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3.5. Mental health
- Global numbers of area
- Clinical, cognitive and psychosocial bases of severe mental disorders
- Mental health interventions
- Cognitive and neurobiological correlates of psychotic and affective symptoms in severe mental disorder
- Child and youth mental health research
- Psychological research group on fibromyalgia and chronic pain (agora group) SGR grup 667
- Molecular Psychiatry

3.6. Foetal / paediatric diseases and environment, metabolic and genetic factors
- Global numbers of area
- Paediatric intensive care unit research project group
- Influence of the environment on child and adolescent welfare
- Foetal environment and obstetrical complication
- Impact of congenital heart disease on development: from foetus to adult
- Paediatric arrhythmias, sudden death and cardiovascular genetics

INDEX

CROSS-SECTIONAL AREAS

4.1. Genetics, molecular biology and gene therapy
- Global numbers of area
- Molecular biology and gene regulation of adipose tissue and its pathologies
- Human molecular genetics I
- Human molecular genetics II
- Molecular pharmacology and experimental therapies
- Pharmacological targets in inflammation and metabolic diseases
- Microbiota intestinal

4.2. Neuropsychology, cognitive and development neuroscience
- Global numbers of area
- Neuropsychology
- Cognitive neuroscience
- Developmental neuroscience

4.3. Biomedical engineering
- Global numbers of area
- Bioinformatics and data analysis platform
- Computer graphics
- Biomaterials and tissue engineering
- Processing and interpretation of biomedical signals
- Instrumentation and bioengineering
- Robotics and Vision
- Medical radiophysics
- Biomechanical Engineering

4.4. Epidemiology
- Global numbers of area
- Epidemiology of aging: factors associated with healthy aging
- Impact, risk and prevention of mental disorders
- Healthcare technologies and results in primary care and mental health (PRISMA)

NOTES
1 FOREWORD

1.1. Introduction
1.2. Governing and advisory bodies
1.3. Services and infrastructures
1.1. Introduction

It is a pleasure to show you the annual scientific report of the Institut de Recerca Sant Joan de Déu [IRSJD], which shows once again the great work done by all IRSJD’s people. From here, our acknowledgment and gratitude to everyone who, in one way or another, makes possible the continuous improvement of our institution, the scientific results and the transfer of knowledge for the improvement of patients.

During this year, from the Direction of the Institute has been worked on the Strategic Plan for the next four years. Scientific excellence, the consolidation of the human team and the infrastructures, and the promotion and support for the establishment of scientific collaborations and international alliances are the main objectives of this new Plan. In parallel, there has been a long process of reflection, together with the people leading the research groups of the Institute, on the interconnections between the groups of the different centers that make up the IRSJD. This has allowed redefining the cooperative scientific project model of the Institute.

The scientific framework we have had since 2015 has been very useful for showing the nuclear research lines of the Hospital and the transversally of the research groups of the other IRSJD’s Centers. The new scientific structure aims to reflect and enhance the common research objectives and lines, and facilitate collaboration between the medical and hospital medical activity and the basic and technological research groups. It is also necessary to make reference to the different agents that are fundamental for quality research, with translation and responsible capacity, such as healthcare professionals, experts in innovation and patient representatives. As of 2019, this new structure will be fully developed.

During 2018, the IRSJD has increased the research projects, clinical trials and scientific publications; in such a way that the indicators obtained allow us to continue with sustained growth. The upstream line in the collection of financing funds and scientific production since the creation of the IRSJD places us in a good position among the research centers in our environment. Just to make some mention in relation to scientific production, we would like to highlight, among others, some publications led by researchers from the different research programs, such as Paediatric Cancer in Clinical Cancer Research [C. Lavarino] and Journal of Controlled Release [A. Montero-Carcaboso]; in the field of Neuroscience with publications in Developmental Medicine & Child Neurology by A. García-Cazorla and published by the group of M. Pastor-Anglada at Comprehensive Physiology; and the publications conducted by L. Alsina in Pediatric Allergy and Immunology and L. Ibáñez in Trends in Endocrinology and Metabolism in the Adaