) *EUR J HEART FAIL*, 21 (11), 1353-1365. **IF: 13.9650**

Jacob J., Llauger L., Herrero-Puente P., Martín-Sánchez F.J., Llorens P., Roset A., Gil V., Fuentes M., Lucas-Imbernon F.J., Miro O., Gil C., Alonso H., Perez-Llantada E., Llopis-García G., Santos-Matallana M.C., Barrenechea-*et al.*, Acute heart failure and adverse events associated with the presence of renal dysfunction and hyperkalaemia. EAHFE-renal dysfunction and hyperkalaemia (2019) *EUR J INTERN MED*, 67, 89-96. **IF: 3.6600**

Llorens P., Javaloyes P., Masip J., Gil V., Herrero-Puente P., Martín-Sánchez F.J., Jacob J., Garrido J.M., Herrera-Mateo S., Lopez Diez M.P., Concepcion-Aramendia L., Miro O., Prognostic value of chest radiographs in patients with acute heart failure: The radiology in acute heart failure (rad-ica) study Estudio RAD-ICA: Valor pronóstico de la radiografía de tórax obtenida en urgencias en pacientes con insuficiencia cardiaca aguda (2019) *EMERGENCIAS*, 31 (5), 318-326. **IF: 3.3500**

Martín-Sánchez F.J., Cuesta Triana F., Rossello X., Pardo García R., Llopis García G., Caimari F., Vidan M.T., Ruiz Artacho P., Gonzalez del Castillo J., Llorens P., Herrero P., Jacob J., Gil V., Fernandez Perez C., Gil P., Bueno H., *et al.*, Effect of risk of malnutrition on 30-day mortality among older patients with acute heart failure in Emergency Departments (2019) *EUR J INTERN MED*, 65, 69-77. **IF: 3.6600**

Martín-Sánchez F.J., Rodríguez-Adrada E., Vidan M.T., Villanueva P.D., García G.L., Del Castillo J.G., Rizzi M.A., Alquezar A., Mateo S.H., Pinera P., Nicolas J.A.S., Aragües P.L., Llorens P., Herrero P., Jacob J., Gil V., Fernandez C., Bueno H., Miro O., Impact of geriatric assessment variables on 30-day mortality among older patients with acute heart failure Impacto de las variables geriátricas en la mortalidad a 30 días de los ancianos atendidos por insuficiencia cardiaca aguda (2019) *EMERGENCIAS*, 31 (3), 149-155. **IF: 3.3500**

Miro O., Takagi K., Gayat E., Llorens P., Martín-Sánchez F.J., Jacob J., Herrero-Puente P., Gil V., Wussler D.N., Richard F., Lopez-Grima M.L., Gil C., Garrido J.M., Perez-Dura M.J., Alquezar A., Alonso H., Tost J., Lucas Invernón F.J., Mueller C., Mebazaa A., CORT-AHF Study: Effect on Outcomes of Systemic Corticosteroid Therapy During Early Management Acute Heart Failure (2019) *JACC-HEART FAIL*, 7 (10), 834-845. **IF: 8.9100**

Miro O., García Sarasola A., Fuenzalida C., Calderon S., Jacob J., Aguirre A., Wu D.M., Rizzi M.A., Malchair P., Haro A., Herrera S., Gil V., Martín-Sánchez F.J., Llorens P., Herrero Puente P., Bueno H., Dominguez Rodriguez A., *et al.*, Departments involved during the first episode of acute heart failure and subsequent emergency department revisits and rehospitalisations: an outlook through the NOVICA cohort (2019) *EUR J HEART FAIL*, 21 (10), 1231-1244. **IF: 13.9650**

Miro O., Padrosa J., Takagi K., Gayat E., Gil V., Llorens P., Martín-Sánchez F.J., Herrero-Puente P., Jacob J., Montero M.M., Tost J., Diez M.P.L., Travería L., Torres-Garate R., Alonso M.I., Agüera C., Valero A., Javaloyes P., *et al.*, Influence of the length of hospitalisation in post-discharge outcomes in patients with acute heart failure: Results of the LOHRCA study (2019) *EUR J INTERN MED*, 70, 24-32. **IF: 3.6600**

Miro O., Rossello X., Gil V., Martín-Sánchez F.J., Llorens P., Herrero-Puente P., Jacob J., Pinera P., Mojarro E.M., Lucas-Imbernon F.J., Llauger L., Agüera C., Lopez-Diez M.P., Valero A., Bueno H., Pocock S.J., Gil M.F., Salvo E., *et al.*, Analysis of How Emergency Physicians' Decisions to Hospitalize or Discharge Patients With Acute Heart Failure Match the Clinical Risk Categories of the MEESSI-AHF Scale (2019) *ANN EMERG MED*, 74 (2), 204-215. **IF: 5.2090**

Miro O., Gil V., Rossello X., Martín-Sánchez F.J., Llorens P., Jacob J., Herrero P., Mateo S.H., Richard F., Escoda R., Fuentes M., Mojarro E.M., Llauger L., Bueno H., Pocock S., Gil C., Garmila P., Adrada E.R., Perdígones J., *et al.*, Patients with acute heart failure discharged from the emergency department and classified as low risk by the MEESSI score (Multiple risk estimate based on the Spanish emergency department scale): Prevalence of adverse events and predictability Eventos adversos en pacientes con insuficiencia cardiaca aguda clasificados de bajo riesgo por la escala MEESSI y datos de alta desde urgencias: Cuantificación y predictibilidad (2019) *EMERGENCIAS*, 31 (1), 5-14. **IF: 3.3500**

Mueller-Hennesen M., Lindahl B., Giannitsis E., Vafaie M., Biener M., Haushofer A.C., Seier J., Christ M., Alquezar-Arbe A., deFilippi C.R., McCord J., Body R., Panteghini M., Jernberg T., Plebani M., Verschuren F., French J.K., Christenson R.H., Dinkel C., Katus H.A., Mueller C., Combined testing of copeptin and high-sensitivity cardiac troponin T at presentation in comparison to other algorithms for rapid rule-out of acute myocardial infarction (2019) *INT J CARDIOL*, 276, 261-267. **IF: 3.4710**

Puig M., Álvarez MT. Ancianos con SCASEST en urgencias: ¿cuál es la mejor estrategia de manejo? *EMERGENCIAS* 2019;31 (3):151-153. **IF: 3.608**

Puig M., Bustamante M., Blázquez M., Ris J. Pacientes ancianos atendidos en Urgencias por caídas y una posibilidad de mejora: el urgerciólogo y la ortogeriatría. *EMERGENCIAS* 2019; 31(1): 70-71. **IF: 3.608**

Puig Campmany M., Ris Romeu J., Blázquez Andion M., Benito Vales S., Development of a comprehensive, multidisciplinary program of care for frailty in an emergency department (2019) *EUR GERIATR MED*, 10 (1), 37-46. **IF: 1.2330**

Puig M., Mateo M., Blázquez M., Ris J. Identifying improvements in an emergency department elder friendly area based on patient experience "ED_EFA their voice project". *INT CLIN MED* 2019; 3: 1-2 doi: 10.15761/ICM.1000150. **IF: 1.27**

Romero R., Gaytan J.M., Aguirre A., Llorens P., Gil V., Herrero P., Jacob J., Martín-Sánchez F.J., Perez-Dura M.J., Alquezar A., Lopez M.L., Roset A., Peacock W.F., Hollander J.E., Coll-Vinent B., Miro O., Fuentes M., Gil C., Alonso H., *et al.*, The role of atrial fibrillation in the short-term outcomes of patients with acute heart failure (2019) *CLIN RES CARDIOL*, 108 (6), 622-633. **IF: 4.9070**

Roset A., Jacob J., Herrero-Puente P., Alquezar A., Martín-Sánchez F.J., Llorens P., Llauger L., Gil V., Miro O., Characteristics and prognosis of patients with acute heart failure without troponin determination: The EAHFE-TROPICA3 study Caractéristiques et pronostic des patients souffrant d'insuffisance cardiaque aiguë sans détermination de la troponine: étude EAHFE-TROPICA3 (2019) *ARCH CARDIOVASC DIS*, 112 (6-7), 390-399. **IF: 2.3550**

Rossello X., Miro O., Llorens P., Jacob J., Herrero-Puente P., Gil V., Rizzi M.A., Perez-Dura M.J., Espiga F.R., Romero R., Sevillano J.A., Vidan M.T., Bueno H., Pocock S.J., Martín-Sánchez F.J., Effect of Barthel Index on the Risk of Thirty-Day Mortality in Patients With Acute Heart Failure Attending the Emergency Department: A Cohort Study of Nine Thousand Ninety-Eight Patients From the Epidemiology of Acute Heart Failure in Emergency Departments Registry (2019) *ANN EMERG MED*, 73 (6), 589-598. **IF: 5.2090**

Sanchis J., Alquezar-Arbe A., Ordonez-Llanos J., Bardaji A., High-sensitivity Cardiac Troponin for the Evaluation of Patients With Suspected ACS: A True or a False Friend? La troponina cardiaca de alta sensibilidad en la evaluación del paciente con sospecha de SCA: ¿verdadera o falsa amiga? (2019) *REV ESP CARDIOL*, 72 (6), 445-448. **IF: 5.1260**

Scharnhorst V., Noordzij P.G., Lutz A., Graser U., Puntener D., Alquezar-Arbe A., A multicenter evaluation of a point of care CRP Test (2019) *CLIN BIOCHEM*, 71, 38-45. **IF: 2.4300**

Vazquez-Moron S., Berenguer J., Gonzalez-García J., Jimenez-Sousa M.A., Canorea I., Guardiola J.M., Crespo M., Quereda C., Sanz J., Carrero A., Hontanón V., Avellón A., Resino S., Prevalence of hepatitis E infection in HIV/HCV-coinfected patients in Spain (2012-2014) (2019) *SCI REP-UK*, 9 (1), 1143. **IF: 4.0110**

Associated Groups

Radiophysics and Radioprotection

**Coordinator**

Ribas Morales, Montserrat (FGS)
mribas@santpau.cat

Members

Adrià Mora, Mar (FGS)
Carrasco de Fez, Pablo (FGS)
Delgado Tapia, Paula (FGS)
Gallego Franco, Pedro (FGS)
Jornet Sala, Núria (FGS)
Latorre Musoll, Arthur (FGS)
Lizondo Gisbert, Maria (IR)
Mejía Miñarro, Mònica (FGS)
Pallerol Pinzano, Rosa M. (FGS)

Pérez-Allija Fernández, Jaime (FGS)
Ruiz Martínez, Agustín (FGS)

Main Lines of Research

External beam radiation therapy

- ▶ Characterization of various in vivo dose measurement detectors for radiation therapy treatments with intensity modulation (IMRT, VMAT).
- ▶ Validation of dose calculation algorithms for external beam radiation therapy planning systems.
- ▶ Automation of radiation therapy quality assurance.
- ▶ Optimization of QA procedures for IMRT, VMAT, stereotactic body radiation therapy (SBRT) and gating respiratory treatments.
- ▶ Skin dose in IMRT and SBRT techniques.
- ▶ Quantitative imaging analytics for predictive modelling of cardiac and skin toxicity after breast radiation therapy.

Collaborations

External Collaborations

- ▶ HSCSP: Pablo Carrasco, Montserrat Ribas, Teresa Eudaldo, Núria Jornet, Artur Latorre, Agustín Ruiz, Paula Delgado, Carla Cases, P. Itziar Valverde. PI: Joan Francesc Barquineró (UAB). Grup d'estudis citogenètics i moleculars dels efectes de les radiacions ionitzants i del càncer. 2017 SGR 255. 2017-2019.
- ▶ Institut de Tècniques Energètiques de Catalunya (INTE), UPC. Ongoing research and knowledge transfer projects: development of thermoluminescence in vivo dosimetry for external beam radiotherapy use. Application of the Monte Carlo simulation method for radiation transport in a clinical environment and especially for testing and improving treatment planning systems algorithms used in external beam radiation therapy.
- ▶ Montserrat Ribas, Núria Jornet (Director project), Pablo Carrasco, Pedro Gallego, Jaime Pérez-Allija, Artur Latorre, Agustí Ruíz, Paula Delgado, Mar Adrià, P. Itziar Valverde, Marta Barceló, Nagore García. RFRP Service (HSCSP) Agreement and Sun Nuclear Company (USA). The service is a reference center for the SunCheck quality management platform and implements the SunCHECK™ platform, an integrated and automatic system for quality management in the Radiotherapy process (includes machines and patients). 2019-2022.

Active Grants

- ▶ Montserrat Ribas Morales. Precisión y seguridad en SBRT: evaluación del efecto del movimiento respiratorio y dosimetría "in vivo" mediante dosimetría portal. PI15/00788. Instituto de Salud Carlos III. Duration: 2016-2019. 81,500 €.
- ▶ María Lizondo Gisbert. Evaluación de las nuevas estrategias de irradiación en el tratamiento del cáncer de mama y su implementación en la clínica. AIO 2016. Asociación Española Contra el Cáncer. Duration: 2016-2019. 135,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Núria Jornet. Learning from clinical practice: Pushing Quality Forward. (invited conference). Radiotherapy and Oncology, Vol. 133, S621-S622. ESTRO 38. Milan (Italy). Emmanuel van der Shueren Award.
- ▶ Lizondo M, Latorre-Musoll A, Ribas M, Carrasco P, Espinosa N, Coral A, Jornet N. Pseudo skin flash on VMAT in breast radiotherapy: Optimization of virtual bolus thickness and HU values. Phys Med. 2019 Jul;63:56-62IF: 2.240. One of the 5 works selected as the best publication 2019 in the journal Phys Medica

Scientific Production

Total Impact Factor: 20.3660 · Mean Impact Factor: 5.0915

Kazantseva P., Lechnerb W., Gershkevitch E., Clarke C.H., Venencia D., Van Dykh J., Wesolowska P., Hernandez V., Jornet N., Tomsej M., Bokulica T., Izewska, J. IAEA methodology for on-site end-to-end IMRT/VMAT audits: an international pilot study. *ACTA ONCOLÓGICA*, 141-148, 2019. **IF: 3.298**

Lizondo M., Latorre-Musoll A., Ribas M., Carrasco P., Espinosa N., Coral A., Jornet N., Pseudo skin flash on VMAT in breast radiotherapy: Optimization of virtual bolus thickness and HU values (2019) *PHYS MEDICA*, 63, 56-62. **IF: 2.5320**

Lopez-Mora D.A., Flotats A., Fuentes-Ocampo F., Camacho V., Fernandez A., Ruiz A., Duch J., Sizova M., Domenech A., Estorch M., Carrio I., Comparison of image quality and lesion detection between digital and analog PET/CT (2019) *EUR J NUCL MED MOL I*, 46 (6), 1383-1390. **IF: 7.1820**

Rausch I., Ruiz A., Valverde-Pascual I., Cal-Gonzalez J., Beyer T., Carrio I., Performance evaluation of the VereoS PET/CT system according to the NEMA NU2-2012 standard (2019) *J NUCL MED*, 60 (4), 561-567. **IF: 7.3540**

Diffusion Activities

Dissemination Activities to Society

- ▶ Núria Jornet (invited lecture). Medical Physics and the new Radiation Oncology: What changed, what will change? Matera (Italy), 7-8 November 2019.
- ▶ Núria Jornet. Master Imatge Cardio. Hospital de Sant Pau. Barcelona, 21 November 2019.

Scientific Dissemination

Invited Lectures

- ▶ Núria Jornet. Radiotherapy plan quality metrics in multi-institutional data sharing. 34th Workshop on Clinical and Experimental Research in Radiation Oncology (CERRO). Les Menuires (France), 23 January 2019.
- ▶ Artur Latorre-Musoll. Enhancing clinical management efficiency with Eclipse Scripting API. 1st EMEIA Scripting Symposium of Varian Medical Systems. Milan (Italy), 25 April 2019.
- ▶ Agustín Ruiz. Optimització en radiologia pediàtrica. VIII Congrés Nacional de Radiòlegs de Catalunya (Barcelona). 29-31 May 2019.
- ▶ Núria Jornet (IAEA expert). Clinical audits in Radiation Oncology; End to end dosimetry audits: Shane phantom methodology. Plovdiv (Bulgaria). 31 May-2 June 2019.
- ▶ Núria Jornet. Dosimetry audits for advanced techniques: challenges and potential solutions. IDOS 2019. IAEA Wien (Austria), 18-21 June 2019.

Oral Communications

- ▶ M. Barceló-Pagès, A. Ruiz-Martínez, R. Pallerol, I. Valverde-Pascual, P. Carrasco de Fez, P. Delgado, P. Gallego, N. Jornet, A. Latorre-Musoll, M. Lizondo, J. Pérez-Alija, M. Ribas. Tasa de rechazo en equipos digitales de rayos X dedicados a exploraciones simples. 6º Congress of the SEFM and the SEPR. Burgos, 11-14 June 2019.

Posters

- ▶ ESTRO 38. Milan (Italia) - 26-30 April 2019
 - Pablo Carrasco de Fez, Maria Amor Duch, Núria Jornet, Paula DelgadoTapia, María Lizondo, Carla Cases, Artur LatorreMusoll,

Agustí Ruiz, Montserrat Ribas. In vivo skin dosimetry correction factors for IMRT. *Radiotherapy and Oncology* Vol. 133, S951-S952, 2019.

- P. Gallego Franco, E. Ambroa, J. Pérez-Alija, M. Ribas, M. Colomer. Deep Convolutional Network with transfer learning for dose prediction in VMAT prostate treatments. https://www.posteression-online.eu/173580348_eu/congresos/ESTRO38/aula/-PO_917_ESTRO38.pdf
- Latorre-Musoll A, Delgado-Tapia P, Lizondo M, Jonet N, Carrasco P, Ruiz-Martínez A, Valverde-Pascual I, Barceló M, Ribas M. Transit-Guided RadioTherapy (TGRT): a novel intra-fraction patient monitoring approach. *Radiother and Oncol* 2019;133(Supl 1):S1076-S1077.
- Maria Lizondo, Artur Latorre-Musoll, Nuria Espinosa, Anna Coral, Carla Cases, Núria Jornet, Pablo Carrasco, Paula Delgado-Tapia, Agustín Ruiz-Martínez, Itziar Valverde-Pascual, Marta Barceló, Montserrat Ribas. Optimal parameters to perform the Pseudo Skin-Flash on VMAT on breast radiotherapy. *Radiotherapy and Oncology*, Vol. 133, S490-S491.
- ▶ 6 Congress SEFM/SEPR. Burgos, 11-14 June 2019
 - I. Valverde-Pacual, A. Ruiz-Martínez, A. Latorre-Musoll, M. Lizondo, P. Gallego Franco, J. Pérez-Alija, P. Carrasco de Fez, N. Jornet, P. Delgado-Tapia, M. Barceló-Pagès, M. Ribas. Estudio calidad de imagen PET/CT digital con tecnología ToF. Comparativa PET/CT digital vs. PET/CT analógico.
 - M. Lizondo, M.J. Fuentes, N. Jornet, A. Latorre-Musoll, A. Ruiz, P. Gallego, P. Carrasco, P. Delgado-Tapia, J. Pérez-Alija, P. I. Valverde-Pascual, M. Barceló-Pagès, M. Ribas. Modelo predictivo de fibrosis tardía en radioterapia de cáncer de mama.

Courses

- ▶ Núria Jornet (teacher). Course of Dose Modeling dose verification (ESTRO). Lisbon (Portugal), 19-23 May 2019.
- ▶ Núria Jornet (Director and teacher). Course of Quality Assessment and Improvement in Radiation Oncology (ESTRO). Dublin (Ireland), 13-16 October 2019.

Associated Groups

Paediatrics

**Coordinator**

Boronat Guerrero, Susana (FGS)
sboronat@santpau.cat

Members

Badell Serra, Isabel (FGS)
Betancourt Castellanos, Jocelyn
Cristina (FGS)
Brio Sanagustín, Sonia (FGS)
Carreras González, Gemma (FGS)

Castillo Gómez, Fátima (FGS)
Coca Fernández, Elisabet (FGS)
Fraga Rodríguez, Gloria María
(FGS)
García Borau, María José (FGS)
García del Cerro, Gemma (FGS)
Ginovart Galiana, Gemma (FGS)
Goruppi, Ilaria (FGS)
Josa Eritja, María (FGS)
López Bernal, Ester (FGS)

Moliner Calderón, Elisenda (FGS)
Morón Cazalilla, Georgina (FGS)
Serna Berna, Vicente (FGS)
Tirado Capistros, Mireia (FGS)
Tobajas Torrubiano, Eva (FGS)
Torrent Español, Montserrat (FGS)
Trabazo del Castillo, María (FGS)
Turon Viñas, Eulàlia (FGS)
Valle T-Figueras, José María (FGS)

Main Lines of Research

- ▶ Bone marrow transplantation.
- ▶ Bone marrow failure.
- ▶ Hereditary red blood cell pathology.
- ▶ Designation as Benchmark Center of the National Health Care System (CSUR):
 - Pediatric allogenic transplant, since 2010.
 - Hereditary red blood cell pathology (in conjunction with Hospital Sant Joan de Déu), since 2018.
 - Bronchiolitis obliterans.

Scientific Challenges

- ▶ Transplant of hematopoietic progenitor cells from alternative donors.
- ▶ Transplant of hematopoietic progenitor cells in congenital immunodeficiencies.
- ▶ Transplant of hematopoietic progenitor cells in congenital metabolic diseases.
- ▶ Fanconi anaemia (group recognized by the Universitat Autònoma de Barcelona).
- ▶ Polytrauma patient care program. PPT implementation protocol in Hospital de la Santa Creu i Sant Pau and in CatSalut central register.
- ▶ Preterm newborns.
- ▶ Genotype-phenotype correlation in neurocutaneous diseases.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ G Fraga, collaborating investigator in the project Red de Salud Materno Infantil y del Desarrollo (SAMID). RETICS, financed by PN I+D+I 2013-2016, ISCIII - Subdirección General de Evaluación y Fomento de la Investigación and Fondo Europeo de Desarrollo Regional (FEDER), RD 16/0002/0015. Duration: 2017-2021. Principal investigator: Elisa Llorba Olivé.
- ▶ E Turón. Collaborating investigator in the Sarepta 4045-301 Study. Clinical trials. Gov identifier: NCT02500381. Principal investigator: J. Díaz Manera.
- ▶ E López. Collaborating investigator in the project Impact of exercise and mediterranean diet vs Aspirin on live-birth rate and cardiovascular programming in vitro fertilization, a randomized study. FIS 2020 P120-0154. Principal investigator: Elisa Llorba.
- ▶ G Ginovart; M Josa. Collaborating investigators in the clinical trial Remodelado y disfunción cardíaca en pacientes con preeclampsia regulado por el ambiente anti-angiogénico: Estudio clínico y experimental. FIS P119/00702. Gov identifier: NCT04162236. Principal investigators: Elisa Llorba Olivé and Jordi Ordóñez Llanos.
- ▶ Gemma Ginovart, Maria Josa, Remei Tarragó, Susana Boronat. Collaborating investigators in the project BiSC (Barcelona Life Study Cohort). Coordinated by Dr. Jordi Sunyer (ISGlobal) and financed by the European Research Council (ERC) and Health Effects Institute (HEI). Principal investigator: Elisa Llorba Olivé

- ▶ G Ginovart. Pedagogia Hospitalària en Neonatologia i Pediatria. Grup de Recerca 2014 SGR 806, modalitat SGE (2014-2016). AGAUR (Agència de Gestió d'Ajuts Universitaris i de Recerca). 2017-2019.

External Collaborations

- ▶ Elisenda Moliner. Evaluación de una intervención basada en la evidencia para reducir la bacteriemia asociada a catéter vascular central en recién nacidos de muy bajo peso. FIS 2018. Instituto de Salud Carlos III. INBERBAC-Neo. P117/00565. Principal investigator: Marisela Pérez.
- ▶ E Moliner. Co-investigador of the study Virus Respiratorio Sincitial (VRS). Estudio de las características del virus, del huésped, y los factores ambientales como determinantes de la epidemia y su gravedad clínica. FIS 2018 Instituto de Salud Carlos III. FIS P118/00685. 3 years. Principal investigator: Andrés Antón Pagarolas.
- ▶ E Moliner. Co-investigador of Estudio de las infecciones neurológicas graves en niños causadas por enterovirus emergentes en España: EV-A71 y EV-D68. FIS 2018. Instituto de Salud Carlos III. P118CIII/00017. 3 years. Principal investigator: María Cabrerizo.
- ▶ M Torrent (in collaboration with SEHOP: Sociedad Española de Hematología y Oncología Pediátrica and GEIS: Grupo Español de Investigación en Sarcomas).

- ▶ M Torrent. LINES: Protocolo Europeo de Tratamiento para el Neuroblastoma de Riesgo Bajo e Intermedio. Estudio SIOPEN. Principal investigador (local).
- ▶ M Torrent. Ensayo intergrupo para niños adolescentes con LNH-B o LLA-B (LLA-L3): Evaluación de la eficacia y seguridad de Rituximab para pacientes de alto riesgo. INTER-B-NHL. Principal investigador (local).
- ▶ M Torrent. GEIS 34 (EE2012): International Randomised Controlled Trial for the Treatment of Newly Diagnosed Ewing's Sarcoma Family of Tumours. Euro Ewing 2012. Principal investigator in pediatric population (local).
- ▶ M Torrent. GEIS 35 (RECCUR): International randomised controlled trial of chemotherapy for the treatment of recurrent and primary refractory Ewing sarcoma. Principal investigator in pediatric population (local).
- ▶ M Torrent. GEIS 33 (ISG-GEIS-OS-2): Estudio prospectivo observacional de la expresión de ABCB1/P-glicoproteína como factor para la estratificación biológica del osteosarcoma no metastático de las extremidades. Collaborating investigator in pediatric population.
- ▶ M Torrent. GEIS 39 (ABRADES): Phase II trial of nab-paclitaxel for the treatment of desmoid tumors and multiply relapsed/refractory desmoplastic small round cell tumors and Ewing's sarcoma. Collaborating investigator in pediatric population.
- ▶ M Torrent. Ensayo LCH-IV: International collaborative treatment protocol for children and adolescents with Langerhans cell histiocytosis. Principal investigator (local).
- ▶ M Torrent. AdVance Study: Incidence and outcomes associated with the management of adenovirus infections in allogeneic hematopoietic cell transplant recipients: AdVance. Principal investigator in pediatric population (local).
- ▶ JM Valle T-Figueras, Elisenda Moliner Calderón. Collaborating investigator in the study Virus Respiratorio Sincitial (VRS). Estudio de las características del virus, del huésped, y los factores ambientales como determinantes de la epidemia y su gravedad clínica. FIS 2018. Instituto de Salud Carlos III. PI18/00685. 3 years. Principal investigators: Tomás Pumarola Suñé; Andrés Antón Pagarolas.
- ▶ JM Valle T-Figueras. Collaborating investigator in the study: Farmacocinética de Voriconazol para el tratamiento de la infección fúngica invasiva en pediatría. Pfizer España. Principal investigator: Pere Soler-Palacín (Hospital Universitari Vall d'Hebron, Barcelona).
- ▶ JM Valle T-Figueras. Collaborating investigator in the study Infecciones Osteoarticulares en Pediatría. Estudio prospectivo multicéntrico. Red para el estudio de las Infecciones osteoarticulares en Pediatría (RIOped). Principal investigators: Esmeralda Núñez Cuadros (Hospital Materno-Infantil de Málaga); Cristina Calvo Rey (Hospital Universitario Severo Ochoa); Jesús Saavedra Lozano (Hospital Universitario Gregorio Marañón).
- ▶ JM Valle T-Figueras. Collaborating investigator in the Registro multicéntrico de indicadores infecciosos principales en urgencias de pediatría. Grupo de Trabajo en Enfermedades Infecciosas, Sociedad Española de Urgencias de Pediatría (SEUP).
- ▶ JM Valle T-Figueras, MR Balcells. Collaborating investigators in the multicenter study: Utilidad de la realización sistemática del electrocardiograma en los niños menores de 14 años con síncope. Principal investigator: Ramón Fernández Álvarez (Hospital Universitario de Cabueñes, Gijón). Red de Investigación de la Sociedad Española de Urgencias de Pediatría (RiSEUP-SPERG).
- ▶ E Turón. Collaborating investigator. Genes and biomarkers in bilateral striatal necrosis. FIS PI15/00287. Principal investigator: Belén Pérez-Dueñas.
- ▶ E Turón. Collaborating investigator. Infecciones por enterovirus con afectación neurológica. Instituto de Salud Carlos III. PI18CIII-00017. Principal investigator: María Cabrerizo Sanz.
- ▶ G Fraga. Collaborating investigator. Estudio multicéntrico europeo (París, Roma, Barcelona): estudio de la Asociación de Genoma Completo (GWAS) para la identificación de factores genéticos de riesgo en pacientes con síndrome nefrótico córtico-sensible (SNCS)/síndrome nefrótico por lesiones mínimas (SNLM).
- ▶ G Fraga. Collaborating investigator. Estudio de fragilidad ósea en población pediátrica con factores de riesgo. Institut de Recerca, Hospital de la Santa Creu i Sant Pau (IIB Sant Pau). IIBSP-FRA-2016-11.
- ▶ G Fraga. Collaborating investigator. Estudio genómico de nefropatías de inicio temprano. FIS (PI16/01998). 2017-2019.
- ▶ G Fraga. Collaborating investigator. Estudio multicéntrico, fase III, open label, de ALXN1210 en niños y adolescentes con síndrome hemolítico-urémico atípico. EudraCT: 2016-002499-29. Hospital Vall d'Hebron.
- ▶ G Fraga. Collaborating investigator. Estudio randomizado, doble ciego, fase III para evaluar a largo plazo la eficacia y seguridad del Oxabact® en pacientes con hiperoxaluria primaria. EudraCT: 2017-000684-33. Hospital Vall d'Hebron.
- ▶ G Fraga. Collaborating investigator. Análisis de la asociación entre el número de podocitos y la activación del epitelio parietal con el patrón morfológico, respuesta al tratamiento y pronóstico en enfermos con síndrome nefrótico idiopático. CEIC-2052. Investigation team: Hospital Arnau de Vilanova and IRB Lleida: Alfons Segarra Medrano, Elias Jatem Escalante, Anabel Abo, Maria Santacana and Cristina Martínez; Nefrología Pediátrica Hospital de Vic: Neus Roca; Nefrología Pediátrica Hospital Vall d'Hebron: Gema Ariceta; Nefrología Pediátrica Sant Joan de Déu: Álvaro Madrid; Nefrología Pediátrica Hospital de Sant Pau.
- ▶ G Fraga. Collaborating investigator. A Randomized, Double-Blind, Placebo-Controlled Phase 2 Study to Evaluate the Safety and Efficacy of Avacopan (CCX168) in Patients with C3 Glomerulopathy. EudraCT: 2017-001821-42. Hospital Vall d'Hebron.
- ▶ G Fraga. Collaborating investigator. An open label roll over study to evaluate the long term safety and efficacy of DCR-PHXC solution for injection (subcutaneous use) in patients with primary hyperoxaluria. EudraCT: 2018-003098-91. Hospital Vall d'Hebron.
- ▶ G Fraga. Collaborating investigator. Estudio de ampliación del tratamiento, con un solo grupo y sin enmascaramiento para evaluar la seguridad y la eficacia a largo plazo de Oxabact® en pacientes con hiperoxaluria primaria y que ha completado el estudio 0C5-DB-02. Número EudraCT: 2018-003576-12. Hospital Vall d'Hebron.
- ▶ G Fraga. Collaborating investigator. A Phase II, randomised, open-label, multicentre study to assess the reactogenicity, safety and immunogenicity of GSK's paediatric Herpes Zoster subunit candidate vaccine (PED-HZ/su) when administered intramuscularly on a two-dose schedule to immunocompromised paediatric renal transplant recipients from 1 to 17 years of age. Número EudraCT: 2019-000607-33. Hospital Vall d'Hebron.
- ▶ G Fraga. Collaborating investigator. 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. FIS (PI19/01633). 2019.
- ▶ Badell I. Estudio analítico retrospectivo de la evolución en los últimos 10 años de los pacientes pediátricos con enfermedad celíaca en un hospital terciario. Institut de Recerca, Hospital de la Santa Creu i Sant Pau – IIB Sant Pau 2019.
- ▶ Badell I. Identificación de biomarcadores genéticos que ayuden a predecir la evolución del trasplante de progenitores hematopoyéticos en edad pediátrica. Grupo Español de Trasplante Hematopoyético y Terapia Celular. GEN-TPH_201701.
- ▶ Badell I. A Phase I/II open-label, single-arm, multi-center study of ruxolitinib added to corticosteroids in pediatric patients with grade II-IV acute graft vs. host disease after allogeneic hematopoietic stem cell transplantation. EudraCT number: 2018-000422-55.
- ▶ Badell I. ALL SCTped 2012 FORUM Allogeneic Stem Cell Transplantation in Children and Adolescents with Acute Lymphoblastic Leukemia International Therapy Protocol. EudraCT number: 2012-003032-22
- ▶ Badell I. A Phase 2b open-label, single-arm study to evaluate pharmacokinetics, efficacy, safety and tolerability of letermovir in pediatric participants from birth to less than 18 years of age at risk of developing CMV infection and/or disease following allogeneic haematopoietic stem cell transplantation (HSCT). EudraCT 2018-001326-25.
- ▶ Badell I. A Multicenter, Randomized, Phase III Registration Trial of Transplantation of NiCord®, Ex Vivo Expanded, Umbilical Cord Blood-derived, Stem and Progenitor Cells, versus Unmanipulated Umbilical Cord Blood for Patients with Hematological Malignancies. EudraCT Number: 2016-000704-28.

- ▶ Badell I. A Phase III open-label, single-arm, multi-center study of ruxolitinib added to corticosteroids in pediatric patients with grade II-IV acute graft vs. host disease after allogeneic hematopoietic stem cell transplantation. EudraCT number: 2018-000422-55.
- ▶ Badell I. Research study for treatment of children and adolescents with acute myeloid leukaemia 0-18 years. NOPHO-DBH AML 2012. EudraCT number: 2012-002934-35.
- ▶ Badell I. A Randomized, Open-Label, Controlled Phase 3 Adaptive Trial to Investigate the Efficacy, Safety, and Tolerability of the BiTE[®] Antibody Blinatumomab as Consolidation Therapy Versus Conventional Consolidation Chemotherapy in Pediatric Subjects with High-Risk First Relapse of B-precursor Acute Lymphoblastic Leukemia (ALL). EudraCT Number: 2015-000733-76.
- ▶ Badell I. Infusión de células Natural Killer aloreactivas o estimuladas post trasplante haploidéntico de progenitores hematopoyéticos en pacientes pediátricos con neoplasias hematológicas (PHINK). FIS. P118/01301.
- ▶ Brió S. Principal investigator. Estudio Nacional de Vigilancia de Infección nosocomial en UCIP (ENVIN-HELICS) 2019. Sociedad Española de Medicina Intensiva, Crítica y Unidades Coronarias Grupo de Trabajo de Enfermedades Infecciosas y Sepsis.
- ▶ Brió S. Principal investigator. Niveles de sedación y relajación con el grado de sedación y síndrome de abstinencia en unidades de cuidados intensivos pediátricos: Estudio multicéntrico español COSAIP. Unidad de Cuidados Intensivos Pediátricos. Hospital Sant Joan de Déu. Investigador coordinador: Alejandro Bosch.

Doctoral Theses

- ▶ Berta Paula Magallares López. Estudio de fragilidad ósea en población pediátrica con factores de riesgo, Universitat Autònoma de Barcelona. Directors: Jordi Casademont, Jorge Malouf, Dacia Cerdà. Date of defense: 28/06/2019

Scientific Production

Total Impact Factor: 114.016 · Mean Impact Factor: 3.8005

Alonso L., Gonzalez-Vicent M., Belendez C., Badell I., Sastre A., Rodriguez-Villa A., Bermudez-Cortes M., Hladun R., Diaz de Heredia C., Hematopoietic stem cell transplantation in pediatric patients with thalassemia and sickle cell disease: An experience of the Spanish Working Group for Bone Marrow Transplantation in Children (GETMON) Trasplante de progenitores hematopoyéticos en niños con β -talasemia y enfermedad drepanocítica: experiencia del grupo GETMON (2019) MED CLIN-BARCELONA, 152 (4), 135-140. **IF: 1.2770**

Alvarez-Holzappel M.J., Aibar Duran J.A., Brió Sanagustin S., de Quintana-Schmidt C., Diffuse pneumocephalus after lumbar stab wound Neuroencefalo difuso tras herida lumbar por arma blanca (2019) AN PEDIATR, 90 (1), 63-64. **IF: 1.1660**

Arias-Salgado E.G., Galvez E., Planas-Cerezales L., Pintado-Berninches L., Vallespin E., Martinez P., Carrillo J., Iarriccio L., Ruiz-Llobet A., Catala A., Badell-Serra I., Gonzalez-Granado L.I., Martin-Nalda A., Martinez-Gallo M., *et al.*, Does the economic recession influence the incidence of pertussis in a cosmopolitan European city? (2019) BMC PUBLIC HEALTH, 19 (1). **IF: 2.5670**

Arias-Salgado EG, Galvez E, Planas-Cerezales L, Pintado-Berninches L, Vallespin E, Martinez P, Carrillo J, Iarriccio L, Ruiz-Llobet A, Catala A, Badell-Serra I, Gonzalez-Granado LI, Martín-Nalda A, Martínez-Gallo M, Galera-Miñarro A, Rodríguez-Vigil C, Bastos-Oreiro M, Perez de Nanclores G, Leiro-Fernández V, Uria ML, Diaz-Heredia C, Valenzuela C, Martín S, López-Muñiz B, Lapunzina P, Sevilla J, Molina-Molina M, Perona R, Sastre L. Genetic analyses of aplastic anemia and idiopathic pulmonary fibrosis patients with short telomeres, possible implication of DNA-repair genes Orphanet J RARE DIS 2019 Apr 17;14(1):82. **IF: 2.58**

Borghini L, Png E, Binder A, Wright VJ, Pinnock E, de Groot R, Hazelzet J, Emonts M, Van der Flier M, Schlapbach LJ, Anderson S, Secka F, Salas A, Fink C, Carrol ED, Pollard AJ, Coin LJ, Kuijpers TW, Martinon-Torres F, Zenz W, Levin M, Hibberd ML, Davila S; EUCLIDS consortium (S Brió). Identification of regulatory variants associated with genetic susceptibility to meningococcal disease. SCI REP. 2019 May 6;9(1):6966. **IF: 4.011**

Bruguera S, Rius C, Millet JP, Casals M, Caylà JA. Does the economic recession influence the incidence of pertussis in a cosmopolitan European city? Barcelona Pertussis Working Group. Colaboradora S Brió. BMC Public Health 2019 Feb 4;19(1):144. **IF: 2.567**

Faraci M., Bertaina A., Dalissier A., IFversen M., Schulz A., Gennery A., Burkhardt B., Badell Serra I., Diaz-de-Heredia C., Lanino E., Lankester A.C., Gruhn B., Matthes-Martin S., Kuhl J.S., Varotto S., Paillard C., Guilmatre A., Sastre A., Abecasis M., Garwer B., Sedlacek P., Boelens J.J., Beohou E., Bader P., Solid organ transplantation after hematopoietic stem cell transplantation in childhood: A multicentric retrospective survey (2019) AM J TRANSPLANT, 19 (6), 1798-1805. **IF: 7.1630**

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Garcia Reymundo M., Hurtado Suazo J.A., Calvo Aguilar M.J., Soriano Faura F.J., Ginovart Galiana G., Martin Peinador Y., Jimenez Moya A., Demestre Guasch X., Follow-up recommendations for the late preterm infant Recomendaciones de seguimiento del prematuro tardío (2019) AN PEDIATR, 90 (5), 318.e1-318.e8. **IF: 1.1660**

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Books or Chapters with ISBN

- ▶ Brió S, Turón L, Moliner E. Cuidados del donante pediátrico. In: López-Herce. Manual de Cuidados Intensivos Pediátricos. 5th edition. 2019.
- ▶ Brió S, Turón E, Moliner E. Diagnóstico y mantenimiento del donante de órganos Pediátrico. In: Ruza. Manual de Cuidados Intensivos Pediátricos. 5th edition. 2019
- ▶ Ruiz A, Cervera Á; Torrent M, Badell I. Enfermedad de células falciformes. Guía de práctica clínica. Cela E (coord.) Sociedad Española de Hematología y Oncología Pediátricas (SEHOP). CeGe; April 2019:
 - Anna Ruiz A; González A; Isabel Badell I. 3.4.1. Complicaciones gastrointestinales agudas. Dolor abdominal. Hepatitis.

- Torrent M. 3.8.3. Hematuria.
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- ▶ Fraga Rodríguez GM, Huertes Díaz B. Evaluación básica de la función renal en pediatría. Protoc diagn ter pediatr. Protocolos de la Asociación Española de Pediatría 2018-2019.

Diffusion Activities

Organization of Courses

- ▶ S. Boronat. Speakers: S. Boronat, E. Turon, E. Coca, M. Simón Talero. 1a Jornada de Neurología Pediátrica Práctica de l'Hospital de Sant Pau. Barcelona, October 2019.
- ▶ G. Ginovart. Curso de Reanimación Neonatal Completa (accredited by Grupo de Reanimación Cardiopulmonar Neonatal de la SEN). Hospital de Sant Pau, Barcelona, 27 March 2019.

Lectures

- ▶ E. Turón. Complicaciones neurológicas en el TPH. Curso Actualización en TPH. Hospital de Sant Pau, February 2019.
- ▶ E. Turón. Codi Ictus pediàtric. Curs Intensiu d'Actualització en Pediatría. March 2019.
- ▶ G Ginovart. Efficacy of osteopathic treatment in improving the well-being of newborn infants subjected to non-invasive ventilation in the intensive care unit. Barcelona Osteopathic Congress. Barcelona, 18 May 2019.
- ▶ G Ginovart, R. Porta. La visita prenatal. Desarrollo de habilidades comunicativas. XXVII Congreso de Neonatología y Medicina Perinatal. Madrid, 3 October 2019.
- ▶ E. Moliner. Características epidemiológicas y clínicas de la infección neonatal por enterovirus. XXVII Congreso de Neonatología y Medicina Perinatal – VII Congreso de Enfermería Neonatal. Madrid, 2-4 October 2019.

- ▶ G Fraga. Teacher of the 2nd edition of Curso de Experto Universitario en Nefrología Pediátrica. Universidad de Oviedo, Centro Internacional de Postgrado. 2018-2019.
- ▶ G Fraga. Detección, diagnóstico e impacto del daño renal agudo en el recién nacido. Curso de Formación Continuada en Neonatología. Hospital Vall d'Hebron, Barcelona, 7 February 2019.
- ▶ G Fraga. Complicaciones nefrológicas post-transplante. Curso Transplante Hematopoyético en Pediatría (coordinated by Isabel Badell Serra, Hospital Sant Pau and Hospital Sant Joan de Déu). Barcelona, 15 February 2019.
- ▶ G Fraga. Insuficiencia renal: ¿aguda o crónica? Curso de Actualización en Pediatría Doctor Riera. XXXI edition. 09/023139MD. Consorci Sanitari de l'Anoia. Hospital d'Igualada, 4 April 2019.
- ▶ G Fraga. Identificación y seguimiento del recién nacido de alto riesgo nefrológico. XX Curso Internacional. Formación Continuada en Nefrología Pediátrica. Hospital Vall d'Hebron. Barcelona, 23-24 October 2019.
- ▶ G Fraga. Teacher of the 3rd edition of Curso de Experto Universitario en Nefrología Pediátrica. Universidad de Oviedo, Centro Internacional de Postgrado. 2019-2020.
- ▶ G Fraga. Nefrología Pediátrica. Curso básico de formación. Cursos de formación – Continuum. Asociación Española de Pediatría: Fraga Rodríguez GM, González Rodríguez JD. Estudio básico de la función renal en pediatría. Available at: <http://continuum.aeped.es>

- ▶ G Fraga. Registro Nacional de Poliquistosis Renal Autosómica Dominante. XLIV Congreso Nacional Nefrología Pediátrica. Badajoz, 15-18 May 2019. Activity recognized of sanitary interest by the Ministry of Health and Social Policies for scientific and technical events held in the Autonomous Community of Extremadura.
- ▶ G Fraga. Diagnóstico diferencial del síndrome hemolítico-urémico atípico en el niño grave. 34 Congress of the Sociedad Española de Cuidados Intensivos Pediátricos. San Sebastián, 23-25 May 2019.
- ▶ E Tobajas. Atención psicosocial y espiritual en personas en situación de enfermedad crónica avanzada. Postgrau Universitat de Vic. Institut Català d'Oncologia (ICO), Barcelona. 2019-2020.
- ▶ E Tobajas. Máster de avances en la clínica psicoanalítica de la infancia y la adolescencia. Universitat de Barcelona. 2019-2020.
- ▶ Eva Tobajas. Máster de Psicología General Sanitaria. Universitat Autònoma de Barcelona. 2019-2020.
- ▶ G García del Cerro. Curso teórico-práctico sobre el manejo del asma no controlada. Servicio de Neumología y Alergia Pediátrica. Hospital de la Santa Creu i Sant Pau. Barcelona. June 2019.
- ▶ G García el Cerro. Trasplante de progenitores hematopoyéticos en Pediatría. Tumores sólidos y linfomas. I Curso Teórico-Práctico sobre Trasplante Hematopoyético en Pediatría. Hospital Sant Pau-Hospital Sant Joan de Déu. Barcelona, 13 February 2019.
- ▶ S Boronat. Taller de exploración neurológica. 6º Curso de Pediatría práctica. Reus, March 2019.
- ▶ S Boronat. La serie esquelética en la era de la genómica. Round table: Estandarización de los protocolos de radiología ósea pediátrica. VIII Congrés Nacional de Radiòlegs de Catalunya. Barcelona, May 2019.
- ▶ S Boronat. Retos en las epilepsias infantiles. Extrapolación de resultados de eficacia de pacientes adultos a pacientes pediátricos con epilepsia focal. Advisory Board Eisai. Madrid, July 2019.
- ▶ S Boronat. Taller de dismorfología práctica. Countinuous training of the Societat Catalana de Pediatría. Barcelona, November 2019.
- ▶ S Brió. Transport en Helicòpter. XXVI Curs de Transport Pediàtric. Hospital Vall d'Hebron. May 2019.
- ▶ S Brió. Intoxicacions a pediatria. Jornada de residents de la SOCMIC. Toxicologia clínica. Societat Catalana de Medicina Intensiva i Crítica. Acadèmia de Ciències Mèdiques de Catalunya i Balears. April 2019.
- 3rd International Workshop on Bronchiolitis obliterans. Klinikum Frankfurt University. Starke Lunge Foundation. 22-23 February 2019.
- ▶ Gemma García del Cerro, Antonio Moreno Galdo, Inés de Mir Messa, Silvia Gartner Tizzano, Laura Garriga Grimau, Alba Torrent Vernetta, Sandra Rovira Amigo, Ignacio Iglesias Serrano, Antonio Moreno Galdo. Bronchiolitis obliterante post-infecciosa, experiencia en nuestro centro. XLI Reunión de la Sociedad Española de Neumología Pediátrica (SENP), May 2019. Oral communication candidate for an award.
- ▶ Gemma García del Cerro, Antonio Moreno Galdo, Inés de Mir Messa, Silvia Gartner Tizzano, Laura Garriga Grimau, Alba Torrent Vernetta, Sandra Rovira Amigo, Ignacio Iglesias Serrano, Antonio Moreno Galdo. Bronchiolitis obliterans in children. Experience in our Center. International Congress of the European Respiratory Society. Madrid, 28 September - 2 October 2019.
- ▶ F. Thorndike, N. Cortés, L. Rodríguez. Valoración inicial de la anafilaxia en urgencias de pediatría. 48th Annual Meeting of the Sociedad Española de Inmunología Clínica, Alergología y Asma Pediátrica (SEICAP). Valencia, Spain, 16-18 May 2019.
- ▶ Congreso Nacional de la Sociedad Española de Hematología y Oncología Pediátricas. Jerez de la Frontera, 30 May - 1 June 2019:
 - Montserrat Torrent Español; J. Vicente Serna Berna; Lizbeth Estefanía Díaz Polo; María Quinteiro González; Isabel Badell. Linfoma primario del sistema nervioso central en pediatría ¿cómo lo tratamos?
 - Georgina Morón Cazalilla; María Trabazo del Castillo; José Vicente Serna Berna; Montserrat Torrent Español; Isabel Badell Serra. Diferentes percepciones y criterios de derivación entre hematólogos y oncólogos sobre los cuidados paliativos pediátricos. Prize for the best oral communication at the congress.
- ▶ LXI Congreso Nacional de la Sociedad Española de Hematología y Hemoterapia (SEHH). Valencia, 24-26 October 2019:
 - Serra Ferrer M, Criado Casas V, Gómez Pérez L, Payán Pernía S, Badell Serra I, Torrent Español M, Medina Barrero L, Bosch Llobet A, Remacha Sevilla ÁF. Evaluación de una metodología rápida y automatizada para el estudio de la concentración de Hb S en el recambio eritrocitario en drepanocitosis.
 - Santaliestra Tomas M, Payán Pernía S, Ruiz Llobet A, Vicente Pascual EP, García Rey E, Medina Barrero L, Badell Serra I, Torrent Español M, Sáez Bruguera M, Bosch Llobet A, Parra López R, Remacha Sevilla ÁF. Automatización de los recambios eritrocitarios en el manejo de la drepanocitosis.
 - Santaliestra M, Ferrer G, Sáez M, Trabazo M, Morón G, Serna JV, Torrent M, Badell I, García E, Codinach M, Torrents S, Rudilla F, Querol S, Medina L. Aloimmunización eritrocitaria en trasplante de progenitores hematopoyéticos (TPH) de sangre cordón umbilical (SCU), con incompatibilidad de fenotipo eritrocitario y bajo inmunoterapia antivírica, en inmunodeficiencia congénita.
 - Awol R, Bussaglia E, Carricondo M, Martínez C, Torrent M, Pratorcorona M, Nomdedéu, Blanco ML. Síndrome mielodisplásico en edad temprana asociado a manifestaciones clínicas heterogéneas: a propósito de un caso.
- ▶ Payán Pernía S, Krishnevskaia E, Rizzuto V, Remacha Sevilla ÁF, Torrent Español M, Badell Serra I, Ancochea Serra A, Vives-Corrons JL. Hereditary ellyptocytosis associated with heterozygote pyruvate kinase and glucose-6-phosphate dehydrogenase mutations. A case report and family study. HemaSphere. 2019; 3(S1):894. 24th Congress of the European Hematology Association (EHA). Amsterdam, 13-16 June 2019.
- ▶ 1a Diada Reumatològica. Barcelona, April 2019:
 - Berta Magallares López, Laura Martínez-Martínez, Andrea García-Guillén, Yolanda Alvaro Gargallo, Hyesang Park, Ana Milena Millán, Patricia Moya, Ivan Castellví, César Díaz-Torné, Ana Laiz, Susana Fernández, Conxita Pitarch, Manel Riera, Jordi Casademont, Susana Boronat, Cándido Juárez, Héctor Corominas. Estudio de biomarcadores a artritis idiopática juvenil a la práctica clínica.
 - Magallares B, Cerdá D, Betancourt J, Fraga G, Quesada-Masachs E, López-Corbeto M, Pardo N, Torrent M, Marín A, Herrera S, Fernandez S, García-Guillén A, Park H, Milena Millán A, Moya P, Castellví I, Díaz-Torné C, Laiz A, Pitarch C, Riera M, Casademont J, Corominas H, Malouf J. Associació de factors de risc en nens amb risc d'ensenvolupar baixa massa òssia / osteoporosi i repercussió densitomèrica.

Communications and Posters in Congresses

- ▶ María Josa Eritja, Elisenda Moliner Calderón, María José García Borrau, Esther López Bernal, Eulàlia Turón Viñas, Gemma Ginovart Galiana. Accidentes cerebrovasculares en neonatología: experiencia de un hospital de tercer nivel. XXVII Congreso de Neonatología y Medicina Perinatal and VII Congreso de la Sociedad Española de Enfermería Neonatal. Madrid, 2-4 October 2019.
- ▶ Moraleda Mesa ST, Tejera Carreño P, Escobar Orduño MC, Limón Armenta JG, González Rodríguez JD, Fraga Rodríguez GM, Luis Yanes MI; García Nieto VM. Estudio comparativo de nueve fórmulas que utilizan parámetros estandarizados para calcular el filtrado glomerular renal estimado en población pediátrica. 47 Reunión Conjunta de las Sociedades Canarias de Pediatría. Costa Adeje, Tenerife, 29 June 2019. Prize for the best oral communication.
- ▶ Cueto AM, Plaja A, Castells N, Serra C, Munell F, Colomer J, López F, Martínez L, Valenzuela I, Boronat S, Oliveros E, García-Arumí E, Tizzano E. Discapacidad intelectual moderada en dos varones con duplicación en BCORL1. II Congreso Interdisciplinar de Genética Humana. Madrid, April 2019.
- ▶ Boronat S, Barber I, Thiele EA. Lesiones escleróticas óseas en el Complejo Esclerosis Tuberosa. II Congreso Interdisciplinar de Genética Humana. Madrid, April 2019.
- ▶ Boronat S, Vázquez E, Sánchez-Montañez A, Vicente M, del Campo M. MR neuroimaging and EEG findings in 62 patients with Fetal Alcohol Spectrum Disorders. European Human Genetics Conference. Gothenburg, Sweden, June 2019.
- ▶ Gemma García del Cerro, Antonio Moreno Galdo, Inés de Mir Messa, Silvia Gartner Tizzano, Laura Garriga Grimau, Alba Torrent Vernetta, Sandra Rovira Amigo, Ignacio Iglesias Serrano, Antonio Moreno Galdo. Bronchiolitis obliterans in children. Experience in our Center.

- ▶ Magallares B, Cerdá D, Betancourt J, Fraga G, Quesada-Masachs E, López-Corbeto M, Pardo N, Torrent M, Marín A, Herrera S, Casademont J, Corominas H, Malouf J. . Asociación de factores de riesgo en niños con riesgo de desarrollar baja masa ósea/osteoporosis y repercusión densitométrica. *Reumatol Clin*. 2019; 15 (Supl Cong): 28 (Oral Communication). XLV Congreso de la Sociedad Española de Reumatología (SER). Valencia, 21-24 May 2019.
- ▶ XXIV Congress of the Sociedad Española de Investigación Ósea y del Metabolismo Mineral (SEIOMM). Girona, 16-18 October 2019:
 - Magallares B, Cerdá D, Betancourt J, Fraga G, Quesada-Masachs E, López-Corbeto M, Torrent M, Marín A, Herrera S, Casademont J, Del Río L, Corominas H, Malouf J. Estudio de calidad ósea medida por TBS en población pediátrica con factores de riesgo.
 - Magallares B, Cerdá D, Betancourt J, Fraga G, Gich I, Quesada-Masachs E, López Corbeto M, Torrent M, Marín A, Herrera S, Casademont J, Corominas H, Malouf J. Variabilidad de la z score según el ajuste de talla en población pediátrica.
- ▶ Berta Paula Magallares López, Dacia Cerda, Jocelyn Betancourt, Gloria Fraga, Estefanía Quesada-Masachs, Mireia López-Corbeto, Montserrat Torrent, Ana María Marín, Silvia Herrera, Jordi Casademont, Hector Corominas, Jorge Malouf. Children in risk of low bone mass have more than 2 risk factors. *EULAR 2019. Ann Rheum Dis*, volume 78, supplement 2, year 2019, page A1972.
- ▶ B. Magallares, D. Cerdà, J. Betancourt, G. Fraga, E. Quesada-Masachs, M. López-Corbeto, N. Pardo, M. Torrent, A. M. Marín, S. Herrera, J. Casademont, H. Corominas, J. Malouf. Children in risk of low bone mass have more than 2 risk factors. *WCO-IOF-ESCEO 2019*. Paris.
- ▶ Hye Sang Park, Berta Magallares López, Laura Martínez-Martínez, Andrea García-Guillén, Yolanda Alvaro Gargallo, Susana Boronat, Cándido Juárez, Héctor Coromina. Utilidad de la calprotectina sérica como biomarcador para la actividad inflamatoria de la AIJ. 13 Congress of the Sociedad Española de Reumatología Pediátrica (SERPE). Madrid, November 2019.
- ▶ XXV Annual Meeting of the Societat Catalana de Pediatria. Barcelona, May 2019:
 - Maria Garrido Vicente, Sean Percival Yeh, Maria Josa Eritja, Fátima Castillo Gómez, Susana Boronat Guerrero, Reyes Balcells Moliné. Malaltia de Kawasaki.
 - Laura Armendáriz Lacasa, Cristina Sevilla Homedes, Fátima Castillo Gómez, María Josa Eritja, Montse Torrent Español, Madai Curbelo Rodríguez. Tumor borderline. Causa infreqüent de massa abdominal en pediatria.
 - Maria Josa; Elisenda Moliner; Susana Boronat; Gemma Ginovart; Laia Turón. Dèficit de proteïna D-bifuncional: presentació de dos casos clínics.
 - Bruna Suriñach Ayats; Maria Quinteiro; Sara Serra; Sara Iglesias; Gemma Ginovart; Susana Boronat. Acidosi metabòlica en un nouat.
 - Cristina Sevilla Homedes, Bruna Suriñach Ayats, Laura Armendariz Lacasa, Sara Serra Font, Eulàlia Turón Viñas, Elisenda Moliner Calderon, Susana Boronat Guerrero. Hidrocefàlia no comunicant secundària a meningitis tuberculosa.
- ▶ Yeh Hsi SP, Salazar Quiroz J, Garrido Vicente M, Torras Colell A, Serna Berna JV, Boronat S. La púrpura trombocitopénica idiopática como diagnóstico diferencial del maltrato infantil. XXIV Annual Meeting of the Sociedad Española de Urgencias de Pediatría (SEUP). Murcia, May 2019.
- ▶ XXXIV Congress of the Sociedad Española de Cuidados Intensivos Pediátricos (SECIP). San Sebastián, May 2019:
 - Coca Fernández E., Iglesias Fernández S., Turón Viñas E., Brió Sanagustín S., Castillo Gómez F., Quinteiro González M., Asencio Cortés C., Boronat Guerrero S. Hipertensión intracraneal de origen no traumático.
 - Iglesias Fernández S., Coca Fernández E., Brió Sanagustín S., Turón Viñas E., Quinteiro González M., Castillo Gómez F., Álvarez Holzapfel MJ., Boronat Guerrero S. Hipertensión intracraneal de origen traumático en el paciente pediátrico.
- ▶ XLII Annual Meeting of the Sociedad Española de Neurología Pediátrica SENEP. Oviedo, May 2019:
 - Boronat S, Turón E, García-Sánchez C, Valle JM, Carbonell E, Coca E, Hornos C, Moliner E. Síndrome cognitivo-afectivo por cerebelitis postvaricelosa.
 - E. Turon, E. Coca, S. Brió, E. Moliner, J. Valle, M. Freixas, B. Martínez Estradé, L. Armendáriz, S. Boronat Encefalitis en UCIP.
- ▶ 67 Congress of the Asociación Española de Pediatría, Burgos, 6-8 June 2019:
 - Sara Serra, Laia Turón, Emma Carbonell, Berta Martínez, Sonia Brió, Susana Boronat. Mielitis transversa longitudinalmente extensa por anticuerpos anti-acuaporina 4.
 - Marta Freixas Bermejo; Fátima Castillo Gómez; Maria Josa Eritja; M. José García Borau; Gemma Ginovart Galiana; Elisenda Moliner Calderón. Shock tóxico neonatal por *Streptococcus Pyogenes*: transmisión vertical.
 - Emma Carbonell Estarellas, Madai Curbelo Rodríguez, Berta Martínez Estradé, Sara Serra Font, Fátima Castillo Gómez, Susana Boronat Guerrero. Síndrome de Rapunzel, más allá del tricobcoar gástrico.
- ▶ Morón-Cazalilla G, Trabazo M, Serna V, Pérez M, Gimeno V, Badell I. Tengo 10 años y me han diagnosticado una leucemia de alto riesgo ¿cuándo podré contar con el soporte de la unidad de cuidados paliativos pediátricos? III Congreso Nacional PEDPAL, Toledo 2019.

Associated Groups

Ophthalmology

**Coordinator**

Buil Calvo, José Antonio (FGS)
jbuil@santpau.cat

Members

Bassaganyas Vilarrasa, María
Francisca (IR)
Conte Visus, Maria Àngels (FGS)
Crespi Vilimelis, Jaume (FGS)

Del Campo Carrasco, Zoraida
(FGS)

Delgado Weingathofer, Rubén
(FGS)

Díaz Cascajosa, Jesús (FGS)

García Pares, Eva (FGS)

García Vilaro, Marta (FGS)

Gil Arnal, Julián Miguel Ángel
(FGS)

Gómez Prieto, María José (FGS)

Llorca Cardeñosa, Ana (FGS)

Luna Marine, Maria Sabina (FGS)

Mingorance Moya, Ester (IR)

Oliva Sierra, Ruth (FGS)

Rodríguez Álvarez, Fernando
(FGS)

Salvador Miras, Ignacio (IR)

Téllez Vázquez, Jesús María (FGS)

Vela Segarra, José Ignacio (FGS)

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.

Doctoral Theses

- ▶ Julián Miguel Ángel Gil Arnal. Evaluación de la calidad visual en pacientes implantados con lentes intraoculares multifocales. Universitat Autònoma de Barcelona. Director: José Antonio Buil Calvo. Date of defense: 08/11/2019.

Scientific Production

Total Impact Factor: 3.8510 · Mean Impact Factor: 1.9255

Flores-Climente V., Rozas-Munoz E., Martinez-Grau A., Aucouturier F., Luna S., Baselga E., Childhood ocular mucous membrane pemphigoid successfully treated with rituximab (2019) PEDIATR DERMATOL, 36 (6), 984-985. **IF: 1.1780**

Foeldvari I., Klotsche J., Simonini G., Edelsten C., Angeles-Han S.T., Bangsgaard R., de Boer J., Brumm G., Torrent R.B., Constantin T., DeLiberio C., Diaz J., Gerloni V.M., Guedes M., Heiligenhaus A., Kotaniemi K., Leinonen

S., Minden K., Miranda V., Miserocchi E., Nielsen S., Niewerth M., Pontikaki I., de Vicuna C.G., Zilhao C., Yeh S., Anton J., Díaz-Cascajosa J., Proposal for a definition for response to treatment, inactive disease and damage for JIA associated uveitis based on the validation of a uveitis related JIA outcome measures from the Multinational Interdisciplinary Working Group for Uveitis in Childhood (MIWGUC) (2019) PEDIATR RHEUMATOL, 17 (1), 66. **IF: 2.6730**

Books or Chapters with ISBN

- ▶ Gil MA, Salvador I. Comparativa de diferentes plataformas de lentes tóricas. In: Cristóbal J A, Ruiz-Mesa R. Ponencia SEO 2019: Astigmatismo. Métodos diagnósticos y terapéuticos. 2019. ISBN: 978-84-89085-72-5.

Associated Groups

Nuclear Medicine



Coordinator
Carrió Gasset, Ignasi (FGS)
icarrio@santpau.cat

Members
Abouzian Senhaji, Safae (FGS)
Camacho Martí, María del Valle (FGS)
Domènech Vilardell, Anna (FGS)
Duch Renom, Joan (FGS)
Estorch Cabrera, Montserrat (FGS)
Fernández León, Alejandro (FGS)
Flotats Giralt, Albert (FGS)
Fuentes Ocampo, Francisco (FGS)

López Mora, Diego Alfonso (FGS)
Sizova, Marina (FGS)

Main Lines of Research

Oncology

- ▶ New diagnostic methods based on the identification and visualization of molecular targets employing metabolic mechanisms, receptor systems, hypoxia, angiogenesis, and apoptosis.
- ▶ New applications for sentinel node detection and radioguided surgery models.

Cardiovascular research

- ▶ New methods for non-invasive assessment of ischemic heart disease and heart failure.

- ▶ Cardiovascular functional studies.
- ▶ New methods for assessing cardiac innervation.

Functional neuroimaging

- ▶ Development of new functional imaging methods for evaluating neurodegenerative diseases (Parkinson, Parkinson-Plus, Alzheimer, MCI).
- ▶ Dopaminergic system studies using IBZM and Datscan.

Scientific Challenges

- ▶ Introduce new technologies to clinical research (given that imaging techniques are evolving very rapidly towards multimodal systems that integrate biological, molecular, anatomical, and functional information in a single examination) and include these technologies, mainly PET/CT and PET/MR, in the group and hospital's research activities.

New molecular imaging techniques

- ▶ Develop new hybrid molecular imaging technologies, mainly PET/CT and PET/MR, building on pre-clinical and clinical molecular imaging models developed using
- ▶ SPECT and conventional nuclear medicine technologies.

PET imaging biomarkers

- ▶ Develop new PET radioactive tracers to be used as biomarkers in new imaging technologies, building on our experience with radioactive tracers to view in vivo diagnostic and therapeutic targets.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Neuroradiology: research into neurological and mental disorders and ageing (Dr. Camacho, member).
- ▶ Oncology, Gynaecology, Surgery, Radiology, Radiotherapy, Nuclear Medicine and Pathology: evaluation of the usefulness of PET CT with 18F-FDG in the staging of locally advanced breast carcinoma (Dr. Duch, PI).
- ▶ Cerebrovascular Diseases (Dr. Carrió, member).

External Collaborations

- ▶ Zhejiang University, Hangzhou, China. Molecular imaging (Prof. Hong Zhang, Prof. Mei Tian).
- ▶ Hospital Clínico Universitario de Chile, Santiago de Chile. (Prof. P. González, Prof. T. Massardo).
- ▶ QIMP team, Center of Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria. (Prof. T. Beyer).

Active Grants

- ▶ Philips Healthcare Master Research Agreement. Assessment of Advanced Technologies for Molecular Imaging.
- ▶ Sub-study to study WN25203, using positron emission tomography (PET) with an amyloid tracer to assess changes in amyloid load over time in subjects with preclinical Alzheimer's disease. ROCHE protocol WN25203-PET-substudy.
- ▶ PET imaging substudy associated with a phase III, randomized, double-blind, placebo-controlled, parallel-group, multicenter, efficacy, and safety study of gantenerumab in patients with mild Alzheimer's disease. ROCHE protocol WN28745-PET Substudy.
- ▶ Ensayo clínico de fase III, aleatorizado, controlado con placebo, de grupos paralelos, doble ciego, para estudiar la eficacia y la seguridad de MK-8931 (SCH900931) en pacientes con deterioro cognitivo leve amnésico debido a la enfermedad de Alzheimer (EA prodrómica). MK-8931-019.
- ▶ Estudio aleatorizado, doble ciego, controlado con placebo y de grupos paralelos de la eficacia y la seguridad de MK-8931 en sujetos con enfermedad de Alzheimer leve o moderada. MK-8931-017.
- ▶ A 24 month, multicenter, randomized, double-blind, placebo-controlled, parallel-group, efficacy, safety, tolerability, biomarker, and pharmacokinetic study of AZD3293 in outpatients with early Alzheimer's disease. D5010C00009.
- ▶ A Phase 3 Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Evaluate the Efficacy and Safety of Aducanumab (BIIB037) in Subjects with Early Alzheimer's Disease. Phase 3. 221AD-301 & 302.
- ▶ A multi-centre, double-blind, parallel-group, randomized controlled study to investigate the efficacy, safety and tolerability of orally administered BI409306 during a 12 week treatment period compared to placebo in patients with Alzheimer's disease. 1289.5.
- ▶ A randomized, double-blind, placebo-controlled and delayed start study of LY3314841 in Mild Alzheimer's disease dementia. I8D-MC-AZET.
- ▶ Multicenter, randomized, double-blind, placebo-controlled study to assess the efficacy, safety, pharmacokinetics, and pharmacodynamics of GZ/SAR402671 in patients with early-stage Parkinson's disease carrying a GBA mutation or other pre-specified variant. ACT14820.
- ▶ A placebo controlled, double blind, parallel group, 24 month study to evaluate the efficacy and safety of E2609 in subjects with early Alzheimer's disease. E2606-G000-302.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Ignasi Carrió Gasset. 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. Duration: 2020-2022. 82,644 €.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 73.1940 · Mean Impact Factor: 4.8796

Alcolea D., Pegueroles J., Munoz L., Camacho V., Lopez-Mora D., Fernandez-Leon A., Le Bastard N., Huyck E., Nadal A., Olmedo V., Sampedro F., Montal V., Vilaplana E., Clarimon J., Blesa R., Fortea J., Lleo A., Agreement of amyloid PET and CSF biomarkers for Alzheimer's disease on Lumipulse (2019) ANN CLIN TRANSL NEUR, 6 (9), 1815-1824. **IF: 4.6560**

Ell P., Carrio I., Chiti A., Breaking an unhelpful circle, where innovation and regularity delay clinical practice for patient benefit (2019) EUR J NUCL MED MOL I. **IF: 7.1820**

Elsinga P., Delaloye A.B., Chiti A., Vandenberghe S., Giammarile F., Carrio I., Endorsement of International Consensus Radiochemistry Nomenclature Guidelines (2019) EUR J NUCL MED MOL I, 46 (7), 1399. **IF: 7.1820**

Elsinga P., Delaloye A.B., Chiti A., Vandenberghe S., Giammarile F., Carrio I., Endorsement of International Consensus Radiochemistry Nomenclature Guidelines (2019) EJNMMI RES, 9. **IF: 3.0000**

Elsinga P., Delaloye A.B., Chiti A., Vandenberghe S., Giammarile F., Carrio I., Endorsement of International Consensus Radiochemistry Nomenclature Guidelines (2019) EJNMMI PHYS, 6 (1). **IF: 3.4750**

Estorch M., Mitjavila M., Muros M.A., Caballero E., Radioiodine treatment of differentiated thyroid cancer related to guidelines and scientific literature Tratamiento del cáncer diferenciado de tiroides con radioyodo a la luz de las guías y de la literatura científica (2019) REV ESP MED NUCL IMA, 38 (3), 195-203. **IF: 0.9280**

Lopez Mora D.A., Sampedro F., Camacho V., Fernandez A., Fuentes F., Duch J., Perez-Perez J., Martinez-Horta S., Marin-Lahoz J., Domenech A., Flotats A., Estorch M., Kulisevsky J., Carrio I., Selection of reference regions to model neurodegeneration in huntington disease by 18 F-FDG PET/CT using imaging and clinical parameters (2019) CLIN NUCL MED, 44 (1), e1-e5. **IF: 6.4980**

Lopez-Mora D.A., Estorch M., Fuentes-Ocampo F., Perez Garcia J.I., Moral A., Carrio I., Digital PET/CT vs. analogue PET/CT in a parathyroid gland study with 18 F-Fluorocholine PET/TC digital vs. PET/TC analógico en un estudio de glándulas paratiroideas con 18 F-fluorocolina (2019) REV ESP MED NUCL IMA, 38 (2), 121-122. **IF: 0.9280**

Lopez-Mora D.A., Flotats A., Fuentes-Ocampo F., Camacho V., Fernandez A., Ruiz A., Duch J., Sizova M., Domenech A., Estorch M., Carrio I., Comparison of image quality and lesion detection between digital and analog PET/CT (2019) EUR J NUCL MED MOL I, 46 (6), 1383-1390. **IF: 7.1820**

Martinez-Horta S., Moreu A., Perez-Perez J., Sampedro F., Horta-Barba A., Pagonabarraga J., Gomez-Anson B., Lozano-Martinez G.A., Lopez-Mora D.A., Camacho V., Fernandez-Leon A., Carrio I., Kulisevsky J., The impact of bilingualism on brain structure and function in Huntington's disease (2019) PARKINSONISM RELAT D, 60, 92-97. **IF: 4.3600**

Morbelli S., Chincarini A., Brendel M., Rominger A., Bruffaerts R., Vandenberghe R., Kramberger M.G., Trost M., Garibotto V., Nicastro N., Frisoni G.B., Lemstra A.W., van der Zande J., Pilotto A., Padovani A., Garcia-Ptacek S., Savitcheva I., Ochoa-Figueroa M.A., Davidsson A., Camacho V., Peira E., Arnaldi D., Bauckneht M., Pardini M., Sambucetti G., Aarsland D., Nobili F., Metabolic patterns across core features in dementia with lewy bodies (2019) ANN NEUROL, 85 (5), 715-725. **IF: 9.4960**

Rausch I., Ruiz A., Valverde-Pascual I., Cal-Gonzalez J., Beyer T., Carrio I., Performance evaluation of the VereoS PET/CT system according to the NEMA NU2-2012 standard (2019) J NUCL MED, 60 (4), 561-567. **IF: 7.3540**

Rubi S., Camacho V., Nuclear medicine in epilepsy: New challenges in SPECT and PET analysis Medicina nuclear en la epilepsia: avances en el análisis de los estudios SPECT y PET (2019) REV ESP MED NUCL IMA, 38 (5), 273-274. **IF: 0.9280**

Sampedro F., Martinez-Horta S., Perez-Perez J., Horta-Barba A., Lopez-Mora D.A., Camacho V., Fernandez-Leon A., Gomez-Anson B., Carrio I., Kulisevsky J., Cortical atrophic-hypometabolic dissociation in the transition from premanifest to early-stage Huntington's disease (2019) EUR J NUCL MED MOL I, 46 (5), 1111-1116. **IF: 7.1820**

Vives-Borras M., Maestro A., Garcia-Hernando V., Jorgensen D., Ferrero-Gregori A., Moustafa A.-H., Sole-Gonzalez E., Noriega F.J., Alvarez-Garcia J., Cinca J., Electrocardiographic Distinction of Left Circumflex and Right Coronary Artery Occlusion in Patients With Inferior Acute Myocardial Infarction (2019) AM J CARDIOL, 123 (7), 1019-1025. **IF: 2.8430**

Associated Groups

Intensive Medicine



Coordinator
Mancebo Cortés, Jordi (FGS)
jmancebo@santpau.cat

Members
Baldirà Martínez de Irujo, Jaume (FGS)
Betbese Roig, Antoni Jordi (FGS)
Izura Gómez, Marta (FGS)
Moran Chorro, Indalecio (FGS)
Santos Rodríguez, José Alberto (FGS)
Serrano García, M. Ángeles (FGS)

Suárez Montero, Juan Carlos (FGS)
Vera Artazcoz, Paula (FGS)
Zapata Fenor, Luis (FGS)

Main Lines of Research

Acute respiratory failure and artificial ventilation

- ▶ Noninvasive ventilation.
- ▶ New ventilation modes: proportional-assist ventilation and NAVA.
- ▶ Prone decubitus in acute respiratory distress 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.
- ▶ Prevalence of drug interactions in critical care unit.

Study of the usefulness of new biomarkers in critically ill patients

- ▶ 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 hemodynamic effects of different antipyretic drugs in critically ill patients.
- ▶ Influence of position change to supine decubitus position in intra-abdominal pressure.

Scientific Challenges

- ▶ Consolidate clinical and physiological research into ventilation in critically ill patients through multicenter and multinational networking.
- ▶ Create a stable and well-trained group of researchers in this discipline.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Pharmacological Research in Humans.

Active Grants

- ▶ Juan Carlos Suarez Montero. Reversibilidad precoz de la disfunción diastólica como marcador pronóstico en el shock séptico (REPRISS). SOCMIC 2018. Societat Catalana de Medicina Intensiva i Crítica. Duration: 2018-2020. 1,363.64 €.

Note: Total amount granted to PI. It does not include indirect costs.

Transfer Products

- ▶ Dr. Antoni J. Betbesé Roig: Participation in clinical trials Nephroprotect, Sepcell, Interest.
- ▶ Dr. Lluís Zapata Fenor. Principal investigator. Estudio observacional sobre la evolución de los pacientes ingresados para cuidados intensivos orientados a la donación.
- ▶ Dr. Lluís Zapata Fenor. Principal investigator in the study Reversibilidad precoz de la disfunción diastólica en el shock séptico.

Scientific Production

Total Impact Factor: 60.7460 · Mean Impact Factor: 8.6780

Baston C.M., Coe N.B., Guerin C., Mancebo J., Halpern S., The Cost-Effectiveness of Interventions to Increase Utilization of Prone Positioning for Severe Acute Respiratory Distress Syndrome (2019) *CRIT CARE MED*, 47 (3), e198-e205. **IF: 6.9710**

Combes A., Tonetti T., Fanelli V., Pham T., Pesenti A., Mancebo J., Brodie D., Ranieri V.M., Efficacy and safety of lower versus higher CO₂ extraction devices to allow ultraprotective ventilation: Secondary analysis of the SUPERNOVA study (2019) *THORAX*, 74 (12), 1179-1181. **IF: 9.6400**

Cuartero M., Betbese A.J., Nunez K., Baldira J., Ordonez-Llanos J., Does whole-blood neutrophil gelatinase-associated lipocalin stratify acute kidney injury in critically ill patients? (2019) *DIS MARKERS*, 2019, 8480925. **IF: 2.7610**

Mancebo J., Mercat A., Brochard L., Maximal lung recruitment in acute respiratory distress syndrome: A nail in the coffin (2019) *AM J RESP CRIT CARE*, 200 (11), 1331-1333. **IF: 16.4940**

Piquilloud L., Beloncle F., Richard J.-C.M., Mancebo J., Mercat A., Brochard L., Information conveyed by electrical diaphragmatic activity during unstressed, stressed and assisted spontaneous breathing: a physiological study (2019) *ANN INTENSIVE CARE*, 9 (1). **IF: 3.9310**

Rochweg B., Granton D., Wang D.X., Helviz Y., Einav S., Frat J.P., Mekontso-Dessap A., Schreiber A., Azoulay E., Mercat A., Demoule A., Lemiale V., Pesenti A., Riviello E.D., Mauri T., Mancebo J., Brochard L., Burns K., High flow nasal cannula compared with conventional oxygen therapy for acute hypoxemic respiratory failure: a systematic review and meta-analysis (2019) *INTENS CARE MED*, 45 (5), 563-572. **IF: 18.9670**

Santos Rodriguez J.A., Mancebo Cortes J., Mortality study in patients at weaning from mechanical ventilation Estudio de mortalidad de pacientes en desconexión progresiva del ventilador (2019) *MED INTENSIVA*. **IF: 1.9820**

Diffusion Activities

- ▶ Jordi Mancebo Cortés (co-director and lecturer). Ajuste de PEEP en el SDRA. XIV Curso Nacional de Ventilación Mecánica, Hospital Universitario Puerta de Hierro, Majadahonda 9-11 October 2019.
- ▶ Jordi Mancebo Cortés. Ventilación Asistida Proporcional, puesta al día. Curso Nacional de Ventilación Mecánica Avanzado. Querétaro, Qro, México, 27 February -1 March 2019.
- ▶ Jordi Mancebo Cortés. Weaning difícil y prolongado. Curso Nacional de Ventilación Mecánica Avanzado. Querétaro, Qro, México, 27 February -1 March 2019.
- ▶ Jordi Mancebo Cortés. Eliminación extracorpórea de CO₂ revisión y puesta al día. Curso Nacional de Ventilación Mecánica Avanzado. Querétaro, Qro, México, 27 February -1 March 2019.
- ▶ Jordi Mancebo Cortés. Alto flujo: avance o problema? Curso Nacional de Ventilación Mecánica Avanzado. Querétaro, Qro, México, 27 February -1 March 2019.
- ▶ Jordi Mancebo Cortés. Modos convencionales de ventilación: lo esencial. Panama International Critical Care Congress 2019. Ciudad de Panamá, 11-13 April 2019.
- ▶ Jordi Mancebo Cortés. Mechanical Ventilation Knowledge Recall Session. Panama International Critical Care Congress 2019. Ciudad de Panamá, 11-13 April 2019.
- ▶ Jordi Mancebo Cortés. Advanced Respiratory Mechanics: COPD. ESICM. Master Class Mechanical Ventilation-State of the Art 2019. Brussels, 17-19 June, 2019.
- ▶ Jordi Mancebo Cortés. Esophageal pressure. ESICM. Master Class Mechanical Ventilation-State of the Art 2019. Brussels, 17-19 June, 2019.
- ▶ Jordi Mancebo Cortés. NIV in hypoxemic failure. ESICM. Master Class Mechanical Ventilation-State of the Art 2019. Brussels, 17-19 June, 2019.
- ▶ Jordi Mancebo Cortés. PAV. ESICM. Master Class Mechanical Ventilation-State of the Art 2019. Brussels, June 17-19, 2019.
- ▶ Jordi Mancebo Cortés. Patient-ventilator asynchrony. ESICM. Master Class Mechanical Ventilation-State of the Art 2019. Brussels, 17-19 June, 2019.
- ▶ Jordi Mancebo Cortés. Demonstration on esophageal pressure, EIT and Eadi monitoring in a piglet with normal and injured lungs. PLUG in China Symposium on respiratory mechanics. Beijing, China, 20-21 July 2019.
- ▶ Jordi Mancebo Cortés. EcCO₂r in ARDS: is it working? PLUG in China Symposium on respiratory mechanics. Beijing, China, 20-21 July 2019.
- ▶ Jordi Mancebo Cortés. HFNC: Time for meta-analysis? 23as Jornadas Medicina Intensiva do Porto. Porto, 26-27 September 2019.
- ▶ Jordi Mancebo Cortés. Patients with severe asthma: Unfrequent but nasty! 23as Jornadas Medicina Intensiva do Porto. Porto, 26-27 September 2019.
- ▶ Jordi Mancebo Cortés. Ventilating a patient with obstructive disease. ESICM. Lives 2019. CITYCUBE. Berlin, 28 Sept - 2 Oct 2019.
- ▶ Jordi Mancebo Cortés. Managing difficult weaning. ESICM. Lives 2019. CITYCUBE. Berlin, 28 Sept - 2 Oct 2019.
- ▶ Jordi Mancebo Cortés. Oesophageal pressure. ESICM. Lives 2019. CITYCUBE. Berlin, 28 Sept - 2 Oct 2019.
- ▶ Jordi Mancebo Cortés. Monitoring non-intubated patients. ESICM. Master Class Advanced bedside monitoring in acute respiratory failure. Brussels, 5, 6 November 2019.
- ▶ Jordi Mancebo Cortés. Meet the expert. ESICM. Master Class Advanced bedside monitoring in acute respiratory failure. Brussels, 5, 6 November 2019.

Associated Groups

Pharmacy



Coordinator

Mangués Bafalluy, Maria Antònia (FGS)
mmangués@santpau.cat

Members

Berga Garrote, Núria (IR)
Borrazas Oliveira, M. Belén (IR)
Campo Troyano, Magí (IR)
Campos Baeta, Ylenia (IR)
Cano Alonso, Manuel (IR)
Cardenete Ornaque, Juana (FGS)
De Dios López, Anna (FGS)
De Pourcq, Jan Thomas (FGS)

Feliu Ribera, Anna (FGS)
Fernández de Gamarra Martínez, Edurne (FGS)
Gámez Lechuga, María (FGS)
Garín Escriba, Noé (FGS)
Garrido Alejos, Gemma (FGS)
Gomis Pastor, Mar (FGS)
Juanes Borrego, Ana María (FGS)
Juanes Borrego, María Elena (IR)
Lloret Lafuente, Gaspar (IR)
Lucas Alcahuz, Beatriz (FGS)
Masià Gràcia, Júlia (IR)
Masip Torné, Montserrat (FGS)

Moreno Martínez, María Estela (FGS)
Morillas Eroles, Paula (IR)
Pagès Puigdemont, Neus (FGS)
Pérez Llanos, Fiorella Jacqueline (IR)
Pujol Mangués, Núria (IR)
Riba Solé, Mireia (FGS)
Rodríguez Murphy, Esther (FGS)
Rodríguez-Arias Pal, Ainhoa (IR)
Ruíz Ramos, Jesús (FGS)
Vallez Valero, Lucía (FGS)
Villamarín Vallejo, Laura (FGS)
Zurita Alonso, Beatriz Teresa (IR)

Main Lines of Research

- ▶ Pharmaceutical care and personalized medicine.
- ▶ Clinical epidemiology and public health.
- ▶ Artificial nutrition.
- ▶ Pharmaceutical formulation.
- ▶ Oncohematology.
- ▶ Independent clinical trials.
- ▶ Innovation, artificial intelligence & big data.

Scientific Challenges

- ▶ Evaluate the impact of different pharmaceutical care programs on the effectiveness and 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 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

Collaborations with other IIB Sant Pau Groups

- ▶ Oncogenesis and Antitumour Drugs (GOA) - CIBER-BBN.
- ▶ Clinical Haematology.
- ▶ Medical Oncology.
- ▶ Emerging Processes in Prevalent Diseases.
- ▶ Cardiology.
- ▶ Research Group in HIV and AIDS.
- ▶ Genetics.
- ▶ Pediatrics.
- ▶ Cardiovascular Biochemistry.

External Collaborations

- ▶ Centro de Investigación Biomédica en Red de Bioingeniería, 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.
- ▶ Spanish Society of Hospital Pharmacy.
- ▶ Catalan Society of Clinical Pharmacy.
- ▶ Col·legi Oficial de Farmacèutics de Barcelona.

Active Grants

- ▶ Maria Antònia Mangues Bafalluy. Abordaje integral de los problemas de salud relacionados con los medicamentos: Código Medicamento. PI18/00889. Instituto de Salud Carlos III. Duration: 2019-2021. 72,000 €.
- ▶ M. Antònia Mangues Bafalluy; Pau Riera Armengol; Irene Arroyo; Elisa Rioja; Xavier León; Miquel Quer Microémbolos tumorales circulantes en biopsia líquida y pronóstico del carcinoma de cabeza y cuello. Roche Farma. Duration: 2019. 30,000 €
- ▶ Mar Gomis Pastor, M. Antònia Mangues Bafalluy. Coordinación y expansión de medplan+ en el seguimiento interdisciplinar e integral del paciente complejo crónico. Amgen Pharma SL. Duration: 2018-2020.
- ▶ Beatriz Zurita. M Antònia Mangues. Atención farmacéutica dirigida a la mejora de la adherencia farmacoterapéutica en el paciente ambulatorio. Janssen Cilag - Fundació Institut de Recerca de l'Hospital de Sant Pau.
- ▶ Pau Riera Armengol. Contrato Río Hortega (expediente CM18/00207). Instituto de Salud Carlos III. Duration: 2019-2020. 53,732 €.
- ▶ Moreno ME. Análisis y mejora de la adecuación de la prescripción de quimioterapia al final de la vida. Beca FIS, Instituto de Salud Carlos III. PI18/00034. Duration: 2018.
- ▶ E Juanes. Fragilidad en pacientes con cirrosis: estudio del valor pronóstico del ángulo de fase en pacientes hospitalizados y efecto de una intervención multifactorial consistente en ejercicio físico a domicilio, aminoácidos ramificados y un probiótico multiespecies en la prevención de la fragilidad. Beca FIS, Instituto de Salud Carlos III. Duration: 2019-2022.
- ▶ Mireia Riba Solé. Beca BMS para la realización del "Máster de Inmunoterapia del Cáncer". SEFH-GEDEFO. Duration: 2019.
- ▶ Mar Gomis Pastor. EIT Health 2020. Proyecto 19046 "Oncommunities": online cancer support communities. EIT Health (European Union). Duration: 2019.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Pau Riera Armengol. Integració de la farmàcia hospitalària i comunitària per a la implementació de la farmacogenètica a la pràctica assistencial. Joaquim Bonal 2019. Societat Catalana de Farmàcia Clínica. Duration: 2019-2021. 12,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Iniciativas innovadoras de gestión basadas en Nuevas Tecnologías de la Información y el Conocimiento: Impacto de la Salud Móvil en el manejo integral de condiciones crónicas. IESE Business School and Novartis Pharma. Second Prize Cátedra Novartis de Innovación y Excelencia operativa en el sector de la salud. 27/03/2019
- ▶ Honorary Award of the Sociedad Española de Farmacia Hospitalaria.
- ▶ M. Antònia Mangues. Joaquín Bonal Medal
- ▶ López Vinardell L, Ruiz J, Juanes A, Puig-Campmany M, Mangues MA. Risk factors associated with re-admission to emergency department, in patients with previous gastrointestinal haemorrhage secondary to oral anticoagulant therapy. 24th EAHP Congress, Barcelona, 2019. Poster award nominee.
- ▶ A Juanes, J Ruiz, MA Mangues. Codi Medicament Premi Best Practice Ruta de l'Excel·lència. Societat Catalana de Farmàcia Clínica. October 2019.
- ▶ Participation in the multidisciplinary project Nou paradigma en l'atenció urgent adaptada a pacients amb altes necessitats. Experiència guanyadora del Premi del Jurat. Premis Model d'atenció col·laboratiu en Xarxa. Award + Futur 2019. Unió Catalana d'Hospitals.

Scientific Production

Total Impact Factor: 44.591 · Mean Impact Factor: 3.4300

Arroyo-Solera I, Pavon M.A., Leon X, Lopez M, Gallardo A., Cespedes M.V., Casanova I, Pallares V., Lopez-Pousa A., Mangues M.A., Barnadas A., Quer M., Mangues R, Effect of serpinE1 overexpression on the primary tumor and lymph node, and lung metastases in head and neck squamous cell carcinoma (2019) HEAD NECK-J SCI SPEC, 41 (2), 429-439. **IF: 2.4420**

Campos-Baeta Y, Saavedra-Mitjans M., Garin N., Cardenete J., Cardona D., Riera P, Physicochemical Compatibility of Dexmedetomidine With Parenteral Nutrition (2019) NUTR CLIN PRACT. **IF: 2.5870**

Fuster-RuizdeApodaca M.J., Castro-Granell V., Garin N., Lagua A., Angeles Jaen D., Iniesta C., Cenoz S., Galindo M.J., Prevalence and patterns of illicit drug use in people living with HIV in Spain: A cross-sectional study (2019) PLOS ONE, 14 (6). **IF: 2.7760**

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- ▶ Garin Escrivà N, Garrido Alejos G, Crespo Lessmann A. Actualización del tratamiento del asma grave en adultos. *Butlletí d'informació terapèutica. BIT.* Vol. 30, núm. 7, 2019. Generalitat de Catalunya. Departament de Salut. ISSN: 1579-9441.
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- ▶ López L, Garin N. SIADH central per nocardiosi pulmonar amb disseminació cerebral en pacient immunocompetent. *Col·legi de Farmacèutics de Barcelona. Circ. Farm.* 2019 vol. 77 núm. 3. 39-41.
- ▶ Martínez-Bautista MJ, Mangues-Bafalluy I, Cajaraville-Ordoñana G, Carreras-Soler MJ, Clopés-Estela A, Moreno-Martínez E. Survey of oncohematological pharmaceutical care situation in Spain. *Farm Hosp.* 2019;43(6):194-201.
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- ▶ Cardona D, Fonts, N, Mangues MA. Cap 16: Aplicabilidad clínica de los estudios de estabilidad en el ámbito de la Farmacia Hospitalaria. In: Salazar Macian, Ramón. *Estabilidad de medicamentos 2019. Apuntes sobre Tecnología Farmacéutica.* 2019. Chapter 16: pp. 475-51.

Diffusion Activities

Dissemination Activities

- ▶ M. Antònia Mangues (director). Teachers: Pharmaceutical members of the group. XLVII Curso de Farmacia Clínica Joaquín Bonal. 1st Edition (4-8 February 2019); 2nd Edition (1-5 April 2019)
- ▶ Anna Feliu Ribera, Edurne Fernández de Gamarra Martínez, Noé Garin Escrivà, M. Estela Moreno Martínez, Mireia Riba. University subjects: Pharmaceutical care and Clinical pharmacy II (6 credits). Degree in Pharmacy; Facultat de Ciències de la Salut Blanquerna. 2019
- ▶ Ana Juanes Borrego, Jan Thomas De Pourcq. Department of Clinical Pharmacy. Degree in Pharmacy, Universitat de Barcelona. 2019.
- ▶ Montserrat Masip Torné. Tutoring students of supervised practices. Degree in Pharmacy, Universitat de Barcelona. 2019.
- ▶ Montserrat Masip Torné. Taller de Entrevista Clínica. VIII Curso de Atención Farmacéutica al paciente ambulatorio en tratamiento con medicación hospitalaria de dispensación ambulatoria (MHDA). Servei de Farmàcia, Hospital Universitari Germans Trias i Pujol. Badalona, 17 June 2019.
- ▶ M. Estela Moreno Martínez. Master in Cancer Immunotherapy. Module 3: Cancer pathologies treated with immunotherapeutic drugs. Lymphomas: Evaluation of results with immunotherapy strategies in lymphomas. Universidad Internacional Menéndez Pelayo, SEFH, GEDEFO. 2019-2020.
- ▶ M. Estela Moreno Martínez. Curs d'especialització de Gestió de Comandaments Intermedis dels Serveis Infermers. EUI Sant Pau. 2019
- ▶ Noé Garin. Pharmaceutical care in chronic conditions (respiratory diseases, mental Health, diabetes mellitus). Faculty of Pharmacy, Università degli studi di Padova. 27-29 March 2019.
- ▶ M. Estela Moreno. Collaborator teacher. Postgrau Infermeria Oncològica. Escola Universitaria d'Infermeria Sant Pau. 2018-2019, 2019-2020.
- ▶ Mar Gomis Pastor, María Gamez Lechuga, M^a Estela Moreno Martínez, Noé Garin Escrivà, Elena Juanes Borrego, Mireia Riba Solé, Neus Pagés Puigdemont, Joana Cardenete Ornaque, Anna Feliu Ribera, Laura Villamarín Vallejo, Beatriz Lucas Alcahuz. Mar Gomis Pastor .Tutoring of supervised practices. Universitat de Barcelona (UB) and Facultat de Ciències de la Salut Blanquerna. 2019
- ▶ Edurne Fernández de Gamarra Martínez. Curso TECNIFARMH; Módulo de Antibioticoterapia. Sociedad Española de Farmacia Hospitalaria. Online (1/03/2019-30/06/2019).
- ▶ Mireia Riba. Reaccions adverses a tractaments oncològics. Curs de formació continuada en tractaments oncològics. Sessió. Continuous training Hospital de la Santa Creu i Sant Pau. 7 October 2019.
- ▶ Noé Garin Escrivà. Broncodilatadores: Utilización de la terapia inhalada. Programa de formación a enfermería PENELOPE. 8th Edition. Hospital de la Santa Creu i Sant Pau. 11 March 2019.
- ▶ Noé Garin Escrivà. Eficacia y seguridad de los fármacos biológicos en el tratamiento del AGNC. Preceptorship Program en Asma No Controlada (ANC). Cátedra Inspira UAB. Hospital de la Santa Creu i Sant Pau. 12-13 March 2019.
- ▶ Mar Gomis. Jornada Aporta IV del farmacéutico hospitalario en el trasplante de órgano sólido. SEFH and Astellas. 4 December 2019.
- ▶ Mar Gomis-Pastor. Impacto de la Salud Móvil en el manejo integral de condiciones crónicas. Programa Avanzando en Gestión Sanitaria de 2019. IESE Business School and Novartis Pharma. 27 March 2019.
- ▶ Herminia Gomà and M. Antònia Mangues (directors). Aula COACH. Programa de Coaching para directivos en el ámbito sanitario. 1st edition. Corporate Leadership Development. Institut Gomà. Servei de Farmàcia Hospital St Pau. Patrocinat per Kern Pharma Biologics. October 2018 - April 2019.

Scientific Dissemination

During 2019, 52 papers were done and 37 abstracts / oral communications were presented at national or international conferences. Below is a selection:

- ▶ M. Antònia Mangues. El valor de la trazabilidad integral en Onco-Hematología. Utilización de TIC asistenciales y generación de RWE: conocer para aprender, compartir y mejorar. 64 Congress of the Sociedad Española de Farmacia Hospitalaria. Sevilla, 19 October 2019.
- ▶ M. Antònia Mangues. La incorporación del paciente en el proceso de evaluación de medicamentos. Una visión más humana para transformar el modelo de asistencia. 64 Congress of the Sociedad Española de Farmacia Hospitalaria. Sevilla, 19 October 2019.

- ▶ M. Antònia Mangues. El futur de l'atenció farmacèutica. Closing conference. XXIX Jornada Serveis de Farmàcia d'Hospital Comarcals. Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears and Fundació Hospital de l'Esperit Sant. Santa Coloma de Gramanet. 8 November 2019.
- ▶ Noé Garin Escrivá. Workshop de digitalización sanitaria - Oportunidades para la Farmacia Hospitalaria. Microsoft Ibérica; SEFH, GSK. Barcelona, 4 July 2019.
- ▶ Noé Garin Escrivá. Nuevas evidencias y papel de la Farmacia Hospitalaria en el manejo del asma grave (Mesa 1: Tratamiento - Manejo del paciente con - del asma grave refractario). XVI Congress of the Sociedad Española de Farmacia Hospitalaria. Huelva, 26 April 2019.
- ▶ Eburne Fernández de Gamarra Martínez. European Hospital Pharmacists - the future in the making. 24th Congress of the European Association of Hospital Pharmacists. Barcelona, 27-29 March 2019.
- ▶ Eburne Fernández de Gamarra Martínez. Taller sobre Observación Directa. Jornada Nacional de Tutores de Farmacia Hospitalaria. Sociedad Española de Farmacia Hospitalaria. Madrid, 11 June 2019.
- ▶ Pau Riera Armengol. Subject: Qualitat i seguretat en l'ús de medicaments. Facultat de Ciències de la Salut, Universitat Ramon Llull. Barcelona, 8 November 2019.
- ▶ Pau Riera Armengol. Incorporació de la medicina genòmica a la pràctica clínica. XXV Jornada Anual de la Sociedad Catalana de Farmacia Clínica, Fundació Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears. Barcelona, 18 June 2019.
- ▶ Mireia Riba. Papel del farmacéutico en el equipo multidisciplinar oncológico y resultados en salud. Tertulias Oncológicas. III edition. IDIBELL (Institut de Recerca Biomèdica de Bellvitge). Barcelona, 10 October 2019.
- ▶ M. Estela Moreno Martínez. Sessione Plenaria 2: Le Therapie avanzate (ATMPs) e la farmacia clinica. JACIE Accreditation: the pharmacist in the multidisciplinary team. 7 Congreso Nazionale: Farmacia Clínica 3.0: Ritorno al futuro. SIFACT Società Italiana di Farmacia Clinica e Terapia. Bologna, 24-26 October 2019.
- ▶ M. Estela Moreno Martínez. Participation in two sessions: 1) CPOE for oncology haematology; 2) What do pharmacists do? 4 Pharmacist Day, 45nd Annual meeting of the European Society for Blood and Marrow Transplantation. Frankfurt, Germany, 26 March 2019.
- ▶ M. Estela Moreno Martínez. Round table: Nuevos Modelos de financiación y acceso en oncología: Perspectiva Farmacia Oncológica. IV Jornada en Innovación y Sostenibilidad en Oncología: ¿Reto o realidad? Cátedra extraordinaria MSD-UIIMP "Salud, Crecimiento y Sostenibilidad". Santander, 27-28 June 2019.
- ▶ Jan Thomas De Pourcq. VII Jornada TECNO: Apostemos por la Innovación. Grupo TECNO de la SEFH. Hospital Vall d'Hebron. 30 January 2019.
- ▶ Jan Thomas De Pourcq, Mar Gomis. Apps en la Farmacia Hospitalaria. Lilly. Hospital Miguel Servet, May 2019.
- ▶ Anna de Dios López. Neuroconnect: Novetats en Migranya. Novartis. Tarragona, 28 November 2019.
- ▶ Mar Gomis Pastor (coordination). Jornada Aporta IV del farmacéutico hospitalario en el trasplante de órgano solido. SEFH and Astellas. Madrid, 4 December 2019.
- ▶ Mar Gomis-Pastor. Impact of Mobile Health in Heart Transplant Management: The mHeart Study. 2019 Annual Meeting and Scientific Sessions. International Society for Heart and Lung Transplantation (ISHLT). Orlando, Florida, United States of America, 3-6 April 2019.

Associated Groups

Dermatology



Coordinator

Puig Sanz, Luis (FGS)
lpuig@santpau.cat

Members

Agut Busquets, Eugènia (FGS)
Alvés Barroso, Jessica (IR)
Baselga Torres, Eulàlia (FGS)
Bittencourt Moraes, Flavia (IR)
Dalmau Arias, Joan (FGS)

Díaz-Salazar Monreal, Maria (IR)
Flores Climente, Víctor Andrián (IR)
Garcès Gatnau, Joan Ramon (FGS)
García Muret, Maria Pilar (FGS)
Gely Vila, Cristina (IR)
López Ferrer, Anna (FGS)
Morales Munera, Caridad Elena (FGS)

Roe Crespo, Esther (FGS)
Ros Abarca, Sandra (IR)
Ruiz Salas, Verónica (FGS)
Serra Baldrich, Esther (FGS)
Spertino, Jorge Luis (FGS)
Vilarrasa Rull, Eva (FGS)
Yélamos Pena, Oriol (FGS)

Main Lines of Research

- ▶ Biologic therapy in dermatology.
- ▶ Genome-wide association studies in psoriasis.
- ▶ Medical and physical treatment options for vascular tumors.
- ▶ Psychopathological studies of patients with chronic dermatological disorders.
- ▶ Innate and acquired immunity-mediated dermatological diseases.

Scientific Challenges

- ▶ Ensure a stable clinical research infrastructure and staff.
- ▶ Foster interdepartmental collaborative research.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Parkinson Disease and Movement Disorders.
- ▶ Inflammatory Diseases.

Scientific Production

Total Impact Factor: 206.2470 · Mean Impact Factor: 5.7291

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Associated Groups

Anaesthesiology



Coordinator

Moral García, María Victòria (FGS)
vmoralg@santpau.cat

Members

Anaya Camacho, Rafael (FGS)
Argilaga Nogués, Marta (FGS)
Azparren Cabezón, Gonzalo (FGS)
Bainac, Albert (FGS)
Baños Lapuente, Victoria (FGS)
Bastitta, María Micaela (FGS)
Batalla González, Astrid María (FGS)
Bausili Ribera, Marc (FGS)
Baute Sanjuan, Javier (FGS)
Bericat, Paula (FGS)
Bueno Izquierdo, Ana (FGS)
Castrillo Ferrando, Agustí (FGS)
Cegarra Sanmartín, Virginia (FGS)
Cueva Castro, Luisa Fernanda (FGS)
Espinosa Guerrero, Alejandra Nallely (IR)
Espinosa López Davalillo, Nieves (FGS)

Felipe Correoso, María Mar (FGS)
Fernández Núñez, José Anton (FGS)
Font Gual, Adrià (FGS)
Galán Serrano, Josefa (FGS)
García Álvarez, María Mercedes (FGS)
García Muret, Albert (FGS)
Gil de Bernabé Sala, María Àngels (FGS)
Gil Sánchez, Josep Maria (FGS)
Giné Servent, Marta (FGS)
Gómez Caro, Ana M. (FGS)
González Carrasco, Francisco Javier (FGS)
González Rodríguez, Raúl (FGS)
Guadalupe Fernández, Nerea (FGS)
Herranz Pérez, Gracia (FGS)
Hinojal Ignacio (FGS)
Illa Ribera, Sussana (FGS)
India Aldana, Inmaculada (FGS)
Italiano, Stefano (FGS)
Koller, Tobias Bernhard (FGS)

Maestre Hittinger, María Luz (FGS)
Martín Huerta, María Beatriz (FGS)
Martínez Pérez, Selene (FGS)
Merten, Alfredo R. (FGS)
Miralles Bagan, Jordi (FGS)
Moreno Bueno, Marisa (FGS)
Pablo Fernández, Rosa (FGS)
Paniagua Iglesias, Pilar (FGS)
Peláez Vaamonde, Xavier (FGS)
Pérez Aguado, María Carmen (FGS)
Piñol Sapena, Santiago (FGS)
Rivilla Lizano, María Teresa (FGS)
Rodríguez Prieto, Mireia (FGS)
Santacaana, Esther (FGS)
Solans Duran, José Ramón (FGS)
Unzueta Merino, María Carmen (FGS)
Villamor Vázquez, José María (FGS)

Main Lines of Research

- ▶ Intraoperative respiratory strategies.
- ▶ Management of preoperative anxiety in Pediatric Anesthesia and Surgery.
- ▶ Intraoperative hypothermia management.
- ▶ Perioperative TVP management.
- ▶ Perioperative medicine.
- ▶ Patient Blood management.
- ▶ Massive blood transfusion and associated hemostatic disorders.
- ▶ Locoregional anesthesia and ultrasound plexus identification.
- ▶ Echocardiography.
- ▶ ECMO therapy.
- ▶ Acute and chronic pain management.
- ▶ New modalities of care delivery: Preoperative rehabilitation, team preoperative evaluations and perioperative care in ophthalmic surgery.
- ▶ Social communication of peripartum progress.

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 anesthetic/analgesic techniques.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Study ALBUMINA-CEC. Influencia de la albúmina en CEC sobre el desarrollo de disfunción renal aguda postoperatoria asociada a la cirugía cardíaca bajo circulación extracorpórea. CEIC Hospital de Sant Pau. 2017-2019.
- ▶ Study HIPOTERMIA QUIR. Análisis de la eficacia de los sistemas de calentamiento por convección en la prevención de la hipotermia intraoperatoria no deseada. IR Hospital de Sant Pau. 2017-2019.

- ▶ CC- GERIATRIA. Análisis de la relación coste-beneficio de la cirugía cardíaca en pacientes de edad superior a 80 años. Hospital de la Santa Creu i Sant Pau - IR Hospital de Sant Pau. 2018-2019.

External Collaborations

- ▶ POPULAR (Postanesthesia PULmonary complications After use of muscle Relaxants in Europe), multicentre observational study. European Society of Anaesthesiology (ESA).

- ▶ Analysis of the Hemostatic Potential of Coagulation Factor Concentrates in an In Vitro Model of Extreme Hemodilution. Heimbürger Grant.
- ▶ Collaboration in Competitive, International and Multicenter Study entitled: TRICS. Restrictive or liberal red-cell transfusion for cardiac surgery. Population Health Research Institute. Hamilton General Hospital Canada. NCT 02042898.
- ▶ Collaboration in Competitive, International and Multicenter Study entitled: MANAGE. Management of myocardial injury after noncardiac surgery. Population Health Research Institute. Hamilton General Hospital Canada. NCT 01661101 / 2014-2017.
- ▶ Collaboration in Competitive Study entitled: AFFECT. Ensayo clínico aleatorizado multicéntrico paralelo en pacientes antiagregados con fractura peritrocantérea de fémur que evalúa una estrategia para acortar el tiempo hasta la cirugía. PI16/01879 - Instituto Carlos III. 2017-2019.
- ▶ Collaboration in Competitive, International and Multicenter Study entitled: HIP- ATTACK. Hip fracture accelerated surgical care and Treatment Track. Population Health Research Institute. Hamilton General Hospital Canada CEIC 15/294 - Population Health Research Institute. Hamilton General Hospital Canada. NCT 01661101.
- ▶ Study: IPEGASUS. Individualized Perioperative goal-directed Therapy in Major Abdominal Surgery. NCT 030221525 - Hamburg University, Germany. 2017-2019.

Active Grants

- ▶ Pilar Paniagua Iglesias. Evaluación del grado de cumplimiento e impacto clínico de los protocolos de transfusión masiva (PTM). PI16/01134. Instituto de Salud Carlos III. Duration: 2017-2020. 82,000 €.
- ▶ Gonzalo Azparren Cabezon. iPEGASUS. Individualized Perioperative goal-directed Therapy in Major Abdominal Surgery. NCT 030221525 - Hamburg University, Deutschland. 2017-2019.
- ▶ Mar Felipe Coroso. PHOENICS. Prospective randomized controlled double-blind multi-centre multinational study on the safety and efficacy of 6% Hydroxyethyl starch (HES) solution versus an electrolyte solution in patients undergoing elective abdominal surgery.
- ▶ Marc Bausili. AdFIRst, Adjusted Fibrinogen replacement strategy. A randomized, active-controlled, multicenter, phase III study investigating efficacy and safety of intra-operative use of BT524 (human fibrinogen concentrate) in subjects undergoing major spine surgery.
- ▶ Inmaculada India. PALLAPUPAS. Influencia de la intervención de pallasupus sobre la ansiedad preoperatoria infantil medida por niveles de cortisol salival.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 15.7270 · Mean Impact Factor: 3.9318

Carraminana A., Ferrando C., Unzueta M.C., Navarro R., Suarez-Sipmann F., Tusman G., Garutti I., Soro M., Pozo N., Librero J., Gallego L., Ramasco F., Rabanal J.M., Rodriguez A., Sastre J., Martinez J., Coves S., Garcia P., *et al.*, Rationale and Study Design for an Individualized Perioperative Open Lung Ventilatory Strategy in Patients on One-Lung Ventilation (iPROVE-OLV) (2019) *J CARDIOTHOR VASC AN*, 33 (9), 2492-2502. **IF: 1.8820**

Cortegiani A., Gregoretti C., Neto A.S., Hemmes S.N.T., Ball L., Canet J., Hiesmayr M., Hollmann M.W., Mills G.H., Melo M.F.V., Putensen C., Schmid W., Severgnini P., Wrigge H., Gama de Abreu M., Schultz M.J., Pelosi P., Kroell W., *et al.*, Association between night-time surgery and occurrence of intraoperative adverse events and postoperative pulmonary complications (2019) *BRIT J ANAESTH*, 122 (3), 361-369. **IF: 6.1990**

Koller T., Miralles Bagan J., Duran-Cambra A., Mirabet Perez S., Tauron Ferrer M., Galan Serrano J., Severe Combined Right Ventricular and Respiratory Failure. Treatment Options With Mechanical Assist Devices Disfunción ventricular derecha acompañada de insuficiencia respiratoria grave. Opciones terapéuticas con dispositivos de asistencia mecánica (2019) *REV ESP CARDIOL*, 72 (6), 504-505. **IF: 5.1260**

Warrillow S., Tibballs H., Bailey M., McArthur C., Lawson-Smith P., Prasad B., Anstey M., Venkatesh B., Dashwood G., Walsham J., Holt A., Wiersema U., Gattas D., Zoeller M., Garcia Alvarez M., Bellomo R., Characteristics, management and outcomes of patients with acute liver failure admitted to Australasian intensive care units (2019) *CRIT CARE RESUSC*, 21 (3), 188-199. **IF: 2.5200**

Diffusion Activities

Difussion and Dissemination Activities in Society

- ▶ Informative Sessions on the Birth Process: Co-organizer: Gynecology and Obstetrics, Anesthesiology, Midwives Team. Información sobre el proceso del parto. Parto natural. Analgesia obstétrica. Monthly meeting

Scientific Dissemination

- ▶ T Koller, G. Álvarez, J. Miralles, J Galán (organizers). Curso de Simulación Clínica ECMO.
- ▶ P. Paniagua, T. Koller, A. Pazrera, A. Gómez Caro (organizers). Curso sobre alteraciones de la hemostasia asociadas al sangrado masivo.
- ▶ Drs. Azparren, G. Álvarez. Curso sobre Fibrobroncoscopio.

Participation in International and National Scientific Events

- ▶ 25th Meeting of the ESRA (European Society of Regional Anesthesia). Burgos, 2-4 October 2019.
 - V. Baños. Cómo anestesiarse pacientes con RCI (parálisis cerebral infantil) para tenotomía flexora de miembro superior?. Communication
 - C. Martínez. Cesárea urgente en preeclampsia grave con Síndrome de Hellp. El valor de ROTEM para la seguridad de una anestesia raquídea. Communication
 - M. Rodríguez. Anestesia para cirugía de eventración abdominal. ¿Podemos evitar la anestesia general en pacientes de alto riesgo?. Communication
- ▶ ESA (European Society of Anaesthesia). Viena, 1-3 May 2019
 - M. Bausili. Implementation of a 5 point programme to reduce incidence of iatrogenic pneumothorax and its consequences. Communication
 - A. Parera. Opioid free anaesthesia. A challenge in thoracic surgery. Communication
 - M. Rodríguez. Art erial injury during total hip arthroplasty: a rare but severe complication. Communication

- ▶ I Jornada de Anestesia Reanimación en Cirugía Vascular. Zaragoza, 15-16 May 2019.
 - A. Bueno. Isquemia medular tardía tras reparación endovascular de aneurisma de aorta tóraco-abdominal. Communication
- ▶ EACTA (European Anesthesia Cardio-Thoracic Association), Gant 4-6 September 2019
 - S. Italiano, J. Galán. Acute arterial embolism of lower extremity after mitral valve replacement in a chronic lymphocytic leukemia patient. A case report. Communication
- ▶ Monitoritzatge en el Pacient Crític. SCARTD (Societat Catalana d'Anestesiologia, Reanimació i Teràpia del Dolor. 21-22 October 2019
 - ML. Mestre. Ecocardiografia transesofàgica y transtoràcica. Control hemodinàmic.
 - M. Bausili. Co-organization of the event.
- ▶ Anestesia y Medicina Transfusional. Ciudad Real, 22-23 November 2019
 - P. Paniagua. Puede un algoritmo de transfusión guiado por POC de coagulación mejorar la pérdida de sangre en pacientes intervenidos de cirugía cardíaca?. Paper

Associated Groups

Plastic Surgery

**Coordinator**

Masià Ayala, Josep Jaume (FGS)
jmasia@santpau.cat

Members

Abdelattah, Usama Ahmed (IR)
Fernández Garrido, Manuel (FGS)
López Fernández, Susana (FGS)
Mohedano Puig, Elena (IR)
Olivares Domínguez, Maria de
Leyre (FGS)
Pons Playa, Gemma (FGS)
Rodríguez Bauzà, Elena María
(FGS)

Sánchez-Porro Gil, Lidia (FGS)
Serna Tuduri, Elsa (IR)
Vega Garcia, María del Carmen
(FGS)

Main Lines of Research

- ▶ Application of imaging techniques for intraoperative studies of perforator vessels with the aim of improving the design of flaps, evaluating suitable blood perfusion and the viability of the flaps, avoiding secondary postoperative complications due 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 the viability of microsurgical free flaps.
- ▶ Research using indocyanine green angiography and thermography of the concept of vascular blood balance following dissection of a perforator flap.
- ▶ Research using indocyanine green angiography of the relationship between the different anatomical patterns of lymphatic vessels in the upper extremity and their readiness to develop lymphedema in breast cancer patients.
- ▶ Feasibility of research in animal models on major surgical and non-surgical techniques existing today for the treatment of secondary lymphedema: fat transplant of autologous stem cells, autologous stem cell transplantation from bone marrow, lymphatic-venous anastomosis, free flap of vascularized autologous lymph nodes.
- ▶ Lymphangiogenesis studies in a comparative animal model, comparing transplantation of adipose tissue stem cells with bone marrow stem cells, lymphatic-venous anastomoses and transplantation of vascularized lymph nodes for lymphedema treatment.
- ▶ Research in an experimental animal model on lymphangiogenesis and regeneration of the lymphatic system after a model of obstructive lymphedema.
- ▶ 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

- ▶ Improve 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 intraoperative and postoperative complications in perforator flaps using new imaging techniques to visualize intraoperatively patterns of vascularization of the flaps and vascular blood supply dominance.
- ▶ Lymphedema prevention in mastectomy patients in whom we perform sentinel node and/or axillary lymph node dissection using new surgical techniques to treat this disease (lymphatic venous anastomosis, transfer of vascularized lymph nodes, etc.).
- ▶ Identification using indocyanine green angiography of breast cancer patients with high risk of developing secondary lymphedema.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Collaboration with Clinical Epidemiology and Healthcare Services Group (Xavier Bonfill, Pablo A Coello) at the Cancer and life quality study.
- ▶ Collaboration with Neuromuscular Diseases research group (Isabel Illa). A Double- Blind, Placebo-Controlled, Multicenter Study with an open-label extension to evaluate the efficacy and safety of SRP-4045 and SRP-4053 in Patients with Duchenne Muscular Dystrophy.

External Collaborations

- ▶ A Randomized, Double-blind, Placebo-controlled, Efficacy and Safety Study of WVE- 210201 in Ambulatory Patients with Duchenne Muscular Dystrophy. Start: 2019.
- ▶ A Phase 2, Two-Part, Multiple-Ascending-Dose Study of SRP-5051 for Dose Determination, then Dose Expansion, in Patients with Duchenne Muscular Dystrophy Amenable to Exon 51-Skipping Treatment. Start: 2019.
- ▶ Advances in imaging techniques and therapy in muscle dystrophies: evaluation and treatment of the fibrosis. FIS Award. Clinical trial in conjunction with the Department of Neurology.

Active Grants

- ▶ Jaume Masià. Estudio Clínico de Seguimiento Posterior a la Comercialización para confirmar la Seguridad y la Eficacia de los Implantes Mamarios de Silicona Motiva Anatomical TrueFixation SmoothSilk en personas participantes que se someten a Aumento Mamario Primario, Reconstrucción Mamaria Primaria y Cirugía de Revisión. Establishment Labs. 2019.
- ▶ Jaume Masià. Reporting clinical outcomes of prepectoral Braxon-assisted breast reconstruction: A 2-year Retrospective European Audit. Evaluación de los resultados clínicos de la reconstrucción mamaria prepectoral con prótesis y malla Braxon. Estudio de Auditoría Europeo retrospectivo de 2 años.
- ▶ Jaume Masià. Study of the socio-economic impact on women diagnosed with breast cancer (prospective study). Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau - Jornada "Entre Nosaltres". Start: 2018.
- ▶ Evaluación intraoperatoria de la perfusión de colgajos libres de perforantes mediante termografía dinámica infrarroja, angiografía con verde de indocianina y velocidad de perfusión de la perforante con ecografía Doppler. Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau – IIB Sant Pau. IIBSP-PER-2019-109. Start: 2019.
- ▶ Jaume Masià. Urgotouch: «LATITUDE»: estudio prospectivo de cohorte europeo sobre el uso de láser UrgoTouch para la prevención de cicatrices lineales anormales. Urgo Touch. 2019.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Riba J, Fernández M, Pons G, Sarrià J, Masià J. Tissue Oximetry for Continuous perforator Free Flap Monitoring in Upper and Lower Limb Reconstruction: One year experience. 18th International Course on Perforator Flaps. Ghent University Hospital. Gante (Belgium). Best communication award.

Scientific Production

Total Impact Factor: 17.195 · Mean Impact Factor: 1.905

Cheng MH, Chang DW, Masià J, Koshima I. Introduction of the 8th world symposium for lymphedema surgery. *Journal of Surgical Oncology*. 2019; 121 (1): 7. **IF: 3.114**

Fernández Garrido M., Lopez Penha TR, Shan Qiu S. "Flow-Through Flaps in the Absence of an Arterial Gap for Extremity Defect Reconstruction: Minimizing the Donor-Site Morbidity. *J Reconstr Microsurg*. 2019 Jun;35(5):329-334. **IF: 1.837**

Masia J., Sanchez-Porro L., Vega C., Farhadi J., Suominen S., Kolb F., Garusi C., Van Landuyt K., Santamaria E., Innocenti M., New Paradigms in Reconstructive Microsurgery Education (2019) *ANN PLAS SURG*, 83 (3), 243-246. **IF: 1.4480**

Masià J, Merchán-Galvis Á, Salas K, Requeijo C, Cánovas E, Quintana MJ, Bonfill X. Breast Cancer Research Group of the Hospital de la Santa Creu i Sant Pau. Socio-economic impact on women diagnosed and treated for breast cancer: a cross-sectional study. *Clinical and Translational Oncology*. 2019; 21 (12): 1736-1745. **IF: 1.36**

Masia J., Merchan-Galvis A., Salas K., Requeijo C., Canovas E., Quintana M.J., Bonfill X., Ayala J.M., Cosp X.B., Ruiz M.J.Q., Lorenzo C.R., Gama K.S., Martinez E.C., Molins A.B., Vilanova B.G.-V., Duarte A.M., Playa G.P., Verdum J.I., Raspall M.J.F., Bauza E.R., Carbonell M.C., Galvis A.M., Socio-economic impact on women diagnosed and treated for breast cancer: a cross-sectional study (2019) *CLIN TRANSL ONCOL*, 21 (12), 1736-1745. **IF: 2.4410**

Pappalardo M, Chang DW, Masià J, Koshima I, Cheng MH. Summary of hands-on supermicrosurgery course and live surgeries at 8th world symposium for lymphedema surgery. *Journal of Surgical Oncology*. 2019; 121 (1): 8-19. **IF: 3.114**

Pereira N., Pons G., Masià J. Linfedema asociado al càncer de mama: factores de riesgo, diagnóstico y tratamiento quirúrgico. *Rev Cir* 2019 71(1). **IF: 0.05**

Pons G., Clavero J.A., Alomar X., Rodríguez-Bauza E., Tom L.K., Masia J., Preoperative planning of lymphaticovenous anastomosis: The use of magnetic resonance lymphangiography as a complement to indocyanine green lymphography (2019) *J PLAST RECONSTR AES*, 72 (6), 884-891. **IF: 2.2280**

Sumarroca A., Rodríguez-Bauza E., Lop-Gros J., Garcia J., Lopez M., Quer M., Leon X., Repair of post-laryngectomy pharyngocutaneous fistulas using a pectoralis major flap Reparo de fistulas faringocutâneas pós-laringectomia utilizando retalho do músculo peitoral maior (2019) *BRAZ J OTORHINOLAR*, 85 (3), 351-356. **IF: 1.6030**

Books or Chapters with ISBN

- ▶ Masia J, Riba J, Pons G. Local flaps for breast reconstruction. *Oncoplastic Surgery of the Breast*. In: Maurice Y. Nahabedian. *Oncoplastic Surgery of the Breast*. Georgetown University Hospital, Department of Plastic Surgery. 2nd Edition 2019. Washington DC. Elsevier Limited. pp. 66-78. ISBN: 978-0-7020-7680-0.
- ▶ Pons G, Prats M, Masia J. Linfedema braquial relacionado con el càncer de mama. *Manual de práctica clínica en senología de la SES-PM*. 4th edition 2019. ISBN: 978-84-09-1365-9.

Diffusion Activities

Communications at National and International Congresses

- ▶ Masià J. Risk reducing lymphedema surgery: ICG intraoperative assessment. 77th Congress of the Korean Society of Plastic and Reconstructive Surgeons. Seoul (Corea). 2019
- ▶ Masià J. Optimizing abdominal perforator flaps: ICG intraoperative assessment. 77th Congress of the Korean Society of Plastic and Reconstructive Surgeons. Seoul (Corea). 2019
- ▶ Masià, J. Risk reduction lymphedema surgery. 27th ISL World Congress of Lymphology. Buenos Aires (Argentina). 2019.
- ▶ Masià, J. Barcelona lymphedema algorithm for surgical treatment: the importance of the ICG assessment. 27th ISL World Congress of Lymphology. Buenos Aires (Argentina). 2019.
- ▶ Masià, J. Breast reconstruction: free flaps versus fat graft. 10th Congress of the World Society for Reconstructive Microsurgery. Bolonia (Italy). 2019.
- ▶ Fernández Garrido M, Vega C, Masià J. Microsurgery flaps in lower limb reconstruction after sarcoma resections. Choices, indications and refinements (tips and tricks). Congreso Internacional Bianual de la WSRM. Bolonia (Italy). 2019.

- ▶ Ibarra A, Fernández M, Vega C, Gómez A, Masia J. Free flap for Lower limb salvage in patients older than 75 years old affected of soft tissue sarcoma: beyond the limits. 11th European Plastic Surgery Research Council. Munich (Germany). 2019.
- ▶ López Fernández S., Vega Garcia C., Fernández Garrido M., Masia Ayala J. Manejo quirúrgico de las malformaciones venosas faciales. XI Meeting of the Sociedad Española de Anomalías Vasculares. Zaragoza, 18-19 October 2019.
- ▶ Pons G. The rabbit: an experimental animal model for lymphedema. World Symposium Lymphedema Surgery. Linkou, Taywan. 24-26 April 2019.
- ▶ Pons G. Lessons learned after more than 10 years performing lymph node transfer. 10th Congress of the World Society for Reconstructive Microsurgery (WSRM). Bolonia, Italy. 12-15 June 2019.
- ▶ Pons G. Lipedema; When should we stop revisin anastomosis?; The matrix stepladder: none vs wrap around vs tent technique. London Breast Meeting. London, UK. 4-6 September 2019.

Presentations in Courses, Congresses and Meetings

- ▶ Masià, J. Tratamiento quirúrgico del Linfedema. 53º Congreso Nacional SECPRE. Madrid (Spain). 2019.
- ▶ Vega C. Education in Microsurgery: What have we achieved? What is our goal? 41th Congress of the Group for the Advancement of Microsurgery (GAM). Paris, 24-25 May 2019.
- ▶ Vega C. Reconstruction of the oral cavity. 41th Congress of the Group for the Advancement of Microsurgery (GAM). Paris, 24-25 May 2019.
- ▶ Pons G. Risk reducing lymphedema surgery: the tight approach to minimize the secondary lymphedema; Tricks and tips lymphedema surgery. Microsurgical German Speaking Society Meeting. Munich, Germany. 21-23 November 2019.

Associated Groups

Palliative Care



Coordinator

Pascual López, Antonio (FGS)
apascual@santpau.cat

Members

Collette, Nadia (IR)
Fariñas Balaguer, Óscar (FGS)
Güell Pérez, Ernest (FGS)
Prada Jasimez, María Luisa (FGS)

Main Lines of Research

- ▶ Symptom evaluation and control: pain, dyspnea, cognitive failure, complex situations.
- ▶ End-of-life ethical issues: sedation, expression of a desire for death, euthanasia.
- ▶ Psychosocial care for patients and families: adaptation to the terminal situation, grief, spiritual needs.
- ▶ Training in palliative care: training needs, outcomes.
- ▶ Art therapy.

Scientific Challenges

- ▶ Psychosocial care for patients and families.
- ▶ Counselling and hospital sensitization.
- ▶ Quality evaluation and control.
- ▶ Symptom evaluation and control.
- ▶ Integrated care: analysis and care of end-of-life emotional, social and spiritual dimensions, and adequate ethical reflection in decision making.

Other Publications

- ▶ Pascual López A., Fariñas Balaguer O, Güell Pérez E. Guia de pràctica clínica per a l'atenció pal·liativa al malalt en fase terminal al Hospital de la Santa Creu i Sant Pau. 3ª versió, 2019. Programa de Qualitat Assistencial. Universitat Autònoma de Barcelona, Spain.
- ▶ Collette N. Arteterapia. Encuentros conversados. Digital magazine Arteterapia. Proceso creativo y Transformación, 2019, 6: 30-36. (ISSN: 2618-1908).

Books or Chapters with ISBN

- ▶ Collette N. Deepening the inner world. When art therapy meets the spiritual needs. In: Jacobson R & Wood MJM (Eds). Handbook of Art Therapy in Hospice and Bereavement Care. New York, Routledge, 2019, 3-16. ISBN: 978-1-138-08736-1.

Diffusion Activities

Scientific Diffusion Activities

- ▶ Antonio Pascual. Sedación y últimos cuidados. XIII Curso SEOM para Residentes: Control de Síntomas y Terapia de Soporte. Valencia, Spain, January 2019.
- ▶ Antonio Pascual (Director); Antonio Pascual, Ernest Güell, Óscar Fariñas, Nadia Collette, María Luisa Prada (Lecturers). Master en Atenció paliativa integral a persones con enfermedades avanzadas. Hospital Sant Pau - Universitat Autònoma de Barcelona, Spain. January-June 2019.
- ▶ Nadia Collette. Multidisciplinar group workshop: Arteterapia. Taller de autoconocimiento para profesionales que atienden al final de la vida. Sociedad Navarra de Cuidados Paliativos PALIAN. Pamplona, Spain. May 2019.
- ▶ Antonio Pascual. Conference in the Session "Encuentro con el experto": Integración de los Cuidados Continuos en la Medicina del siglo XXI. I Congreso Virtual SEOM de Oncología Médica. Madrid, Spain. May 2019.
- ▶ Nadia Collette. Arteterapia en el final de la vida. Master de Psicoterapia y Psicología Clínica, Universidad de Valencia. Valencia, Spain. May 2019.
- ▶ Nadia Collette. Arteterapia en cuidados paliativos y en duelo. Master de Arteterapia. Universidad Politécnica de Valencia and IDECART (Instituto para la Investigación y el Desarrollo de los procesos de creación y arteterapia). Valencia, Spain. May 2019.
- ▶ Antonio Pascual. Programa multidisciplinar integrado de atención al final de vida en pacientes con insuficiencia cardíaca avanzada. (Oral communication). Unió Catalana d'Hospitals. Sessió de Bones

Pràctiques Sociosanitàries: L'abordatge del Procés de Final de Vida. Barcelona, Spain. May 2019.

- ▶ Antonio Pascual. Workshop: Taller de manejo del dolor. Analgésicos opioides. II Jornada de Metges Residents SEMG (Societat Catalana de Metges Generals i de Família) Catalunya. Barcelona, Spain. June 2019.
- ▶ Nadia Collette. Art therapy research in a hospital Palliative Care Unit setting. (Oral Communication). I International Art Therapy Practice and Research Conference. London, United Kingdom. July 2019.
- ▶ Nadia Collette. Workshop: Art therapy research networks in Spain. I International Art Therapy Practice and Research Conference. London, United Kingdom. July 2019.
- ▶ Nadia Collette. Arteterapia y sufrimiento en el final de la vida. (Conference). Congreso Internacional ALETHEIA: Arte, arteterapia, trauma y memoria emocional (Research group of the Universidad Complutense de Madrid). Madrid, Spain, November 2019.
- ▶ Nadia Collette. Arteterapia en duelo y cuidados paliativos. Master de Counseling en Duelo, pérdidas y trauma. Universitat de Barce-

lona and Instituto de Psicoterapia Integrativo-Relacional. Barcelona, Spain. October 2019.

- ▶ Nadia Collette. Investigación en atención espiritual en cuidados paliativos. Societat Catalano-Balear de Cures Pal·liatives. Barcelona, Spain. December 2019.

Dissemination to Society

- ▶ Nadia Collette. Arteterapia. Crear arte ayuda al bienestar en el final de la vida Espai de Suport Memora de Nou Barris-Horta. Ciclo de charlas y talleres. Barcelona, Spain. February 2019.
- ▶ Nadia Collette. Arteterapia en el final de la vida. Participation in the round table: El arte, un aliado de la medicina. Recinte Modernista de Sant Pau – Quo Artis. Barcelona, Spain. March 2019.
- ▶ Antonio Pascual. Los pacientes: nuestros mejores maestros. Jornada abierta "Treinta años de Cuidados Paliativos en Canarias". Las Palmas, Spain. April 2019.

Associated Groups

Andrology



Coordinator

Ruiz Castañé, Eduard (F. Puigvert)
eruiz@fundacio-puigvert.es

Members

Bassas Arnau, Lluís (F. Puigvert)
González Fernández, Mónica (F. Puigvert)
Krausz, Csilla Gabriella (F. Puigvert)
Maestre Loren, Francesc (F. Puigvert)
Martínez Pasarell, Olga (F. Puigvert)
Moreno Mendoza, Daniel (F. Puigvert)

Peraza Godoy, M. Fernanda (F. Puigvert)
Riera Escamilla, Antoni (F. Puigvert)
Sánchez-Curbelo, Josvany (F. Puigvert)
Sarquella Geli, Joaquim (F. Puigvert)
Vives Suñé, Álvaro (F. Puigvert)

Main Lines of Research

- ▶ Genetics applied to male infertility.
- ▶ Male fertility preservation in oncological patients.
- ▶ Optimization of preimplantation genetics diagnosis and in vitro fertilization techniques.
- ▶ 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).
- ▶ Sexually transmitted diseases and public health.
- ▶ Quality of life and comprehensive sexual approach: gender and psychological aspects.

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 outreach on sexuality as a health topic and as a main aspect of global health and quality life even in chronic and ill patients among professionals who require a broad and multidisciplinary approach to their patients.
- ▶ To work on the relationship with patients' associations and gradually incorporate them as part of a working team to develop responsible research with relevant results with social impact.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Nephrology Group.
- ▶ Urology Group.
- ▶ Gynecological Group.
- ▶ Syndromes of Genome Instability and DNA Repair.

External Collaborations

National Collaborations

- ▶ Medical and Molecular Genetics Centre (RI)-IDIBELL: genetics applied to infertility.
- ▶ Cellular Biology and Medical Genetics Unit-UAB: preimplantation genetic diagnosis techniques.

International Collaborations

- ▶ 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 Collaborations

- ▶ Participation in clinical studies including clinical trials and postauthorization studies sponsored by national and international pharmaceutical companies.

Active Grants

- ▶ Csilla Gabriella Krausz. Estudio genético y genómico de subtipos específicos de azoospermia secretora: desarrollo de nuevas herramientas diagnósticas y pronósticas. P114/01250. Instituto de Salud Carlos III. Duration: 2015-2019. 86,500 €.
- ▶ Csilla Gabriella Krausz. Estudio genético y genómico en pacientes infértiles y pacientes con tumor testicular de células germinales: desarrollo de nuevas herramientas para un diagnóstico precoz. P117/01822. Instituto de Salud Carlos III. Duration: 2018-2020. 102,000 €.

Competitive Private Grants

- ▶ Krausz C. Evaluación del efecto de la terapia citostática sobre el genoma y el epigenoma del gameto masculino. Fundación Merck Salud: Ayudas Merck de Investigación 2017 en el área de Investigación Clínica en Fertilidad. Duration: 2017-2020. 30,000 €.

Private Capital Projects

- ▶ González, M. Estudio prospectivo, abierto, de 12 semanas de tratamiento para determinar el efecto de tadalafilo 5 mg en el flujo sanguíneo del clítoris en mujeres menopáusicas e hipertensas con trastorno del interés y de la excitación sexual (LITA-001 Study). EUDRACT 2016-001011-21. Litapharm SL. Duration: 2016-2019.
- ▶ González, M. Ensayo clínico multicéntrico, aleatorizado, doble ciego, con grupos paralelos y controlado con placebo para investigar la eficacia de un complemento alimenticio en el aumento de la libido y la función sexual en mujeres en la postmenopausia (Estudio GYN-FEEL) Gynea Laboratorios S.L.U. Duration: from 2018.
- ▶ Maestre, F. Dolor testicular crónico y alexitimia. Fundació Puigvert. Duration: from 2013.
- ▶ Maestre, F. Regulació afectiva del malestar en la disfunció sexual: Aferrament, psicopatologia, disfunció erèctil i qualitat de la relació de parella. Fundació Puigvert. Duration: from 2018.
- ▶ Ruiz-Castañé, E. Estudio longitudinal, observacional retrospectivo, sobre el manejo del tratamiento de pacientes diagnosticados con

disfunción eréctil y que no responden al tratamiento oral con inhibidores de Fosfodiesterasa-5 en la práctica clínica habitual (Estudio MANDYS). Casen Recordati S.L. Duration: 2019.

- ▶ Ruiz-Castañé, E. A multi-centre, randomised, double-blind, placebo-controlled trial to investigate the efficacy and safety of two concentrations of PKB171 against placebo in couples with asthenozoospermia who wish to conceive (PKB171-02). EUDRACT 2016-003993-42 Prokrea BCN S.L. Duration: 2016-2019.
- ▶ Ruiz-Castañé, E. Estudio observacional para la validación del cuestionario de la enfermedad de La Peyronie en su versión en español (Estudio PDQ). Asociación Española de Urología (AEU). Duration: from 2017.
- ▶ Sánchez, J. Tratamiento de la disfunción eréctil con ondas de choque lineales, electromagnéticas de baja intensidad. Estudio aleatorizado con placebo. Fundació Puigvert. Duration: from 2016.
- ▶ Vives, A. Estudio de tendencias temporales en el diagnóstico de verrugas anogenitales en una red de profesionales sanitarios de Cataluña para la evaluación del impacto de la Vacunación frente al Virus del Papiloma Humano (Estudio iVacVPH-I). Institut Calatà d'Oncologia (ICO). Duration: from 2011.
- ▶ Martínez, O. Estudio fase IV, simple ciego, prospectivo, aleatorio, controlado, multicéntrico, para comparar los resultados clínicos del sistema time lapse. Merck KGaA.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Riera-Escamilla, A; Moreno-Mendoza, D; Casamonti, E; Degl'Innocenti, S; Sánchez-Curbelo, J; Grazia Fino, M; Ruiz-Castañé, E; Krausz, C. La delección gr/gr predispone al tumor de células germinales testiculares independientemente de la espermatogénesis alterada. Award to the best oral communication in Reproductive Medicine. Asociación Española de Andrología. Cádiz, 23-25 May 2019.

Scientific Production

Total Impact Factor: 37.2520 · Mean Impact Factor: 4.1391

Barcelo M., Castells M., Bassas L., Vignes F., Larriba S., Semen miRNAs Contained in Exosomes as Non-Invasive Biomarkers for Prostate Cancer Diagnosis (2019) SCI REP-UK, 9 (1). **IF: 4.0110**

Bars-Cortina, D; Riera-Escamilla, A; Gou, G; Piñol-Felis, C; Motilva, MJ. Design, optimization and validation of genes commonly used in expression studies on DMH/AOM rat colon carcinogenesis model. (2019) PEERJ e6372. **IF: 2.353**

Cioppi F., Riera-Escamilla A., Manilall A., Guarducci E., Todisco T., Corona G., Colombo F., Bonomi M., Flanagan C.A., Krausz C., Genetics of ncHH: from a peculiar inheritance of a novel GNRHR mutation to a comprehensive review of the literature (2019) ANDROLOGY-US, 7 (1), 88-101. **IF: 3.1060**

Krausz C., Riera-Escamilla A., Chianese C., Moreno-Mendoza D., Ars E., Rajmil O., Pujol R., Bogliolo M., Blanco I., Rodriguez I., Badell I., Ruiz-Castane E., Surralles J., From exome analysis in idiopathic azoospermia to the identification of a high-risk subgroup for occult Fanconi anemia (2019) GENET MED, 21 (1), 189-194. **IF: 6.8830**

Moreno-Mendoza D., Casamonti E., Paoli D., Chianese C., Riera-Escamilla A., Giachini C., Fino M.G., Cioppi F., Lotti F., Vinci S., Magini A., Ars E., Sanchez-Curbelo J., Ruiz-Castane E., Lenzi A., Lombardo F., Krausz C., gr/gr deletion predisposes to testicular germ cell tumour independently from altered spermatogenesis: results from the largest European study (2019) EUR J HUM GENET, 27 (10), 1578-1588. **IF: 3.6500**

Palmisano F, Moreno-Mendoza D, Ilevoli R, Veber-Moisés-Da Silva G, Gasanz-Serrano C, Villegas-Osorio JF, Peraza-Godoy MF, Vives Á, Bassas L, Montanari E, Ruiz-Castañé E, Sarquella-Geli J, Sánchez-Curbelo J. Clinical factors affecting semen improvement after microsurgical subinguinal varicocele: which subfertile patients benefit from surgery? (2019) THER ADV UROL 11: 1756287219887656. **IF: 2.360**

Riera-Escamilla A., Enguita-Marruedo A., Moreno-Mendoza D., Chianese C., Sleddens-Linkels E., Contini E., Benelli M., Natali A., Colpi G.M., Ruiz-Castane E., Maggi M., Baarends W.M., Krausz C., Sequencing of a 'mouse azoospermia' gene panel in azoospermic men: Identification of RNF212 and STAG3 mutations as novel genetic causes of meiotic arrest (2019) HUM REPROD, 34 (6), 978-988. **IF: 5.5060**

Sentís A, Martin-Sanchez M, Arando M, Vall M, Barbera MJ, Ocaña I, González Cordon A, Alsina M, Martin-Ezquerro G, Knobel H, Gurguá M, Vives A, Coll J, Caylà JA, García de Olalla PAGS; Grupo ITS-VIH de Barcelona. Sexually transmitted infections in young people and factors associated with HIV coinfection: an observational study in a large city. (2019) BMJ Open 9 5 e027245. **IF: 2.376**

Vockel M., Riera-Escamilla A., Tuttmann F., Krausz C., The X chromosome and male infertility (2019) HUM GENET. **IF: 5.2070**

Other Publications

- ▶ Mercadal J, Maestre F, Golanó M, Pla E, Pérez A. Routine Outcomes Measures (ROM): An Evaluation and Research Approach to the Therapeutic Process in Public Health Contexts. CPQ Neurology and Psychology, 3 2 01-02. 6 December 2019.

Books or Chapters with ISBN

- ▶ Bassas L. Disfunción sexual y diabetes. In: SEEN. Manual de Endocrinología y Nutrición. Cap 75. Last update: 21/05/2019. <https://manual.seen.es/article?id=55114fad-a5e0-4a67-a8c5-44fdac18103c>.
- ▶ Krausz C, Riera-Escamilla A. Chapter: Monogenic Forms of Male Infertility. In (eBook): Genetics of Endocrine Diseases and Syndromes.

Experiencia Supplementum volume 111, First Online: 7 October 2019, pp 341-366. © Springer Nature Switzerland AG 2019- ISSN 1664-431X ISSN 2504-3692 (electronic). ISBN 978-3-030-25904-4. ISBN 978-3-030-25905-1 (eBook).

Diffusion Activities

Courses Organized by the Andrology Group

- ▶ Manejo de la eyaculación precoz. 27 March 2019
 - Director of the course: E. Ruiz-Castañé
 - Speaker M.F. Peraza: Manejo terapéutico actualizado de la eyaculación precoz
 - Speaker M. González: Factor femenino y eyaculación precoz
 - Speaker F. Maestre: Eyaculación y vínculo de placer: Otros algoritmos asociados al tratamiento integrado
- ▶ 17 Curso de Andrología. Fundació Puigvert. 23-25 October 2019
 - Director of the course: E. Ruiz-Castañé
 - Moderators of tables: Ll. Bassas, A. Vives, M. F. Peraza, C. Krausz, E. Ruiz-Castañé, J. Sarquella, J. Sánchez Curbelo
 - Workshop moderators: A. Vives, Ll. Bassas, C. Krausz, D. Moreno, J. Sánchez Curbelo, M. F. Peraza, F. Maestre, M. González
 - Speaker C. Krausz: Infertilidad como biomarcador de salud general
 - Speaker M.F. Peraza: Actitud frente a las azoospermias
 - Speaker D. Moreno: Oncoandrología y preservación de gametos masculinos
 - Speaker L. Bassas: El informe seminológico y su interpretación clínica
 - Speaker A. Vives: ITS e infertilidad masculina
 - Speaker O. Martínez: Innovaciones en cultivo y evaluación embrionaria
 - Speaker M.F. Peraza: Protocolo de actuación andrológica en cirugía radical de próstata
 - Speaker J. Sarquella: A critical analysis of new graft materials for Peyronie's reconstructive surgery
 - Speaker E. Ruiz Castañé: Strategies to decrease complications of penile implant surgery
 - Speaker J. Sarquella: Vasovasostomy / Epididymovasostomy: Does the type of anastomosis matter?
 - Speaker J. Sánchez Curbelo: Déficit de Testosterona en la edad adulta
 - Surgeons of the Masterclass in andrological surgery:
 - Surgeon J. Sarquella: Peyronie 16 dots
 - Surgeon J. Sánchez Curbelo: Peyronie y IPP
 - Surgeon J. Sarquella: Peyronie y patch (TachoSil)
 - Surgeon J. Sarquella: Caso complejo de IPP
 - Surgeon J. Sarquella: Vasovasostomía microquirúrgica.
 - Surgeon M.F. Peraza: Varicoceleotomía microquirúrgica/Microtese.
- ▶ Máster en Andrología. February 2018 – January 2020
 - Organisation of the master: E Ruiz- Castañé
 - Teachers: All members of the Andrology Group
 - Speaker J.R. Sánchez: Nuevas tendencias en el abordaje de la disfunción eréctil. Papel del Gabinete de Andrología, 29th November

Participation in Andrology Congresses and Conferences

- ▶ XXII Meeting of the Andrology Group. Sevilla (Spain), 7-8 February 2019
 - Speaker L. Bassas: Preservación de la fertilidad en pacientes pediátricos
 - Speaker J. Sarquella: Enfermedad de Peyronie, tratamiento quirúrgico paso a paso (vídeos): plicatura
 - Video Moderator: J. Sánchez
- ▶ XIII Meeting Pharmacotherapy in Urology. Moscou (Russia), 7-9 February 2019
 - Speaker E. Ruiz-Castañé: Preventive strategies to avoid penile implant complications
- ▶ Jornada Formativa para Enfermeras. Barcelona (Spain), 28 February 2019
 - Speaker M. González: Sexualidad en pacientes ostomizados
- ▶ XLIII Congreso Internacional del Colegio Mexicano de Urología Nacional. Monterrey (México), 6-10 March 2019
 - Speaker E. Ruiz Castañé: Abordaje integral de enfermedad de Peyronie
- ▶ VI Curso de Cirugía Protésica y Reconstructiva Urogenital. Barcelona (Spain), 13-14 March 2019
 - Speaker J. Sarquella: Novedades en cirugía protésica para la disfunción eréctil
- ▶ 34th EAU Annual Congress. Barcelona (Spain), 15-19 March 2019
 - Speaker E. Ruiz Castañé: Prevention and treatment of the infected penile prosthesis
 - Session Moderator E. Ruiz Castañé: Testosterone as a source of youth for the male
- ▶ 1a Jornada de Andrología Quirúrgica. Donostia (Spain), 29-30 March 2019
 - Speaker J. Sarquella: Cirugía andrológica
- ▶ Sexualidad de los 30 a los 40: aprendizajes, conductas y dificultades. Barcelona (Spain), 11 April 2019
 - Speaker M. Gonzales: Reproducción y sexualidad
- ▶ 13th National Andrology Congress. Mugla (Turkey), 18-21 April 2019
 - Speaker E. Ruiz Castañé: Current Prosthesis and Reservoir Implantation Techniques
- ▶ Reunión Internacional de Medicina Sexual y Reproductiva. Equatorial Guinea, 23-26 April 2019
 - Speaker E. Ruiz Castañé: La salud sexual y reproductiva de la adolescencia
 - Speaker E. Ruiz Castañé: Problemas sexuales más frecuentes en los hombres y mujeres adultos
 - Speaker E. Ruiz Castañé: Se puede evitar el envejecimiento sexual
 - Speaker E. Ruiz Castañé: Tratamiento médico de las disfunciones sexuales
- ▶ 19 Congress of the Asociación Española de Andrología. Cádiz (Spain), 23-25 May 2019
 - Chairman of the Scientific Committee: Ll. Bassas
 - Whorkshop tutor J. Sarquella: el tratamiento de la enfermedad de la Peyronie con colagenasa intraplaca

- Speaker A. Riera: Arquitectura genética de la azoospermia
- Speaker J. Sánchez: El hipogonadismo de inicio tardío está en crisis
- Oral Communications
 - Sánchez Curbelo, J; Fuentes Milera, A; Bassas Arnau, Ll. Caracterización de pacientes con Síndrome de Klinefelter que consultaron en el Servicio de Andrología de la Fundació Puigvert en el período comprendido desde el año 1975 hasta septiembre de 2016.
 - Peraza-Godoy, MF; Sarquella, J; Moreno, D; Sánchez, J; Peon, S; Martínez, O; García, A; Bassas, Ll. Experiencia en un programa de Biopsia testicular Microquirúrgica con Vitricación previa de ovocitos en casos de esterilidad por factor masculino severo.
 - Riera-Escamilla, A; Moreno-Mendoza, D; Casamonti, E; Degl'Innocenti, S; Sánchez-Curbelo, J; Grazia Fino, M; Ruiz-Castañé, E; Krausz, C. La delección gr/gr predispone al tumor de células germinales testiculares independientemente de la espermatogénesis alterada.
 - Fernández Ávila, CM; García-Baquero, R; Agüera Bitaubé, J; Ojeda Claro, AV; Flor Peña, A; Ruiz Guerrero, E; Bassas Arnau, Ll; Álvarez-Ossorio Fernández, JL. Ensayo clínico aleatorizado, simple ciego y controlado para evaluar el efecto del lavado intraoperatorio de conductos deferentes con agua estéril y nitrofurazona sobre el seminograma de control postvasectomía.
- ▶ Eurasian Congress of Urologists. Ufa (Russia), 24-25 May 2019
 - Speaker E. Ruiz Castañé: Difficult cases in penile reconstructive surgery
 - Speaker E. Ruiz Castañé: Microsurgery in andrology. Sperm retrieval techniques
- ▶ XXV Seminario Español de la EDTNA/ERCA. VI Update de la ACIN "Una historia enfermera". Barcelona (Spain), 6-7 June 2019
 - Speaker M.F. Peraza: Disfunción sexual femenina y masculina
- ▶ 3rd Andrology Symposium. Zagreb (Croatia), 6 June 2019
 - Moderator E. Ruiz Castañé: ED and penile prosthesis implant
- ▶ Congreso Chileno de Andrología y Medicina Sexual. Santiago de Chile (Chile), 11-16 June 2019
 - Speaker E. Ruiz Castañé: Envejecimiento sexual masculino
 - Speaker E. Ruiz Castañé: Faloplastias, experiencia y técnica quirúrgica
 - Speaker E. Ruiz Castañé: Microcirugía en andrología
 - Speaker E. Ruiz Castañé: Tratamiento quirúrgico de la Enfermedad de La Peyronie
- ▶ LXXXIV Congreso Nacional de Urología. Bilbao (Spain), 12-15 June 2019
 - Picola, N.; Barceló Nicolau, M; Castells Esteve, M; Mata Vila, A; Bassas Arnau, L; Vigués Juliá, F; Larriba Bartolomé, S. Cuantificación de microRNAs en plasma seminal total y su potencial como biomarcadores no invasivos en el diagnóstico de Cáncer de Próstata. Poster
- ▶ XXI Jornada de la Societat Catalana de Qualitat Assistential, Lleida (Spain), 13 June 2019
 - Palomino Martínez, A; Baxarias Gascón, P; Maestre Loren, F; Martínez Camps, E; Lopéz Martínez, R; Mata Vila, A. Evaluació de la vessant lúdica en l'aprenentatge de la Cultura de la Seguretat dels Pacients. Oral communication
 - Baxarias Gascón, P; Palomino Martínez, A; Maestre Loren, F; Sabaté Tenas, S; Martínez Barcina, MJ; Rubio Guzmán, C. És l'estiu un bon moment per reforçar la Cultura de la Seguretat dels Pacients? Oral communication
- ▶ 35th Annual Meeting European Society of Human Reproduction and Embryology. Viena (Austria), 23-26 June 2019
 - Esbert, M; Rodríguez, J; Wells, D; Bassas, L; Loiudice, I; Casas, AB; Joumady, M; Guerin, A; Ballesteros, A; Fragouli, E. Lack of consistency in the execution and reporting of sperm FISH poses potential problems for clinical interpretation and patient counselling. Poster
- ▶ XXIX Congreso Peruano de Urología. Cuzco (Perú), 7-10 August 2019
 - Moderator J. Sarquella: Prosthetic Surgery
 - LIV Congreso Internacional de Urología. Barranquilla (Colombia), 14-17 August 2019 Speaker E. Ruiz-Castañé: Presente y futuro de la microcirugía en andrología: ¿Cómo obtener espermatozoides donde antes no había?
 - Speaker E. Ruiz-Castañé: Interpretación clínica del Espermoграмма: ¿Qué tenemos? ¿Qué viene?
 - Speaker E. Ruiz-Castañé: La salud sexual y reproductiva en la adolescencia
- ▶ Reunión de Ciclo 2019. Castelldefels (Spain), 2-4 September 2019
 - Speaker J. Sánchez: Formación clínica en disfunción eréctil
- ▶ Curso de Cirugía Protésica en Andrología. Hospital Central Militar. Ciudad de Méjico (México), 5-6 September 2019
 - Speaker: J. Sarquella: Cómo evitar complicaciones en implante de prótesis
- ▶ 50 JAHRE Urologie ESAU Meeting. Giessen (Germany), 26-27 September 2019
 - Speaker E. Ruiz Castañé: Management of the infected penile prosthesis
 - Speaker E. Ruiz Castañé: Penile Prosthesis Complications
- ▶ XXXVIII Congreso Confederación Americana de Urología (CAU), LVI Congreso de la Sociedad Argentina de Urología (SAU), XIV Congreso de la Sociedad Iberoamericana de Urología Pediátrica (SIUP). Buenos Aires (Argentina), 2-5 October 2019
 - Speaker E. Ruiz Castañé: Microcirugía en Andrología
 - Speaker E. Ruiz Castañé: Función sexual y calidad de vida, qué debe el urólogo recomendar
 - Codos Villalba, G; Sánchez Curbelo, JR. Tratamiento de la eyaculación prematura con Dapoxetina: respuesta clínica y grado de satisfacción reportado por los pacientes. Estudio prospectivo observacional. Oral Communication
- ▶ Curs de Formació Continuada en Medicina Reproductiva. Barcelona (Spain), 3 October 2019
 - Speaker J. Sarquella: Interpretació de les proves diagnòstiques bàsiques en andrologia
 - Speaker O. Martínez: Aspectes legals i metodològics del DGP
 - Speaker LL. Bassas: Preservació de la fertilitat masculina
 - Speaker M. González: Disfunció sexual en la parella estèril
- ▶ VIII Congreso Argentino de Andrología. Buenos Aires (Argentina), 28-31 October 2019
 - Speaker J. Sarquella: MicroTESE. Consiguiendo lo imposible
 - Speaker J. Sarquella: Manejo actual de los pacientes con disfunción eréctil. Salud sexual es salud general
- ▶ European Lower Urinary Tract Symptoms Meeting (ELUTS19). Prague (Czech Republic), 31 October-2 November 2019
 - Debate moderator E. Ruiz Castañé: Intra-urethral administration of pharmaceutical agents for the treatment of erectile dysfunction: Does it work?
- ▶ XII Congreso Internacional and XVII Nacional de Psicología Clínica. Santander (Spain), 13-16 November 2019
 - Maestre, F; Castillo, J; Cifre, I; Sarquella, J. Sexualidad y apego: El impacto negativo de la disfunción eréctil. Oral communication
 - Maestre, F; Mercadal, J; Golano, M; Miralbell, J; Pérez, A; Pla, E. Evaluación sistemática de resultados en centros de salud mental del entorno sanitario de Cataluña. Oral communication
- ▶ LXX Congreso Nacional de la Sociedad Mexicana de Urología. Mérida (México), 14-18 November 2019
 - Speaker E. Ruiz Castañé: Fertilidad posterior al uso de esteroides anabólicos con motivo recreacional
 - Speaker E. Ruiz Castañé: La infertilidad como parte de la salud masculina general
 - Speaker E. Ruiz Castañé: Infertilidad para los urólogos

- Speaker E. Ruiz Castañé: Microcirugía en Andrología. Papel activo del urólogo
- ▶ Curso de Actualización en Infertilidad y Disfunciones Sexuales Masculinas. Santiago de Chile (Chile), 14-15 November 2019
 - Speaker Ll. Bassas: Causas genéticas de la infertilidad masculina: recomendaciones actuales y perspectivas futuras
 - Speaker Ll. Bassas: Opciones farmacológicas para el tratamiento médico de las alteraciones espermáticas
 - Speaker Ll. Bassas: Sd de Klinefelter ¿Opciones para obtener hijos biológicos?
 - Speaker Ll. Bassas: Falla de FIV/ICSI por factor masculino ¿Tenemos alguna herramienta?
 - Speaker Ll. Bassas: Consejos para el éxito de un laboratorio de andrología y reproducción asistida
 - Speaker J. Sarquella: Colagenasa de clostridium histolyticum en el tratamiento de la enfermedad de Peyronie
 - Speaker J. Sarquella: Novedades en el tratamiento quirúrgico de la enfermedad de Peyronie
 - Speaker J. Sarquella: Consejos para el éxito de un programa de implante de prótesis de pene
 - Speaker J. Sarquella: Implante de prótesis de pene hidráulica: Abordaje infrapúbico vs penoescrotal ¿Con cuál me quedo?
- ▶ Curso para Residentes-5 en Cirugía Uroprotésica. Madrid (Spain), 11 December 2019
 - Conference Moderator E. Castañé: Indicaciones de la prótesis penénea. Planteamiento al paciente y discusión de las expectativas.
 - Direct Surgery Moderator. J. Sarquella
- ▶ Online Fertility SEF-SEMERGEN Course. 15-19 September 2019
 - Teacher L. Bassas: Topic 11.- Prevención de la infertilidad masculina (<https://www.semergen.es/?seccion=formacion&subSeccion=detalleActividad&idA=227>)

Society Divuligation Activities

- ▶ Tot el que hauríem de saber sobre el càncer de pròstata el 2019. Jornada per a pacients. Fundació Puigvert. Barcelona, 31 January 2019
 - Speaker M.F. Peraza: Com pot afectar el càncer de pròstata a la sexualitat? Existeixen solucions quan aquestes són necessàries
- ▶ Parlem del càncer de pròstata. Jornada per a pacients. Fundació Puigvert. Barcelona, 19 November 2019
 - Moderator MF. Peraza: Càncer de pròstata: impacte social, sexual, familiar i econòmic

Associated Groups

Urology

**Coordinator**

Palou Redorta, Juan (F. Puigvert)
jpalou@fundacio-puigvert.es

Members

Algaba Arrea, Fernando
(F. Puigvert)
Angerri Feu, Oriol (F. Puigvert)
Arce Terroba, Yolanda
(F. Puigvert)
Breda, Alberto (F. Puigvert)
Bujons Tur, Ana (F. Puigvert)
Emiliani Sanz, Esteban
(F. Puigvert)

Errando Smet, Carlos
(F. Puigvert)
Ponce de León Roca, Javier
(F. Puigvert)
Rodríguez Faba, Óscar
(F. Puigvert)

Main Lines of Research

The Urology Clinical and Basic Research group has been an associated group of IIB Sant Pau since its very beginning. The group carries out clinical translational research within the field of urinary tract diseases along different lines, including urological cancer, functional urology, stone disease, pediatric urology, renal transplant and reconstructive surgery.

Existing lines of research are the following:

- ▶ In the area of urological cancer, Dr. Breda is leading several projects mainly related to liquid biopsy in urothelial and prostate cancers, focal treatment of prostate cancer, methodology in enhancing lymph nodes in prostate and upper urinary tract disease, intraoperative detection of tumor grade with confocal endomicroscopy in order to facilitate clinical decisions and avoid unnecessary procedures, the role of systemic chemotherapy in upper urinary tract tumors and the role 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 Malmö University. Bladder preservation in high grade tumors is a difficult decision and the ability to detect those that will progress will allow earlier aggressive treatment. Another line of research is nerve-sparing surgery in cystectomy in order to preserve sexual function after radical surgery.
- ▶ In pediatric urology, 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 botulinum toxin in hyperactive bladder in children, urine pH studies for the risk of infection in urinary tract anomalies, optimization 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, led by Dr. Angerri, clinical research is carried out on the following aspects: laser energy devices for stone destruction (holmium, thulium, superthulium) in collaboration with IIBSant-Pau General and Digestive Surgery Group for primary hyperparathyroidism, tolerance of surgical material for urolithiasis treatment and pH urine research for the management of cystinuria. In cystinuria, there is extensive collaborative research with IDIBELL for genetic study of the entity and active participation in the national registry of this rare disease.
- ▶ The functional urology section, led 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 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 (attached to UAB Vall d'Hebron) in clinical evaluation tools for patients with lower urinary tract dysfunction has recently begun.
- ▶ The renal transplantation unit, headed 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 undertaking analysis of urogenital tumors in renal transplant patients in order to update and change daily practice.
- ▶ BPH surgery is one of the most common in urology and the group led by Dr. Ponce de Leon is investigating the way to perform surgery with preservation of anterograde ejaculation using different methodologies (TURP, Rezum). The group also studies the use of the Rezum system (intraprostatic vaporization) in BPH, quality of life of patients who have undergone urethroplasty due to urethral stenosis, use of oral mucosa for urethroplasties. A recent national collaboration for a urethroplasty registry has recently begun.
- ▶ Mrs. Vanessa Muñoz and nurse Ana Palomino are the coordinators of clinical studies and trials. They are key people for the continuation of the department's ongoing studies.

Scientific Challenges

- ▶ Maintain national and international positions in order to increase the scientific networking of the department.
- ▶ Participate and evolve in the elaboration of European guidelines.
- ▶ Continue basic and clinical research of the different established areas.
- ▶ Continue and improve relations with industry (pharmaceuticals, medical devices industry and biotechnology companies) in order to be at the forefront of development of new compounds and surgical techniques.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Uro-oncology meetings: weekly meetings with urologists, oncologists, radiologist, radiation oncologists and pathologists.
- ▶ Uropediatric meeting: 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 joint 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 Sant Pau Group: collaborative surgical group in complex pelvic tumours and urolithiasis research.
- ▶ Clinical Epidemiology and Helathcare Services IIB Sant Pau Group: bladder and prostate cancer.
- ▶ Inflammatory IIB Sant Pau Group: Biomarkers in urooncology.
- ▶ Paediatrics IIB Sant Pau Group: reseach in uropediatric diseases.

External Collaborations

International academic collaborations, network and consortiums

- ▶ (IR)CCVTC (International Renal Cell Carcinoma Venous Thrombus 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 Guildelines EAU Group: Urothelial carcinomas of the upper urinary tract.
- ▶ ERUS working Group on RAKT.
- ▶ Champalimaud Center for the Unknown (Lisbon) and the Malmoe Unviersity: 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 (Phisiotherpy center): quality of life research in incontinence.

Private national and international collaborations

- ▶ Clinical trials and postauthorization studies promoted by national and international pharmaceuticals, medical devices industries and biotechnology companies.

Active Grants

- ▶ Palou, J. Robot-Assisted Cystectomy (Cistectomía robótica). RARC Study. Roswell Park Cancer Institute.
- ▶ Palou, J. Quimioterapia Intravesical Hipertérmica en pacientes con TVNMI riesgo intermedio comparado con instilación intravesical de quimioterapia estándar como tratamiento adyuvante. Estudio comparativo, prospectivo, randomizado y multicéntrico. EUDRACT: 2013-002628-18. Combat Medical LTD.
- ▶ Breda, A. Protocolo para manejo diagnóstico y terapéutico del tumor de vías mediante ureteroscopia flexible y uso del sistema de imagen (IMAGE 1 SPIES). Fundació Puigvert.
- ▶ Palou, J. Estudio abierto, aleatorizado, controlado, multicéntrico, fase II para evaluar la eficacia y seguridad de Intuvax administrado intratumoralmente pre-nefrectomía seguido de Sunitinib post-nefrectomía comparado con Sunitinib post-nefrectomía en pacientes con carcinoma renal metastásico (Estudio INTUVAX). EUDRACT: 2014-004510-28. Immunicum AB.
- ▶ Palou, J. Impacto de la administración preoperatoria intravesical con mitomicina-C (MMC) mediante instilación electromotriz (EMDA) en pacientes con tumor vesical no músculo invasivo (TVNMI). Estudio prospectivo aleatorizado. EUDRACT: 2015-003680-11. Presurgy S.L.
- ▶ Errando, C. Estudio en fase III, multicéntrico, aleatorizado, doble ciego, de grupos paralelos y controlado con placebo para evaluar la eficacia y la seguridad de uno o más tratamientos intradetrusor con 600 u 800 unidades de Dysport® para el tratamiento de la incontinencia urinaria en pacientes con hiperactividad neurógena del detrusor por lesión de la médula espinal o esclerosis múltiple (Estudio CONTENT (Ipsen 223)). EUDRACT: 2015-000507-44. Ipsen Innovation.
- ▶ Rodríguez-Faba, O. Estudio piloto para valorar el abordaje mediante citometría de flujo de la expresión de receptores inhibidores en células urinarias de pacientes con cáncer vesical músculo-invasivo. Fundació Puigvert / SV. Immunologia HSC Sant Pau.
- ▶ Breda, A. Development of cold ischemia device and evaluation of functional results and inflammatory markers in open compared to robot-assisted kidney transplantation from living donors. Fundació Puigvert.
- ▶ Palou, J. Estudio de evaluación de la prueba ELISA MCM5 de Arquer Diagnostics Ltd's para el seguimiento del cáncer de vejiga recurrente. Arquer Diagnostics LTD.
- ▶ Rodríguez-Faba, O. Ensayo clínico de fase III, aleatorizado, doble ciego y controlado con placebo de pembrolizumab (MK-3475) en monoterapia para el tratamiento adyuvante del carcinoma renal tras una nefrectomía (KEYNOTE-564). EUDRACT: 2016-004351-75. Merck, Sharp & Dohme Corp.
- ▶ Palou, J. Estudio observacional internacional en pacientes con cáncer de vejiga para detectar recurrencias tempranas tras la resección transuretral de la vejiga (RTUV) con la prueba Xpert® (Monitor de cáncer de vejiga Xpert®) ANTICIPATE X. Cepheid Europe.
- ▶ Angerri, O. Ensayo aleatorizado, controlado y abierto sobre el impacto del uso de un pHímetro sobre el control domiciliario del pH urinario como adyuvante al tratamiento de pacientes cistinúricos. DEV-LCD-01-17. Devicare S.L.
- ▶ Breda, A. En bloc bladder tumor resection: prospective randomized evaluation of monopolar, bipolar and thulium energy (Resección del tumor vesical en bloque: evaluación prospectiva aleatoria mediante la utilización de diferentes técnicas de energía: monopolar, bipolar y láser). Fundació Puigvert.
- ▶ Palou, J. Estudio multicéntrico para evaluar la seguridad y la eficacia de TAR-200 en sujetos con carcinoma de células transicionales de vejiga con invasión muscular que no son elegibles o rechazan quimioterapia con cisplatino y que no son aptos para someterse a una cistectomía radical. EUDRACT: 2017-003107-21. Taris Biomedical LLC.
- ▶ Rodríguez-Faba, O. Ensayo mundial fase III, aleatorizado, abierto, multicéntrico de Durvalumab y el Bacilo de Calmette-Guerin (BCG) administrados como terapia combinada en comparación con BCG en monoterapia, en pacientes con cáncer de vejiga no músculo invasivo de alto riesgo sin tratamiento previo con BCG (POTOMAC). EUDRACT: 2017-002979-26. AstraZeneca AB.
- ▶ Ponce de León, J. Proyecto Base de Datos de Uretroplastias del Grupo de Cirugía Reconstructiva Urológica (CRU) en la Plataforma de Investigación de Estudios Multicéntricos de la AEU (PIEM). AEU-PIEM/2016/0006. Asociación Española de Urología (AEU).

- ▶ Palou, J. Elaboración de un modelo PREdictivo de CISToscopia, basado en el test BTA-stat, para el seguimiento de pacientes con carcinoma vesical no músculo-invasivo de bajo grado (Estudio PreCis BTA). Sysmex España.
- ▶ Bujons A. Generación de un modelo tridimensional in vitro del tracto urinario inferior a partir de células madre obtenidas de tejido adiposo. Aplicación en ingeniería tisular para enfermedades congénitas. Fundació Puigvert.
- ▶ Rodríguez-Faba, O. Impacto clínico del carcinoma in situ vesical primario, secundario y concomitante en pacientes con tumor vesical no músculo invasivo. Incidencia y factores predictivos de recurrencia, progresión y mortalidad cáncer específica. Fundació Puigvert.
- ▶ Breda, A. Biomarkers in renal cancer. Biorek S.r.l.
- ▶ Palou, J. Quimioterapia neoadyuvante versus adyuvante en carcinoma urotelial del tracto urinario superior. Ensayo clínico randomizado de viabilidad fase II (URANUS). EUDRACT: 2016-004017-27. European Uro-Oncology Group (EUOG).
- ▶ Palou, J. Evaluación prospectiva de UBC® Rapid y citología en orina en pacientes con cáncer de vejiga no invasivo muscular (NMIBC). IDL Biotech AB.
- ▶ Ponce de León, J. Análisis prospectivo de la morbilidad oral derivada de la obtención de injertos de la cavidad bucal empleados en uretroplastias de ampliación y evaluación de sus factores predictores. Fundació Puigvert.
- ▶ Palou, J. Estudio de adecuación de la terapia hormonal intermitente en pacientes con cáncer de prostate. Institut Recerca HSCSP - IIB Sant Pau
- ▶ Palou, J. Ensayo clínico multicéntrico con producto sanitario asociado a fármaco en uso terapéutico autorizado para el tratamiento de CVNMI evaluando la eficacia y tolerabilidad del tratamiento adyuvante con EMDA-MMC versus estándar BCG y la eficacia del bio-marcador urinario MCM5 ADXBLADDER® en la detección de recidiva tumoral en pacientes con CVNMI de Alto Grado (Estudio CUETO1801). Presurgy.
- ▶ Palou, J. Tratamiento de carcinoma urotelial no invasivo de alto grado de la vejiga mediante número y dosis estándar de instilaciones intravesicales con una dosis estándar de BCG (Estudio NIMBUS). EAU Research Foundation.
- ▶ Breda, A. Genetic testing in Upper tract urothelial carcinoma (UTUC): the Epicheck study. Nucleix LTD.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Territo A, Gausa LI, Alcaraz A, Musquera M, Coumerc N, Decaestecker K, Desender L, Stockle M, Janssen M, Fornara P, Mohammed N, Siena G, Serni S, Sahin S, Tugcu V, Basile G, Breda A. European experience of robot-assisted kidney transplantation: minimum of 1-year follow-up. Best paper on clinical research by the European Association of Urology.
- ▶ Carrión D, Rodríguez Socarras M, Mantica G, Esperto F, Cebulla A, Vázquez JL, Palou J, Gómez Rivas J. Academic and scientific activity of European urology residents during their training. Best poster by the European Association of Urology.
- ▶ Girón Nanne I, Sabiote L, Balañá J, Sánchez Puy A, Calderón Cortez J, Emiliani E, Angerri O. Cirugía percutánea combinada decúbito supino de litiasis coraliforme mediante láser Holmium. Award to the best surgical technique by the Societat Catalana d'Urologia.

Doctoral Theses

- ▶ Esteban Emiliani Sanz. Evaluation of the Holmium: YAG laser setting in the non contact fragmentation technique and the curved laser fiber. Universitat Autònoma de Barcelona. Directors: Juan Palou Redorta, Fèlix Millán Rodríguez. Date of defense: 27/06/2019

Scientific Production

Total Impact Factor: 147.469 · Mean Impact Factor: 3.1376

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Vignolini G., Sessa F., Greco I., Cito G., Vanacore D., Cocci A., Sessa M., Grandi V., Pili A., Giancane S., Gacci M., Sebastianelli A., Li Marzi V., Breda A., Campi R., Serni S., Intraoperative assessment of ureteral and graft reperfusion during robotic kidney transplantation with indocyanine green fluorescence videography (2019) *MINERVA UROL NEFROL*, 71 (1), 79-84. **IF: 2.4770**

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Other Publications

- ▶ Llorens de Knecht, E; Guadarrama Vega, S; Quintian Schwieters, C; Bujons Tur, A. Acute scrotum caused by an extra spermatic venous thrombosis associated with C20210A prothrombin gene mutation in a pediatric patient: a case report. *PEDIATR UROL CASE REP* 2019; 6(2): 46-49

Books or Chapters with ISBN

- ▶ Sanguedolce F, Emiliani E, Territo A. Single use ureteroscopes. Pages: 82-87. In: *New technologies and techniques in minimal invasive urologic survey*. Ed. Minerva Medica. 1 ed 2019. ISBN: 978-88-7711-978-0
- ▶ Vila H, Gaya JM, Regis F, Palou J. Robot-assisted radical cystoprostatectomy. Pages: 251-258. In: *New technologies and techniques in minimal invasive urologic survey*. Ed. Minerva Medica. 1 ed 2019. ISBN: 978-88-7711-978-0
- ▶ Gallioli A, Territo A, Breda A. Confocal laser endomicroscopy. Pages: 267-276. In: *New technologies and techniques in minimal invasive urologic survey*. Ed. Minerva Medica. 1 ed 2019. ISBN: 978-88-7711-978-0
- ▶ Boissier R, Territo A, Breda A. Immunology in tumor and transplant. Pages: 175-184. In: *Urologic Principles and Practice*. Springer Editor. ISBN: 978-3-030-28598-2

Diffusion Activities

Diffusion Activities Organized by Fundació Puigvert

Activities addressed to patients

- ▶ A. Breda, JM. Gaya (directors). Tot el que hauríem de saber sobre el càncer de pròstata el 2019. Jornada per a pacients. 31 January 2019.
- ▶ A. Breda, F. Sanguedolce (directors). Parlem del càncer de pròstata. Jornada per a pacients. 19 November 2019.

Activities addressed to GP

- ▶ A. Breda, JM. Gaya Todo lo que deberíamos saber en el 2019 del càncer de pròstata. Jornada para médicos de familia. 31 January 2019.

Activities addressed to Physicians

- ▶ A. Breda, JM. Gaya. Tratamiento del càncer de pròstata localmente avanzado y metastásico basado en la evidencia: situacions clíniques concretes. 28 March 2019.
- ▶ A. Breda. Preceptorship: Càncer de Pròstata. 29-31 October 2019.

Training for Urologists organized by Fundació Puigvert or in collaboration with other Centers

- ▶ J. Palou, O Angerri. Explore modes of treatment for kidney stones using PCNL and RIRS. 31 January, 11 April, 23 April, 26 September, 17 October, 14 November 2019.
- ▶ J. Palou, A. Breda. Explore modes of treatment for upper tract urothelial carcinoma (UTUC). 13 February, 25 September, 13 November 2019.
- ▶ J. Palou (director at Fundació Puigvert). Challenges in laparoscopy & robotics. 3-5 July 2019.

Participation of Members in National and International Events

In most of the events listed below, the members of this group participated with several communications or inputs (communications, posters, videos, moderator...). For information, we specify the total number of these participations for each event.

- ▶ ESOU19: 16th Meeting of the EAU Section of Oncological Urology. Prague (Czech Republic), 18-20 January 2019
 - O. Rodríguez. Locally advanced and metastatic
 - Total number of participations: 7

- ▶ 2nd ESU-ESOU masterclass on non-muscle-invasive bladder cancer. Prague (Czech Republic), 21-22 February 2019.
 - J. Palou. Management of TURB complications.
 - Total number of participations: 4
- ▶ 34th EAU Annual Congress. Barcelona, 15-19 March 2019.
 - Palou, J; Maroto, P; Osanto, S; Bellmunt, J; Beisland, C; Roupret, M; European Uro-Oncology Group (EUOG). Neo-adjuvant versus Adjuvant chemotherapy in upper tract Urothelial carcinoma: A feasibility phase II randomized clinical trial ("URANUS")
 - Total number of participations: 62
- ▶ 30th ESPU Congress 2019. Lyon (France), 24-27 April 2019.
 - Bujons, A; Lang Motta, G; Garat, JM; Palou, J. Sexual and pregnancy knowledge among transitional spina bifida women: a patient-based survey analysis.
 - Total number of participations: 7
- ▶ VI MIPS Annual Meeting. Barcelona, 25-27 April 2019.
 - Mateu Arrom, L; Sabiote Rubio, L; Gutiérrez Ruiz, C; Martínez Barea, V; Palou, J; Errando, C. Predictive factors for complications after treatment with botulinum toxin in male patients with Idiopathic Overactive Bladder Syndrome.
 - Total number of participations: 7
- ▶ 114th AUA Annual Meeting. Chicago (Illinois, USA), 3-6 May 2019.
 - Gallioli, A; Breda, A; Vila-Reyes, H; Territo, A; Boissier, R; Sanguedolce, F; Mayordomo, O; Regis, F; Palou Redorta, J. Adjuvant single-dose upper urinary tract instillation of mitomycin C after therapeutic ureteroscopy for upper tract urothelial carcinoma: preliminary results.
 - Total number of participations: 10
- ▶ BCA19 - EAU Update on Bladder Cancer 2019. Torino (Italy), 17-18 May 2019.
 - A. Breda. The best TURBT in 2019: From optimal visualisation to optimal resection.
 - Total number of participations: 8
- ▶ XVIIth ESPU Educational Course. Mannheim (Germany), 21-22 June 2019.
 - A. Bujons. Stones in the childhood.
 - Total number of participations: 3
- ▶ 3º Curso Internacional de Urología Pediátrica. Guanajuato (Mexico), 11-12 July
 - A. Bujons. La ureteroscopia en niño como tratamiento mínimamente invasivo para litiasis renales ureterales.
 - Total number of participations: 3
- ▶ 5th Meeting of the EAU Section of Urolithiasis (EULIS19). Milano (Italy), 3-5 October 2019.
 - Angerri Feu, O; Rousaud, F; Gràcia, S; Emiliani, E; Kanashiro, A; Sánchez-Martín, FM; Millán, F; Palou, J; Cuñé, J. Entering to 2.0 cystinuric management: medical digital solution to monitor and control urinary pH.
 - Total number of participations: 5
- ▶ MIPS Educational Course: Pathogenesis and Management of Female Pelvic Floor Dysfunctions. Baku (Azerbaijan), 24-25 October 2019.
 - C. Errando. Evidence-based surgical management of female stress UI.
 - Total number of participations: 4
- ▶ 37th World Congress of Endourology. Abu Dhabi (United Arab Emirates), 29 October - 2 November 2019.
 - Boissier, R; Territo, A; Gallioli, A; Regis, F; Vanacore, D; Palou, J; Breda, A. Feasibility of the Epicheck test in upper urinary tract tumor.
 - Total number of participations: 14

Associated Groups

Radiation Oncology

**Coordinator**

Craven-Bartle Lamote de Grignon,
Jordi (FGS)
jcraven@santpau.cat

Members

Balart Serra, Josep (FGS)
Farré Bernado, Nuria (FGS)
Majercakova, Katarina (FGS)
Pedro Olivé, Agustí (FGS)
Rojas Cordero, Jady V. (FGS)
Sancho Pardo, Gemma (FGS)
Vila Capel, Antoni (FGS)

Main Lines of Research

- ▶ Radiation therapy based on PET/CT functional imaging of tumors.
- ▶ Image-guided radiotherapy and respiratory movement control.
- ▶ Implementation of planning techniques for radiotherapy treatment with PET/CT for chest locations, head and neck and tumors, squamous cell tumors.
- ▶ Hypofractionated intensity-modulated/arc therapy IGRT in prostate cancer.

Scientific Challenges

- ▶ Stereotactic body radiation therapy (SBRT) for patients with lung cancer and oligometastasis, with the aim of increasing quality of life and avoiding surgery.
- ▶ SBRT techniques in radical treatment of patients with early-stage inoperable lung cancer and selected patients with inoperable oligometastasis.
- ▶ Vertebral SBRT for oligometastatic tumors.
- ▶ Stereotactic radiation therapy (SRT) for brain metastasis.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Josep Balart Serra. Collaborating researcher in the Radiation Oncology Area: Nanoterapia dirigida y Radioterapia SBRT combinada para la eliminación selectiva de células madre tumorales en cáncer de páncreas. Nº PI17/00150. IP: María Virtudes Céspedes Navarro.

External Collaborations

- ▶ Gemma Sancho. The TrueNTH Global Registry (2017-2019), an international strategy funded by the Movember Foundation. The project aims to compare prostate cancer outcomes, and reduce its variation worldwide. This project is led by Dr Mtserrat Ferrer (Health Services Research Group IMIM (Hospital del Mar Medical Research Institute).
- ▶ Gemma Sancho. A Phase 3 Randomized, Placebo-controlled, Double-blind Study of Niraparib in Combination with Abiraterone Acetate and Prednisone Versus Abiraterone Acetate and Prednisone for Treatment of Subjects with Metastatic Prostate Cancer. Protocol 64091742PCR3001, Phase 3JNJ-64091742 (niraparib). May 2019.
- ▶ Gemma Sancho. A Phase 1b-2 Study of Niraparib Combination Therapies for the Treatment of Metastatic Castration-Resistant Prostate Cancer. Protocol N. 64091742PCR2002.
- ▶ Gemma Sancho. Estudio multicéntrico de radioterapia postoperatoria hipofraccionada en pacientes diagnosticados de carcinoma de próstata. GICOR (Grupo de Investigación Clínica en Oncología Radioterápica). March 2019.
- ▶ Nuria Farré. Estudio fase III para valorar la preservación de la memoria tras la irradiación craneal profiláctica (ICP) con o sin protección de hipocampo en cáncer de pulmón de célula pequeña (CPCP). Estudio PREMIER. GOECP 0114. Promotor: GOECP, SEOR, GICOR. Duration: 2015-2019.
- ▶ Nuria Farré. 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). AstraZeneca AB / RTOG FOUNDATION. Duration: from 2019.
- ▶ Nuria Farré. A Multicenter, Double Blind, Randomized, Controlled Study of M7824 with Concurrent Chemoradiation Followed by M7824 versus Concurrent Chemoradiation Plus Placebo Followed by Durvalumab in Participants with Unresectable Stage III Non-small Cell Lung Cancer. Merck. Duration: from 2018.
- ▶ Nuria Farré. Randomized, double-blind phase 3 study evaluating neoadjuvant platinum-based chemotherapy with perioperative pembrolizumab or placebo in resectable stage IIB or IIIA NSCLC: KEYNOTE-671. Merck Sharp & Dohme Española S.A. Duration: from 2018.
- ▶ Nuria Farré. 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 non-small cell lung cancer. ETOP 14-18 CHESS. Astra Zeneca. Duration: from 2019.
- ▶ Nuria Farré. 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). Clinical Protocol CA20973L. Bristol-Myers Squibb Research and Development. Duration: from 2019.

- ▶ Katarina Majercakova. Émbolos tumorales circulantes hcXCR4/Serpín E1 en el pronóstico de cáncer de cabeza y cuello, investigador colaborador. FIS. Hospital de la Santa Creu i Sant Pau.
- ▶ Katarina Majercakova. Identification of prognostic viral and genetic biomarkers using non-invasive methods in HPV-related oropharyngeal cancer patients (multicentric study). FIS. Duration: from 2019.
- ▶ Katarina Majercakova. Estudio en fase 3, aleatorizado, doble ciego sobre avelumab combinado con la quimiorradioterapia de referencia (cisplatino más radioterapia definitiva) en comparación con la quimiorradioterapia de referencia en el tratamiento de primera línea de pacientes con carcinoma epidermoide localmente avanzado de cabeza y cuello (JavelinHN100). JAN13004-30. Duration: from 2018.

- ▶ Katarina Majercakova. Ensayo clínico fase IB-II de gel de melatonina oral para la prevención y tratamiento de la mucositis oral en pacientes con cáncer de cabeza y cuello tratados con quimiorradioterapia. Estudio MUCOMEL. Duration: from 2015.
- ▶ Katarina Majercakova. Phase I-II prospective trial, multicenter, open label, exploring the combination of Trabectedin plus RAdiotherapy in Soft Tissue Sarcoma patients. Duration: from 2014.
- ▶ Katarina Majercakova. International Randomised Controlled Trial for the Treatment of Newly Diagnosed Ewing's Sarcoma Family of Tumours.
- ▶ Katarina Majercakova. Sacral Chordoma: a Randomized & Observational study on surgery versus definitive radiation therapy in primary localized disease (SACRO). Duration: from 2016.

Active Grants

- ▶ Gemma Sancho. A prospective randomised phase III study of androgen deprivation therapy with or without local radiotherapy with or without abiraterone acetate and prednisone in patients with metastatic hormone-naïve prostate cancer. GETUG-AFU 21 .UC-0160/1105-EudraCT:2012-000142-35.
- ▶ Gemma Sancho. A Randomized, Double-blind, placebo-controlled Phase 3 study of JNJ-56021927 in subjects with high-risk localized

prostate cancer receiving treatment with primary radiation therapy. EudraCT:2015-003007-38. ATLAS.

- ▶ Gemma Sancho. Enzalutamida y radioterapia hipofraccionada en cáncer de próstata localizado de riesgo intermedio. ENZARTEudraCT N°: 2015-004617-25. FUNCANIS.

Scientific Production

Total Impact Factor: 37.8800 · Mean Impact Factor: 7.576

Christodoulou M., Blackhall F., Mistry H., Leylek A., Kneijens J., Remouchamps V., Martel-Lafay I., Farre N., Zwitter M., Lerouge D., Pourel N., Janicot H., Scherpereel A., Tissing-Tan C., Peignaux K., Geets X., Konopa K., Faivre-Finn C., Compliance and Outcome of Elderly Patients Treated in the Concurrent Once-Daily Versus Twice-Daily Radiotherapy (CONVERT) Trial (2019) J THORAC ONCOL, 14 (1), 63-71. **IF: 12.4600**

Cordero J.A., Sancho G., Bonfill X., Population-based estimate of the use of intermittent androgen deprivation therapy in prostate cancer patients in Catalonia, Spain (2019) PHARMACOEPIDEM DR S. **IF: 2.8700**

Couñago F, Díaz Gavela AA, Sancho G, Ortiz I, Marcos FJ, Recio M, Fernández J, Cano R, Jiménez M, Thuissard IJ, Sanz-Rosa D, Castro Nováis J, Pardo E, Molina Y, Pérez García H, del Cerro E. Multiparametric magnetic resonance imaging-guided salvage radiotherapy in prostate cancer. Rep Pract Oncol Radiother. 2019 Sep-Oct; 24(5): 472-480. **IF: -**

Henriquez Lopez I., Gonzalez-San Segundo C., Vegas J.O., Gutierrez C., Hervas A., Cabeza Rodriguez M.A., Valero Albarran J., Rodriguez Villalba S., Alvarez Gonzalez A., Sancho Pardo G., Zapatero A., Alvaro P.C., Salvage brachytherapy for locally-recurrent prostate cancer after radiation therapy: A comparison of efficacy and toxicity outcomes with high-dose rate and low-dose rate brachytherapy (2019) RADIOTHER ONCOL, 141, 156-163. **IF: 5.2520**

Lam T.B.L., MacLennan S., Willemse P.-P.M., Mason M.D., Plass K., Shepherd R., Baanders R., Bangma C.H., Bjartell A., Bossi A., Briers E., Briganti A., Buddingh K.T., Catto J.W.F., Colecchia M., Cox B.W., Cumberbatch M.G., et al., EAU-EANM-ESTRO-ESUR-SIOG Prostate Cancer Guideline Panel Consensus Statements for Deferred Treatment with Curative Intent for Localised Prostate Cancer from an International Collaborative Study (DETECTIVE Study) (2019) EUR UROL, 76 (6), 790-813. **IF: 17.2980**

Diffusion Activities

Courses

- ▶ Núria Farré. Radioteràpia en Neoplàsies Pulmonars estadi III: Actualització tècnica e indicacions. Curs de Carcinoma Pulmonar No Microcític localment avançat. Avenços terapèutics. Barcelona, 31 January 2019.
- ▶ Núria Farré (raound table moderator). Càncer de pulmó. Actualització terapèutica. 1er Congrés de la Societat Catalano-Balear d'Onco-logia. Món Sant Benet. Sant Fruitós de Bages. 9-10 May 2019.
- ▶ Núria Farré. Nuevos escenarios en tratamiento del Cáncer de pulmón: "Papel del tratamiento local en la Oligo-progresión". XX Congreso SEOR (Sociedad Española de Oncología Radioterápica). Santiago de Compostela, 5-7 June 2019.
- ▶ Núria Farré. Tratamiento trimodal en los timomas y los carcinomas tímicos. Radioterapia. I Curso de Actualización en el Diagnóstico y Tratamiento de los Tumores Tímicos. Barcelona, 22-23 October 2019.
- ▶ Gemma Sancho. Todo lo que deberíamos saber sobre el cáncer de próstata en el 2019. Jornada para médicos de familia. ¿Qué ventajas y desventajas ofrece la radioterapia vs la cirugía?. Barcelona, 31 January 2019.

- ▶ R. Medina, G. Sancho. Tratamiento del cáncer de próstata localmente avanzado y metastásico basado en la evidencia: situaciones clínicas concretas. ¿Qué tratamientos y qué resultados oncológicos y funcionales podemos ofrecer a un paciente con un CaP localmente avanzado? Tratamiento multimodal (PR+ LDN vs RT + HT). Barcelona, 28 March 2019
- ▶ J. Palou, A. Breda, G. Sancho. Opciones terapéuticas tras la recurrencia local. Terapias de rescate: prostatectomía radical crioterapia, braquiterapia. Barcelona, 28 March 2019
- ▶ Gemma Sancho. 1. Càncer de pròstata de debut localitzat. 2. Càncer de pròstata resistent a castració metastàsic. III Curs multidisciplinar en càncer de pròstata per a Residents en formació de Catalunya. Barcelona, 27 June 2019.
- ▶ Gemma Sancho. 7ª Reunió Oncologia Radioteràpica de Catalunya: Actualització en CP Avançat. Actualització APCCC (Advance Prostate Cancer Consensus Conference) 2019. Barcelona, 6 November 2019.

Presentations to Congresses

- ▶ Rodríguez de Dios, N., Calvo Crespo, P., Couñago Lorenzo, F., López Guerra, J.L., Rico Oses, M., Samper Ots, P., Vallejo Ocaña, C., Luna Tira-

- do, J., Trueba Garayo, I., Cigarral García, C., Sotoca Ruiz, A., Farre Bernado, N., Manero Borrás, R.M., Durán Jordá, X., Marcos, F.J., Taboada Valladares, B., Argüis Pinel, M., Martín Martín, M., Amaya Escobar, E., Murcia Mejía, M. Phase III trial of PCI with hippocampal avoidance for SCLC. XX Congreso SEOR (Sociedad Española de Oncología Radioterápica). Santiago de Compostela, 5-7 June 2019. Best oral communication award.
- ▶ Rodríguez de Dios N, Murcia M, Couñago F, López JL, Rico M, Samper PM, Vallejo C, Luna FJ, Trueba I, Cigarral C, Sotoca A, Gispert JD, Farré N, Manero RM, Capellades J, Jiménez M, Durán X, Ordoñez C, Rognoni T, Blanco M, Bacaicoa MC, Torrente M, Montero M, Alonso A, Escribano J, Martínez J, Calvo P. Phase III Trial of Prophylactic Cranial Irradiation with or without Hippocampal Avoidance for small-cell Lung Cancer. *Int J Radiat Oncol Biol Phys* 2019; 105 (supp 1): S35-S36. 2019 ASTRO Annual Meeting. 15-18 September 2019.
 - ▶ Tilea L., Soto A., Acosta E., Farré N., Craven-Bartle J., Leon X., Lopez M., Garcia J., López-Pousa A., Majercakova K. Reirradiation of head and neck cancer, a single center experience. XX Congress SEOR. Santiago de Compostela, 5-7 June 2019.
 - ▶ Acosta E., Sancho G, Soto A., Tilea L., Artola N. Farré N. Balart J., Majercakova K., Craven-Bartle J. MR-guided dose-intensified salvage radiotherapy after radical prostatectomy. XX Congress SEOR. Santiago de Compostela, 5-7 June 2019.
 - ▶ A. Pedro Olivé, P. Gallego Franco, J. Pérez-Alija Fernández, A. Vila Capel, J. Craven Bartle. A national survey of current clinical practice for benign disease. Congress SEOR. Santiago de Compostela, 2019. Poster.
 - ▶ Soto A., Acosta E., Sancho G., Tilea L., Vila A., Farré N., Majercakova K., Asencio C., Velázquez JJ., Calvo N., Craven- Bartle J. Malignant spinal cord compression / simultaneous multidisciplinary management from the suspicion. XX Congress SEOR. Santiago de Compostela, 5-7 June 2019.
 - ▶ B. Martín-Cullell, D. Páez, A. Virgili, A. Sebio, A. Soto, P. Gallardo, O. Mirallas, J. Gavira, J.C. Tapia, J. Balart. Radioterapia estereotáxica corporal (SBRT) en pacientes con metástasis hepáticas no tributarias de tratamiento quirúrgico: experiencia de un centro. Congress SEOM 2019. 22-25 October 2019.
 - ▶ K. Majercakova. Nuevos retos en tratamientos de sarcomas: Cambios de fraccionamiento. SEOR 2019, Santiago de Compostela, 5-7 June 2019. Oral presentation.
 - ▶ K. Majercakova, A. E. Sturdza, E. Dörr, M. Buschmann, M. Schmid, R. Potter, D. Georg, and Y. Seppenwoolde Correlation of Early Morbidity (PRO/PhysRO) and External Beam Dose Volume Parameters in Locally Advanced Cervix Cancer. ASTRO 61th Annual Meeting. Chicago, 15-18 September 2019, Poster discussion.

Associated Groups

Locomotor System Research



Coordinator

Crusi Sererols, Xavier (FGS)
xcrusi@santpau.cat

Members

Aguilera Roig, Xavier (FGS)
Almenara Fernández, Marta (FGS)
Álvarez Gómez, Carlos (FGS)
Cuartero Archs, Jordi (FGS)
De Caso Rodríguez, Julio (FGS)
Gamba, Carlo (FGS)

Gelber Ghertner, Pablo Eduard (FGS)

González Rodríguez, José Carlos (FGS)

Gracia Alegria, Isidre (FGS)

Millan Billi, Angélica (FGS)

Moya Gómez, Esther (FGS)

Lamas Gómez, Claudia Maria (FGS)

Peiro Ibáñez, Ana (FGS)

Trullols Tarragó, Laura (FGS)

Valera Pertegàs, Màrius (FGS)

Velázquez Fragoso, Juan José (FGS)

Main Lines of Research

Antiresorptive drugs in orthopedic and trauma surgery

- ▶ Effect of zoledronic acid (Aclasta) on periprosthetic bone mineral density in patients undergoing total knee arthroplasty. Study approved by the HSCSP ethics committee and authorized by the Spanish Agency of Medicines and Medical Devices (AEMPS) for the out-of-context indication of Aclasta.

Knee

Hemostasis

- ▶ Blood-loss control using tranexamic acid in primary prosthetic and knee revision surgery.
- ▶ Retrospective study of revision knee arthroplasty to compare the effects of intravenous tranexamic acid and normal hemostasis.
- ▶ Clinical trial comparing outcomes for intravenous tranexamic acid with fibrin glue (Tissuol) and normal hemostasis in primary knee prosthetic surgery.
- ▶ Observational study of blood loss in redon drainage over time in peritrochanteric hip fractures.
- ▶ Randomized multicenter parallel clinical trial in antiaggregated patients with proximal femur fracture, evaluating a strategy to shorten the time to surgery. AFFECT study.

Cartilage

- ▶ Regeneration of cartilage defects using tissue engineering and a matrix seeded with characterized allogeneic chondrocytes.
- ▶ Prospective study of fresh osteochondral allograft transplantation. CT, MRI and clinical outcomes.

Patella

- ▶ Prospective comparative study on patellar fractures. Metallic wiring versus suture fixation.

Meniscus

- ▶ Effect of normal and growth-factor-enriched cell cultures on the meniscal collagen network and glycosaminoglycan expression.

- ▶ In vitro experimental study of the feasibility of a polyurethane replacement meniscus pre-seeded with stem cells.
- ▶ Evolution of allogeneic meniscal transplants and relationship with extrusion.

Hip

- ▶ Coxarthrosis in young adults: etiological study of biomechanical factors.
- ▶ Biomechanics of coxarthrosis in young adults: finite element study.
- ▶ Influence of hip anatomy in early development of coxarthrosis: controlled, prospective radiographic study.
- ▶ Osteosynthesis with cannulated screws in nondisplaced femoral neck fractures in elderly patients.
- ▶ Randomized clinical trial for capsular and rotator muscles suture in cemented bipolar hemiarthroplasties in patients with femur fracture.

Foot and Ankle

- ▶ Randomized prospective clinical trial of surgical treatment of torn Achilles tendon: repair using a minimally invasive technique vs open tenorrhaphy.

Upper Limb

- ▶ Anatomical study of stabilizing ligaments in the trapeziometacarpal joint: the role played by dorsoradial and anterior oblique ligaments in Bennett and Rolando fractures.
- ▶ Surgical treatment of middle-third clavicle fractures in high-energy trauma in young patients.
- ▶ Retrospective study of the use of vascularized bone graft using the 1,2-ICSR artery in the revascularization of proximal-pole necrosis in scaphoid pseudarthrosis.

Active Grants

- ▶ Pablo Eduard Gelber Ghertner. Preservació en fresc al-Loempelts osteocondrals. Conveni BST 2017-2. Banc de Sang i Teixits. Duration: 2017-2019. 44,500 €.

- ▶ Pablo Eduard Gelber Ghertner. Preservación en fresco de aloinjertos osteocondrales a 37°C. PI18/01771. Instituto de Salud Carlos III. Duration: 2019-2021. 57,000 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Pablo E. Gelber. Prótesis femoropatelar biológica. Trasplante osteocondral fresco de superficie troclear y patelar. 37th Congress of the Asociación Española de Artroscopia and 7th Congress with the Sociedad Española de Rodilla. Santander, Spain. May 2019. Prize for the Best Video Technique.

Doctoral Theses

- ▶ Marta Almenara Fernández. El osteosarcoma en el paciente mayor de 40 años. Factores pronósticos y supervivencia. Universitat Autònoma de Barcelona. Director: Claudia Mariana Lamas. Date of defense: 30/01/2019

Scientific Production

Total Impact Factor: 25.954 · Mean Impact Factor: 1.9964

Alvarez-SanNicolas J., Gracia-Alegria I., Trullols-Tarrago L., Peiro-Ibanez A., Lamas-Gomez C., Prognostic factors and survival in Ewing's sarcoma treated by limb salvage surgery (2019) CLIN TRANSL ONCOL, 21 (10), 1374-1382. **IF: 2.4410**

Anaya R, Rodriguez M, Gil JM, MoralV, Millan A, Vilalta N, Delgado CE, Antonijoan RM, Reguant F, Guilabert P, Blanco D, Mateo J, Merchán-Galvis A, Martínez-Zapata MJ. AFFEct study group. Evaluation of a strategy to shorten the time to surgery in patients on antiplatelet therapy with a proximal femur fracture (AFFEct Study): Study protocol for a multicenter randomized controlled clinical trial. *Medicine (Baltimore)* 2019 May;98 (19):e15514. **IF: -**

Chahla J, Murray I.R., Robinson J., Lagae K., Margheritini F., Fritsch B., Leyes M., Barenus B., Pujol N., Engebretsen L., Lind M., Cohen M., Maestu R., Getgood A., Ferrer G., Villascusa S., Uchida S., Levy B.A., Von Bormann R., Brown C., Menetrey J., Hantes M., Lording T., Samuelsson K., Frosch K.H., Monllau J.C., Parker D., LaPrade R.F., Gelber P.E., Posterolateral corner of the knee: an expert consensus statement on diagnosis, classification, treatment, and rehabilitation (2019) KNEE SURG SPORT TR A, 27 (8), 2520-2529. **IF: 3.1490**

Condello V., Zdanowicz U., Di Matteo B., Spalding T., Gelber P.E., Adravanti P., Heuberer P., Dimmen S., Sonnery-Cottet B., Hulet C., Bonomo M., Kon E., Allograft tendons are a safe and effective option for revision ACL reconstruction: a clinical review (2019) KNEE SURG SPORT TR A, 27 (6), 1771-1781. **IF: 3.1490**

Erquicia J, Gelber PE, Perelli S, Ibañez F, Ibañez M, Pelfort X, Monllau JC. Biplane opening wedge high tibial osteotomy with a distal tuberosity osteotomy, radiological and clinical analysis with minimum follow-up of 2 years. *J Exp Orthop* 2019;6:10. **IF: -**

Gelber PE, Ramírez E, Grau A, Fariñas O, Monllau JC. Fresh osteochondral resurfacing of the patellofemoral joint. *ARTHROSC TECH* 2019;13;8:e1395-e1401. **IF: -**

Jordan M., Aguilera X., Gonzalez J.C., Castillon P., Salomo M., Hernandez J.A., Ruiz L., Mora J.M., Camacho-Carrasco P., Prat-Fabregat S., Bosch A.,

Rodriguez-Arias A., Martínez-Zapata M.J., Prevention of postoperative bleeding in hip fractures treated with prosthetic replacement: efficacy and safety of fibrin sealant and tranexamic acid. A randomised controlled clinical trial (TRANEXFER study) (2019) ARCH ORTHOP TRAUM SU, 139 (5), 597-604. **IF: 1.9730**

Lamas-Gomez C., Velasco-Gonzalez L., Gonzalez-Osuna A., Almenara-Fernandez M., Trigo-Lahoz L., Aguilera-Roig X., Evaluation of grip strength in hook of hamate fractures treated with osteosynthesis. Is this surgical treatment necessary? (2019) ACTA ORTHOP TRAUMATO, 53 (2), 115-119. **IF: 0.8960**

Masferrer-Pino A., Monllau J.C., Abat F, Gelber P.E., Capsular fixation limits graft extrusion in lateral meniscal allograft transplantation (2019) INT ORTHOP. **IF: 2.3840**

Perelli S., Ibanez F., Gelber P.E., Erquicia J.I., Pelfort X., Monllau J.C., Selective bundle reconstruction in partial ACL tears leads to excellent long-term functional outcomes and a low percentage of failures (2019) KNEE, 26 (6), 1262-1270. **IF: 1.7620**

Perelli S, Molina-Romolo A, Costa-Paz M, Erquicia JI, Gelber PE, Monllau JC. Internal fixation of osteochondritis dissecans of the knee leads to good long-term outcomes and high degree of healing without differences between fixation devices. *J Clin Med* 2019 Nov 10;8(11). pii:1934. **IF: 5.688**

Perez-Prieto D., Portillo M.E., Gonzalez-Lucena G., Gines-Cespedosa A., Foot and ankle infections: Debridement, early fixation and rifampicin provide earlier recovery of function and quality of life (2019) FOOT ANKLE SURG, 25 (1), 13-18. **IF: 1.3630**

Strauss M.J., Varatojo R., Boutefnouchet T., Condello V., Samuelsson K., Gelber P.E., Adravanti P., Laver L., Dimmen S., Eriksson K., Verdonk P., Spalding T., The use of allograft tissue in posterior cruciate, collateral and multi-ligament knee reconstruction (2019) KNEE SURG SPORT TR A, 27 (6), 1791-1809. **IF: 3.1490**

Other Publications

- ▶ Gracia I. Transversalitat quirúrgica en sarcomes de parts toves: és lícit discutir-la a aquestes alçades? *Revista de Cirurgia Ortopèdica i Traumatologia (SCCOT)*; (1) 2019, pp. 23-25.

Books or Chapters with ISBN

- ▶ L. Trullols Tarragó, A. Peiró Ibáñez, I. Gracia Alegria. Chapter 12. Aloinjertos óseos. Reconstrucción quirúrgica de extremidades. In: Ferran Torner Rubies (collaborator). *Tumores óseos malignos en la infancia y la adolescencia*. Pp. 173-184. 2019 Madrid ISBN:978-84-941943-2-0. Legal deposit: M-17161-2019.

Diffusion Activities

- ▶ Angélica Millan Bili. Round table: Pro-Con Anestesia Locorregional; Lecture: El síndrome compartimental: la visión del traumatólogo. Curso Intensivo Teórico-Práctico del Bloqueo Nervioso. XLI Edición. Barcelona, March 2019.
- ▶ Angélica Millan Bili. Trauma Meeting Smith&Nephew – Case discussion day. Barcelona, April 2019.
- ▶ Angélica Millan Bili. Curso de Acreditación de Director de Instalaciones de Radiodiagnóstico (approved by the Consejo de Seguridad Nuclear – CSN). Barcelona, March 2019.
- ▶ Angélica Millan Bili. Curso Intensivo Teórico-Práctico del Bloqueo Nervioso. XLI edition. Barcelona, March 2019.

- ▶ Angélica Millan Bili. 14th Annual International San Francisco Orthopaedic Trauma Course. San Francisco, CA (United States of America), May 2019.

Online courses

- ▶ SARCOSTAGE Actualización en sarcomas. Aproximación quirúrgica al tratamiento de los sarcomas óseos. Tumores óseos
- ▶ Eduardo Ortiz/Luis Ramos (coordinator). Curso online de tumores óseos (benignos – malignos) 2n edition 2019. SECOT. Chapter: Osteosarcoma convencional (Main author: I Gracia)

Contribution to National Congresses

- ▶ The group has contributed with more than 20 conferences and communications in national congresses of the scientific area in which the research group works.

Contribution to International Congresses

Communications

- ▶ R. Rojas Sayol, L. Noguera Alonso, L. Trullols Tarragó, A. Peiró Ibañez, P. Machado Granados, J.J. Velázquez Fragoso, A. Pérez Romera, G. Vilà Canet, I. Gracia Alegria. Surgical treatment of bone tumors affecting the sacroiliac joint. EMSOS (European Musculoskeletal Oncology Society) International Meeting. Florencia (Italy), 15-17 May 2019.
- ▶ R. Rojas Sayol, L. Noguera Alonso, L. Trullols Tarragó, A. Peiró Ibañez, P. Machado Granados, J.J. Velázquez Fragoso, A. Pérez Romera, G. Vilà Canet, I. Gracia Alegria. Surgical treatment of bone tumors affecting the sacroiliac joint. 20th General Meeting of International Society of Limb Salvage (ISOLS). Athens (Grece), 11-14 September 2019.
- ▶ Ibáñez M, Erquicia J, Masferrer A, Gelber PE, Pelfort X, Torres R, Pérez D, Ibáñez F, Perelli S, Espinosa R, Monllau JC. Extrusion in meniscal allograft transplantation: Is the capsular fixation the solution? 12th ISAKOS Congress. Cancún, México. May 2019.
- ▶ Masferrer A, Monllau JC, Ibáñez M, Erquicia J, Pelfort X, Gelber PE. Capulodesis versus bone trough technique in lateral meniscal allograft transplantation: Graft extrusion and functional results. 12th ISAKOS Congress. Cancún, México. May 2019.
- ▶ Erquicia J, Perelli S, Gelber PE, Masferrer A, Ibáñez M, Pelfort X, Torres R, Pérez D, Espinosa J, Sánchez C, Marot V, Monllau JC. Isolated patellofemoral ligament reconstruction: Implant-free technique with elastic femoral fixation leads to excellent clinical results in term of stability without patellofemoral pain. 12th ISAKOS Congress. Cancún, México. May 2019.
- ▶ Perelli S, Gelber PE, Erquicia J, Ibáñez M, Danesino G, Masferrer A, Pelfort X, Torres R, Pérez D, Espinosa J, Monllau JC. Risk of femoral tunnels collision combining anterior cruciate ligament reconstruction and anterolateral tenodesis. 12th ISAKOS Congress. Cancún, México. May 2019.
- ▶ Perelli S, Morales C, Bracamonte Q, Erquicia J, Gelber PE, Masferrer A, Pelfort X, Ibáñez M, Torres R, Pérez D, Espinosa J, Monllau JC. The use of the central transpatellar tendon portal during the reconstruction of the anterior cruciate ligament does not lead to clinical or radiological alterations. 12th ISAKOS Congress. Cancún, México. May 2019.
- ▶ Ramírez E, Gelber PE, Monllau JC, Poggioli F, Erquicia J, Pelfort X, Torres R. The meniscal polyurethane scaffolds provides good functional outcomes but disturbing resorption at a minimum 5-years of follow-up. 20th Congress EFORT. Lisbon, Portugal. June 2019.

Speakers at International Congresses

- ▶ PE Gelber. Lesiones de la esquina posterolateral de la rodilla - Diagnóstico y tratamiento en casos crónicos. Lima Knee Symposium. Lima, Peru. March 2019.

- ▶ PE Gelber. ¿Cómo diagnóstico y trato las lesiones de la esquina pósteromedial de la rodilla? Lima Knee Symposium. Lima, Perú. March 2019.
- ▶ PE Gelber. Reconstrucción del ligamento patelofemoral medial en pacientes con fisas abiertas. Lima Knee Symposium. Lima, Perú. March 2019.
- ▶ PE Gelber. Trasplante osteocondral fresco en rodilla. Lima Knee Symposium. Lima, Perú. March 2019.
- ▶ PE Gelber. Factores que influyen en los resultados de la reconstrucción del ligamento cruzado anterior. Lima Knee Symposium. Lima, Perú. March 2019.
- ▶ PE Gelber. Round table: Selección de injerto para LCA: Mi injerto preferido. ¿Cómo lo fijo y por qué? Lima Knee Symposium. Lima, Perú. March 2019.
- ▶ PE Gelber. Factores que afectan los resultados de la reconstrucción del LCA. XVII Congreso de la Asociación Argentina de Traumatología del Deporte (AATD). Buenos Aires, Argentina. April 2019.
- ▶ PE Gelber. Trasplantes osteocondrales frescos de rodilla. XVII Congreso de la Asociación Argentina de Traumatología del Deporte (AATD). Buenos Aires, Argentina. April 2019.
- ▶ PE Gelber. Tenodesis anterolateral en deportistas. XVII Congreso de la Asociación Argentina de Traumatología del Deporte (AATD). Buenos Aires, Argentina. April 2019.
- ▶ PE Gelber. Lesiones meniscales de la raíz y de la rampa. XVII Congreso de la Asociación Argentina de Traumatología del Deporte (AATD). Buenos Aires, Argentina. April 2019.
- ▶ PE Gelber. Retorno al deporte luego de la lesión del ángulo pósteromedial externo. XVII Congreso de la Asociación Argentina de Traumatología del Deporte (AATD). Buenos Aires, Argentina. April 2019.
- ▶ PE Gelber. Cirugía de ligamento cruzado en niños. XVII Congreso de la Asociación Argentina de Traumatología del Deporte (AATD). Buenos Aires, Argentina. April 2019.
- ▶ PE Gelber. PCL and multiligament injuries. Masterclass in knee sports and preservation surgery: A case based approach. 12th ISAKOS Congress. Cancún, México. May 2019.
- ▶ PE Gelber. All inside ACL reconstruction. In the lunch break Conmed session From Complex Knee to trouble free. 12th ISAKOS Congress. Cancún, México. May 2019.
- ▶ PE Gelber. Cross-fire in multiligament injuries of the knee. Sponsored by Conmed. 12th ISAKOS Congress. Cancún, México. May 2019.
- ▶ PE Gelber. Surgical technique and outcome after meniscus root repair. ESSKA Session Knee. Traumatic meniscus tears, what makes sense? 20º Congreso EFORT. Lisbon, Portugal. June 2019.
- ▶ PE Gelber. MPFL reconstruction in patients with open physis. ICL Patellofemoral instability. 9th Annual Meeting of the Thai Orthopedic Society for Sport Medicine. Hua Hin, Thailand. July 2019.
- ▶ PE Gelber. Patellofemoral arthroplasty. Role of inlay designs. Update in patellofemoral Arthritis. 9th Annual Meeting of the Thai Orthopedic Society for Sport Medicine. Hua Hin, Thailand. July 2019.
- ▶ PE Gelber. Meniscal root tears and trochleoplasty. Meet the expert. 9th Annual Meeting of the Thai Orthopedic Society for Sport Medicine. Hua Hin, Thailand. July 2019.
- ▶ PE Gelber. Combined ACL reconstruction and anterolateral tenodesis. ACL and ALL reconstruction. Re-live surgery. 9th Annual Meeting of the Thai Orthopedic Society for Sport Medicine. Hua Hin, Thailand. July 2019.
- ▶ PE Gelber. Osteotomies around the knee and concomitant procedures. How to proceed? ICL Osteotomy around the knee. 9th Annual Meeting of the Thai Orthopedic Society for Sport Medicine. Hua Hin, Thailand. July 2019.

Associated Groups

Pain and Neurosciences



Coordinator
Català Puigbó, Elena (FGS)
ecatala@santpau.cat

Members
Díaz Jover, Rubén (FGS)
Ferrándiz Mach, Marta (FGS)
Genove Cortada, Maria Mercè (FGS)
Melo Cruz, Martha Cristina (FGS)
Parera Ruiz, Ana (FGS)
Revuelta Rizo, Miren Eli (FGS)
Rius Llorens, María Carmen (FGS)
Santeulària Vergès, Maria Teresa (FGS)

Main Lines of Research

- ▶ Involvement of brain areas and release of substances in acute and chronic neuropathic pain.
- ▶ Sleep disturbance on initiating systemic opioid treatment in patients with severe chronic pain and altered sleep patterns.
- ▶ Influence of epidural corticosteroid treatment by different approaches on the effectiveness of the radicular pain due to herniated lumbar disc.
- ▶ Profile in terms of demographics, comorbidities, type of pain, physical and mental status, and patient disability.
- ▶ Search for a local and nonpharmacological treatment for elderly patients with pain.
- ▶ Influence of radiofrequency lesions in different procedures in patients with chronic pain.

Scientific Challenges

- ▶ Establish the potential differences in brain area involvement between acute and chronic pain.
- ▶ Determine the extent of chronic pain according to the involvement of different brain areas and whether these alterations can improve with pain relief.
- ▶ Determine whether the intensity of chronic neuropathic pain assessed by the patient correlates to 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 recommended opioid.
- ▶ Establish the recommended opioid dose to start a treatment and how to withdraw the drug.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Psychiatry: Maria Portella (psychologist)
- ▶ Anesthesiology: Mireia Rodríguez & Marc Bausili (acute pain in traumatology area)
- ▶ Neurosurgery: Rodrigo Rodríguez (neuromodulation)
- ▶ Neurology: Robert Belvis (facial neuralgias pain)
- ▶ Neuroradiology: Beatriz Gómez-Ansón (neuromodulation)

External Collaborations

- ▶ M Ferrandiz. Estudio EMA 401A221. Ensayo doble ciego, controlado con placebo, aleatorizado, de búsqueda de dosis para deter-

minar la seguridad y eficacia de tres niveles de dosis de EMA401 para reducir la puntuación de intensidad del dolor promedio a las 24 horas en pacientes con neuralgia posherpética (EMPHENE) CEIC: 17/276/5002 (L)

- ▶ M. Revuelta Validación externa prospectiva de una escala predictiva de la cronificación de Dolor Crónico Post-Quirúrgico. PI16/00279 – ISCIII. Collaboration with the Institut Hospital del Mar d'Investigacions Mèdiques.
- ▶ Santeularia T. EFIC (European Pain Federation) PAIN OUT (Working with healthcare providers to optimize management of perioperative pain: multicentre project in 8 countries in europe NCT02083835) Phase 2: Duration: May-June 2019.

Active Grants

- ▶ R Díaz Jover. Eficacia del abordaje del nervio supraescapular mediante la administración de corticoides versus radiofrecuencia polsada en el dolor crónico de hombro. Ensayo clínico aleatorizado doble ciego. IIBSP-COR-2017- 98.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ Elena Català i Puigbò (director). Spanish ISO and European IQNet (AENOR) Quality Control Certification for the Pain Unit of the Hospital de la Santa Creu i Sant Pau.

Other Publications

- ▶ Vega I, Ferrándiz M, Genové M, Santeularia MT, Català E, Administración Inadecuada de opioides en dolor crónico no oncológico. Una realidad en nuestro entorno. *Dolor. Investigación Clínica & Terapéutica* 2019;34(2): 86-90 e-ISSN: 1698-7362
- ▶ Català E, Medel FJ. Imagen y dolor. *Dolor: Investigación, Clínica y Terapéutica. Caso Clínico* 2019;34:54-55.
- ▶ Elena Català (collaborator author). Guía de atención a los pacientes con dolor crónico no oncológico utilizando analgésicos Opioides Gpc Guía de práctica clínica Agència de Qualitat i Avaluació Sanitàries de Catalunya (AQuAS). Departament de Salut, Generalitat de Catalunya. December 2018/2019.

Diffusion Activities

Conferences and Courses

- ▶ Català E. Conferencia: Dolor crónico. Sobreutilización de analgésicos infarma. European Congress of Pharmacy Offices. 19-21 March 2019.
- ▶ Català E. Round table moderator: Retos Actuales de las Clínicas del Dolor. Organización y Planificación como Punto de Partida. Jornada de Actualización en Dolor. XX Edition. "El Dolor y su Evaluación". Barcelona, 28 March 2019.
- ▶ Ferrandiz M. ¿Cómo debemos evaluar el inicio de tratamiento en estos pacientes? De las guías a la práctica clínica. Jornada de Actualización en Dolor. XX Edition. "El Dolor y su Evaluación". Barcelona, 28 March 2019.
- ▶ Genové M. Hacia La Evaluación Objetiva del Dolor. Jornada de Actualización en Dolor. XX Edition. "El Dolor y su Evaluación". Barcelona, 28 March 2019.
- ▶ Melo M. ¿En qué medida la comorbilidad asociada a la lumbalgia crónica influye en la evaluación del dolor? Jornada de Actualización en Dolor. XX Edition. "El Dolor y su Evaluación". Barcelona, 28 March 2019.
- ▶ Rius C. Seguimiento psicológico pre y post implante. Jornada de Actualización en Dolor. XX Edition. "El Dolor y su Evaluación". Barcelona, 28 March 2019.
- ▶ Català E (professor). Programa de Desarrollo Profesional en Gestión de las Unidades de Dolor. Universidad de la Rioja UNIR. 8 October 2018 - 15 March 2019.
- ▶ Català E (professor). Dolor en el Master en anestesiología, Reanimación y Terapéutica del Dolor 2019. Universidad de Cádiz. 2 October 2017- 28 June.
- ▶ Català E. La certificación ISO 9001-2015 en la Unidad del Dolor. XVI Congress of the SED 2019. Zaragoza, Spain. 29 May - 1 June 2019.
- ▶ Català E. Revuelta M (associated teachers). Annual International Congress of Advanced Interventionism in Theoretical and Practical Pain. Theoretical conferences and demonstrations of interventional procedures in cadavers. Hospital Universitario Dr José Eleuterio Gonzalez of the Universidad Autónoma de Nuevo León. Monterrey, Mexico. 19-22 September 2019.

- ▶ Català E. L'ús de Medicaments Analgèsics en la Continuitat Assistencial. Fundació de Docència i Recerca de la Mútua de Terrassa". 22 November 2019.
- ▶ Català E. Tratamientos analgésicos invasivos. Máster en Atención Paliativa Integral a Personas con Enfermedades Avanzadas. Universitat Autònoma de Barcelona. 7 June 2019.
- ▶ Català E. Tratamiento del dolor en el paciente Oncológico. Master de Enfermería Oncológica. Barcelona, March 2019.

Communications and Posters at Congresses

- ▶ Díaz Jover R, Parera A, Melo M, Revuelta M, Genové M, Català E. La importancia del diagnóstico diferencial de la radiculalgia cervical en una unidad del dolor. XXXIV National Congress of the SEDAR. Las Palmas de Gran Canaria, Spain. 25-27 April 2019.
- ▶ Plaza C, Parera A, Diaz Jover R, Moral MV, Català E. Manejo de la cefalea postpunción dural. Estudio de serie de casos y protocolo de actuación en nuestro centro. XXXIV Congreso Nacional de la SEDAR. Las Palmas de Gran Canaria, Spain. 25-27 April 2019.
- ▶ Parera A, Plaza C, Melo M, Díaz R, Català E. Greater occipital nerve block for postural puncture headache (PDPH): modified algorithm for the management of PDPH. Euroanaesthesia 2019. Vienna, Austria. 1-3 June 2019.
- ▶ Melo M, Santeularia T, Rius C, Vega I, Gich I, Català E Interferencia de las Comorbilidades en la Intensidad del Dolor en Pacientes con Lumbalgia Crónica. XVI Congress of the SED 2019 Zaragoza, Spain. 29 May - 1 June 2019. Communication Award.
- ▶ Parrilla L, Revuelta M, Català E. Síndrome trigeminal y esfenopalatino tras cirugía de hemangioblastoma cerebral. VIII Reunió d'Abordatge del Dolor per a Residents i Adjunts Joves. Societat Catalana del Dolor. Barcelona, 12 April 2019. Award Lluís Aliaga.

Associated Groups

Nursing Care Research



Coordinator
Mas Dalmau, Gemma (FGS)
gmasd@santpau.cat

Members
Armora Verdú, Miriam (FGS)
Berga Congost, Gemma (FGS)
Cebrià Morales, Maria Queralt (FGS)
De la Cueva Ariza, Laura (FGS)
Fernández Sánchez, Susana (FGS)
Jover Sancho, Carmen (FGS)
López Ortega, Laura (FGS)
Marine Méndez, Albert (FGS)

Márquez López, Adrián (FGS)
Ricat Basagaña, María Teresa (FGS)
Roca Sarsanedas, Jaume (FGS)
Romero Pastor, Mónica (FGS)
Sillero Sillero, Amalia (FGS)
Sist Viaplana, Xènia (FGS)
Valverde Bernal, Jonatan (FGS)
Vicente Pérez, Sílvia (FGS)
Villalobos Abelló, 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

Collaborations with other IIB Sant Pau Groups

- ▶ Gemma Mas Dalmau. 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.
- ▶ Miriam Armora Verdú. Non-invasive central temperature monitoring and use of a pre-operative body surface active heating system to prevent inadvertent hypothermia (IIBSP-TEM- 2017-94).

External Collaborations

- ▶ Gemma Mas. Impact of the implementation of Good Practices Guides on beliefs-attitudes and behavior in relation to Practice

Based on Evidence and the perception of the nursing work environment (PR-259/18). COIB Grant. In collaboration with Mar Institute of Medical Research Foundation.

- ▶ M. Queralt Cebrià. Improving the therapeutic relationship in nursing care through the evidence multicentric study in Catalonia psychiatry units. In collaboration with Mar Institute of Medical Research Foundation.
- ▶ Gemma Berga Congost. Creación y estudio de las propiedades psicométricas de un nuevo instrumento (cuestionario) para medir el grado de adherencia a las conductas de autocuidado recomendadas y el cambio en el estilo de vida en pacientes que han padecido un síndrome coronario agudo. IIBSP-INT-2019-74. In collaboration with Sant Pau Nursing University and Hospital Clínic (IDIBAPS).

Active Grants

- ▶ Adrián Márquez López. Desenvolupament i avaluació de l'impacte d'un llistat de verificació de seguretat adaptat a la cardiologia intervencionista. PR-235/17. Fundació Infermeria i Societat. Duration: 2018-2020. 4,000 €.
- ▶ Gemma Berga Congost. Early attention in the diagnosis of acute myocardial infarction: impact of an educational and organizational intervention. SLT008/18/00052. Duration: 2018-2020. 90,700 €.
- ▶ Carme Jover Sancho. Effect of a music therapy intervention on the mood state of the critical patient in a Level III Hospital. IIB-SP-MUS-2018-83. Duration: 2018-2021.
- ▶ Alba Villalobos Abelló. Degree of satisfaction on the education received in education program of heart transplanted patient during admission. PR-020/16. COIB Grant. Duration: 2017-2019.
- ▶ Gemma Berga Congost. Impact on reperfusion time after the elaboration and dissemination of an early diagnosis algorithm for acute myocardial infarction. IIBSP-IAM- 2015-84.
- ▶ Jonatan Valverde Bernal. Impact on the quality of life after implantation of the mitral clip. IIBSP-CLI-2016-85.

- ▶ Jaume Roca. Evaluación de la efectividad del calor seco en las extravasaciones del contraste yodado. Estudio Multicéntrico. Clinical-Trials. NCT03426735.
- ▶ Jonatan Valverde Bernal. Impacto de la consulta de enfermería de Hemodinámica sobre la ansiedad antes de intervencionismo percutáneo. IIBSP-ICE-2019-27.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2019

- ▶ Gemma Berga Congost. Atención precoz en el diagnóstico de infarto agudo de miocardio: impacto de una intervención educativa y organizativa. SLT008/18/00052. Departament de Salut. Duration: 2019-2020. 73,343.84 €.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- ▶ G. Berga. ¿Deben todos los pacientes ingresar en una unidad de cuidados críticos tras implante de clip mitral? National Congress Los nuevos retos de las Enfermeras en el s.XXI. November 2019. Best communication award.

Scientific Production

Total Impact Factor: 28.566 · Mean Impact Factor: 3.174

De Francisco S., Torres C., de Andres S., Millet A., Ricart M.T., Hernandez-Martinez-esparza E., Abades M., Trujols J., Effectiveness of integrative laughter therapy to reduce anxiety, improve self-esteem and increase happiness: A naturalistic study at a day hospital for addictive disorders (2019) INT J ENV RES PUB HE, 16 (21). **IF: 2.4680**

De La Poza Abad M., Mas Dalmau G., Gich Saladich I., Martinez Garcia L., Llor C., Alonso-Coello P., Use of delayed antibiotic prescription in primary care: A cross-sectional study (2019) BMC FAM PRACT, 20 (1). **IF: 2.4310**

Ibáñez B, Bautista-Hernandez V, Alfonso F, Berga Congost G, Comentarios a la guía ESC/EACTS 2018 sobre revascularización miocárdica. REV ESP CARDIOL. 2019;72(1):16-20. **IF: 5.078**

Jiménez Navarro M, Galian-Gay L, Avanzas P, Grupo de trabajo de la SEC para la Guía de la ESC, revisores expertos de la Guía de la ESC, Comité Guías Clínicas SEC. Comentarios a la guía ESC 2018 sobre el tratamiento de las enfermedades cardiovasculares durante el embarazo. REV ESP CARDIOL. 2019; 72(2):109-114. **IF: 5.078**

Mazón P, Marín F, Cosín-Sales J, Grupo de trabajo de la SEC para la Guía de la ESC, revisores expertos de la Guía de la ESC, Comité Guías Clínicas SEC. Comentarios a la guía ESC/ESH 2018 sobre el diagnóstico y tratamiento de la hipertensión arterial. REV ESP CARDIOL. 2019;72(2):104-108. **IF: -**

Roca Sarsanedas J, Falcó Pegueroles A, Serla vós Pañella C, López Hernández M, Galimany Masclans J. Manejo de las extravasaciones de contraste yodado, mediante una intervención térmica. Revista ROL Enferm 2019; 42(9): 577-582. **IF: -**

Sambola A, Viana-Tejedor A, Bueno H, Grupo de trabajo de la SEC para la Guía de la ESC, revisores expertos de la Guía de la ESC, Comité Guías Clínicas SEC. Comentarios al consenso ESC 2018 sobre la cuarta definición universal del infarto agudo de miocardio. REV ESP CARDIOL. 2019;72(1):10-15. **IF: 5.078**

Sillero-Sillero A., Zabalegui A., Safety and satisfaction of patients with nurse's care in the perioperative (2019) REV LAT-AM ENFERM, 27, e3142. **IF: 0.9790**

Stuart B., Hounkpatin H., Becque T., Yao G., Zhu S., Alonso-Coello P, Altiner A., Arroll B., Bohning D., Bostock J., Bucher H.C.C., de la Poza M., Francis N.A., Gillespie D., Hay A.D., Kenealy T., Loffler C., Mas-Dalmau G., Munoz L., Samuel K., Moore M., Little P., Delayed antibiotic prescribing for respiratory tract infections: Protocol of an individual patient data meta-analysis (2019) BMJ OPEN, 9 (1), e026925. **IF: 2.3760**

Diffusion Activities

- ▶ Mas Dalmau G, Sist Viaplana X, García Mantas A, Cucala Rovira M, Lacueva Pérez L, Estevan Sepúlveda S. Creencias, actitudes y comportamiento sobre la enfermería basada en la evidencia. National Congress Los Nuevos Retos de las Enfermeras en el S. XXI. Barcelona, 8 November 2019.
- ▶ Mas Dalmau G. La investigación en cuidados de enfermería pediátrica. V Encuentro Nacional de Enfermeros Internos Residentes en Pediatría. Murcia, 8 May 2019.
- ▶ Villalobos Abelló, A. Ramirez Plaza MC. ¿Existe relación entre la hora de retirada de una sonda vesical con la tasa de complicaciones posteriores? VII International Congress Dependencia y Calidad de Vida. 29-30 October 2019.
- ▶ Villalobos Abelló, A. Ramírez Plaza MC. ¿Existe relación entre la hora de retirada de una sonda vesical con la tasa de complicaciones posteriores? National Congress Los nuevos retos de las Enfermeras en el S.XXI. 6-8 November 2019.
- ▶ Villalobos Abelló, A. Valverde Bernal, J. Gálvez Tugás, E. Márquez López, A. Gich Saladich, I. La satisfacción sobre un programa de educación al paciente trasplantado de corazón: un estudio observacional transversal. National Congress Los nuevos retos de las enfermeras en el S.XXI. 6-8 November 2019.
- ▶ Amalia Sillero Sillero. Impacto del entorno de la enfermería perioperatoria en los resultados de seguridad y satisfacción de los pacientes quirúrgicos. Encuentro Internacional de Investigación en Cuidados (Investeen). Barcelona 2019.
- ▶ Amalia Sillero Sillero. Influencia de los factores humanos y la lista de verificación quirúrgica en el paciente de cirugía cardiaca. OEBE 2019. XII Reunión Internacional de enfermería basada en la evidencia. Granada, Spain.
- ▶ Amalia Sillero Sillero. Cuidados enfermeros perioperatorios en la implantación de la asistencia ventricular izquierda HEARTMATE III. XVI Congreso Nacional de Enfermería Quirúrgica. Mérida 2019.
- ▶ Amalia Sillero Sillero. Implantació assistència ventricular esquerra Heartmate III. Cures infermeres perioperatòries. IV Jornades d'Infermeria HSCSP. 2019.
- ▶ Armora M. Creació d'una aplicació per smartphone per la preparació quirúrgica. IV Jornada de l'Associació Catalana d'Infermeria d'Anestèsia, Reanimació i Terapèutica del Dolor. Barcelona, 12 June 2019.
- ▶ Armora M. X Jornada Infermera dels 5 Hospitals de Barcelona Ciutat. Infermeres i Procés d'Hospitalització. Barcelona, October 2019.

- ▶ Bou Serra, C.; Serra Blanch, M; Armora Verdú, M; Català Navarro, P; Muñoz Albarracín, R.M. Paciente alérgico al óxido de etileno intervenido de cirugía cardíaca: caso clínico. Mérida, 15 March 2019.
- ▶ Armora M. Efectivitat d'una aplicació per a smartphone en pacients de cirurgia major ambulatoria. IV Jornada Infermeria Hospital de la Santa Creu i Santpau. Barcelona, 27-28 February - 1 March 2019.
- ▶ Armora M. Moderator of the round table Herramientas digitales para el cuidar. National Congress Nuevos Retos de las Enfermeras en el S.XXI. Barcelona, 8 November 2019.
- ▶ Valverde Bernal J. Mitral regurgitation. Back to basics. Lecturer in round table. Solving the mysteries of cardiac physiology – Back to basics. EuroPCR 2019. Paris, 2019.
- ▶ Valverde Bernal J, Villalobos Abelló A, Gálvez E, Márquez-López A. La satisfacción sobre un programa de educación al paciente trasplantado de corazón: un estudio observacional-transversal. 40th Congress of the Asociación Española en Enfermería en Cardiología. Barcelona, 2019.
- ▶ Valverde Bernal J, Martínez Pérez J, Ruiz Gabaldà J, Castelló Fosch N. ¿Debemos realizar un seguimiento a los pacientes con elevadas dosis de radiación tras angioplastias de oclusiones crónicas totales? 40th Congress of the Asociación Española en Enfermería en Cardiología. Barcelona, 2019.
- ▶ Martínez Pérez J, Valverde Bernal J, Ruiz Gabaldà J, Castelló Fosch N. ¿Se cumplen los criterios de seguridad en la administración máxima de contraste en angioplastias de oclusiones crónicas? Comunicación. 40th Congress of the Asociación Española en Enfermería en Cardiología. Barcelona, 2019.
- ▶ Mas Terrasa, MA; Morales Ponce, C; Alhama Martín MA; Armora Verdú M; Tarifa Chicano, M. Análisis de la activación del código infarto agudo de miocardio durante la noche en un hospital de tercer nivel. National Congress Nuevos Retos de las Enfermeras en el S.XXI.
- ▶ Diaz Membrives M, Icart Isern MT, Galimany Masclans J, Roca Sarsanedas J, Font Cabrera C, Estrada Masllorens JM. Análisis de los artículos sobre solicitud e interpretación de radiografías en la enfermera de urgencias. VI Congreso Internacional de Investigación en Salud y Envejecimiento and IV Congreso Internacional de Investigación en Salud. Madrid, 4-5 July 2019.
- ▶ G. Berga. ¿Deben todos los pacientes ingresar en una unidad de cuidados críticos tras implante de clip mitral? 7º Reunión Internacional de Intervencionismo Estructural. Salamanca, February 2019.
- ▶ G. Berga. Impacto en la calidad de vida tras implantación de clip mitral. 7º Reunión Internacional de Intervencionismo Estructural. Salamanca, February 2019.
- ▶ G. Berga. Importancia de la formación e investigación. Congreso Ritmo 19. Sección de Electrofisiología, Arritmias y Estimulación Cardíaca de la Sociedad Española de Cardiología. Barcelona. March 2019.
- ▶ 10 Puntos clave de la enfermera que atiende un código IAM. Ponente. 30 Annual Meeting of the Sección de Hemodinámica y Cardiología Intervencionista of the Sociedad Española de Cardiología.
- ▶ G. Berga. ¿Deben todos los pacientes ingresar en una unidad de cuidados críticos tras implante de clip mitral? National Congress of the Sociedad Española de Cardiología and the Asociación Española de Enfermería en Cardiología. Barcelona, October 2019. Oral communication.
- ▶ G. Berga. ¿Deben todos los pacientes ingresar en una unidad de cuidados críticos tras implante de clip mitral? National Congress Los nuevos retos de las enfermeras en el s. XXI. Barcelona, November 2019. Oral communication.

Associated Groups

Reproductive Health


Coordinator

Calaf Alsina, Joaquim (F. Puigvert)
jcalaf@santpau.cat

Members

Adelantado Pérez, Juan María (FGS)
Balcells Eichenberger, Laura (FGS)
Espinós Gómez, Juan José (FGS)
Estadella Tarriel, Josep Ramon (FGS)
Guinot Gasull, Misericordia (FGS)
Perello Capo, Josep (FGS)
Rams Llop, Noelia (FGS)

Simó González, Marta (FGS)

Main Lines of Research

- ▶ The medical approach to hormonally induced or controlled gynecological diseases: Endometriosis, fibroids, menstrual disorders.
- ▶ Explore noncontraceptive benefits of hormonal contraception.
- ▶ Develop tools for the early diagnosis and management of heavy menstrual bleeding.
- ▶ Polycystic ovarian syndrome, premature and normal menopause, amenorrhea.

Scientific Challenges

- ▶ To develop and test simple tools for identifying heavy menstrual bleeding in clinical settings.
- ▶ To evaluate the impact of the different contraceptive methods on the characteristics of menstruation.
- ▶ To evaluate the cost/benefit ratio of using nonsurgical approaches for hormone-mediated organic gynecologic diseases.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Genetic Diseases Group

Scientific Production

Total Impact Factor: 39.7790 · Mean Impact Factor: 6.6298

Dosouto C., Calaf J., Polo A., Haahr T., Humaidan P., Growth hormone and reproduction: Lessons learned from animal models and clinical trials (2019) *FRONT ENDOCRINOL*, 10 (JUN). **IF: 3.6340**

Guerriero S., Pascual M.A., Ajossa S., Rodriguez I., Zajicek M., Rolla M., Rams Llop N., Yulzari V., Bardin R., Buonomo F., Comparetto O., Pernicino M., Saba L., Mais V., Alcazar J.L., Learning curve for ultrasonographic diagnosis of deep infiltrating endometriosis using structured offline training program (2019) *ULTRASOUND OBST GYN*, 54 (2), 262-269. **IF: 5.5950**

Harreiter J., Simmons D., Desoye G., Corcoy R., Adelantado J.M., Devlieger R., Galjaard S., Damm P., Mathiesen E.R., Jensen D.M., Andersen L.L.T., Dunne F., Lapolla A., Dalfra M.G., Bertolotto A., Wender-Ozegowska E., *et al.*, Nutritional lifestyle intervention in obese pregnant women, including lower carbohydrate intake, is associated with increased maternal free fatty acids, 3-b-hydroxybutyrate, and fasting glucose concentrations: A secondary factorial analysis of the European multicenter, randomized controlled DALI lifestyle intervention trial (2019) *DIABETES CARE*, 42 (8), 1380-1389. **IF: 15.2700**

Harreiter J., Desoye G., van Poppel M.N.M., Kautzky-Willer A., Dunne F., Corcoy R., Devlieger R., Simmons D., Adelantado J.M., Damm P., Mathiesen E.R., Jensen D.M., Anderson L.L.T., Lapolla A., Dalfra M.G.,

Bertolotto A., Wender-Ozegowska E., Zawiejska A., Hill D.J., Snoek F.J., The Effects of Lifestyle and/or Vitamin D Supplementation Interventions on Pregnancy Outcomes: What Have We Learned from the DALI Studies? (2019) *CURR DIABETES REP*, 19 (12). **IF: 3.9960**

van Poppel M.N.M., Jelsma J.G.M., Simmons D., Devlieger R., Jans G., Galjaard S., Corcoy R., Adelantado J.M., Dunne F., Harreiter J., Kautzky-Willer A., Damm P., Mathiesen E.R., Jensen D.M., Andersen L.-L., Tanvig M., Lapolla A., Dalfra M.-G., Bertolotto A., Wender-Ozegowska E., Zawiejska A., Hill D., Desoye G., J Snoek F., Mediators of lifestyle behaviour changes in obese pregnant women. Secondary analyses from the DALI lifestyle randomised controlled trial (2019) *NUTRIENTS*, 11 (2). **IF: 4.1710**

van Poppel M.N.M., Simmons D., Devlieger R., van Assche F.A., Jans G., Galjaard S., Corcoy R., Adelantado J.M., Dunne F., Harreiter J., Kautzky-Willer A., Damm P., Mathiesen E.R., Jensen D.M., Andersen L.-L., Tanvig M., Lapolla A., Dalfra M.G., Bertolotto A., Wender-Ozegowska E., Zawiejska A., Hill D., Snoek F.J., Jelsma J.G.M., Desoye G., A reduction in sedentary behaviour in obese women during pregnancy reduces neonatal adiposity: the DALI randomised controlled trial (2019) *DIABETOLOGIA*, 62 (6), 915-925. **IF: 7.1130**

Associated Groups

Cardiac Surgery

**Coordinator**

Montiel Serrano, José (FGS)
jmontiels@santpau.cat

Members

Casellas Casanovas, Sandra (FGS)
Ginel Iglesias, Antonino (FGS)
Roselló Díez, Elena (FGS)
Tauron Ferrer, Manel (FGS)

Main Lines of Research

- ▶ Off-pump coronary artery bypass grafting surgery.
- ▶ Mitral repair surgery.
- ▶ Aorta pathology: aortic root surgery, aortic arch surgery (hybrid techniques).
- ▶ Follow-up of sutureless aortic valve prosthesis: Perceval S.
- ▶ Follow-up of surgical check-list implementation.
- ▶ Risk scores.
- ▶ Cardiac protection: Del Nido cardioplegia.
- ▶ Minimally invasive techniques: mini-sternotomy, mini-thoracotomy, MIDCABG surgery.
- ▶ Total arterial graft revascularization.
- ▶ New valvular transcatheter prosthesis: TAVI transaxillary approach (Portico), TAVI transapical approach (Accurate).

Scientific Challenges

- ▶ Consolidation as a research group in different cardiac surgery-related fields, specific sutureless valve prosthesis, radial artery in myocardial revascularization, different TAVI approach...
- ▶ Participation in the assessment and validation of new products employed in cardiac surgery: hemostatics, sutures, etc.
- ▶ Collaboration with different national and international research teams involved in our lines of study: epicardial fat study (Endocrinology), calcium channels in atrial myocytes (ICCV).

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Regulation of Cardiac Rhythm and Contraction (Leif Hove-Madsen)
- ▶ Clinical and Translational Cardiology (José María Guerra Ramos)
- ▶ José Martínez González. Mecanismos que involucran a los receptores NR4A y a LOX en la calcificación cardiovascular: estableciendo las bases de nuevas estrategias terapéuticas. RTI2018-094727-B-100.
- ▶ Manel Tauron Ferrer. Ensayo clínico aleatorizado, abierto y multicéntrico para comparar la eficacia y seguridad de la cardioplegia Buckberg vs del nido en sustitución valvular aórtica aislada. IIB Sant Pau-CAR-2018-71.

External Collaborations

- ▶ José Montiel Serrano and Elena Roselló Díez. Professors of Medicine at the Faculty of Medicine, Universitat Autònoma de Barcelona (UAB).
- ▶ Elena Domínguez Garrido. Collaboration with Unit of Molecular Diagnosis. Fundación Rioja Salud, La Rioja, Spain.
- ▶ Elisabeth Berastegui. Collaboration with Department of Cardiac Surgery. Hospital Germans Trias i Pujol, Badalona, Spain.
- ▶ Mercè Cladellas Capdevila. Collaboration with Department of Cardiology. Hospital del Mar, Barcelona, Spain.
- ▶ Sandra Casellas Casanovas. Estudio SURE-AVR "Sorin Universal Registry on Aortic Valve Replacement" Collaboration. Site Code 724001. Liva Nova España, SL.
- ▶ Collaboration with Hewlett-Pakard: 3D printing models. HP División Médica, Spain.

Active Grants

- ▶ Cardiac valvular prosthesis study, Abbott (Saint Jude)
- ▶ Sandra Casellas Casanovas. Study SURE-AVR "Sorin Universal Registry on Aortic Valve Replacement". 724001. Liva Nova España, SL.

- ▶ Manel Tauron. Ferrer Study Braun.

Note: Total amount granted to PI. It does not include indirect costs.

Scientific Production

Total Impact Factor: 10.933 · Mean Impact Factor: 5.4665

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Diffusion Activities

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Sant Quintí, 77-79
08041 Barcelona

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Sant Quintí, 77-79
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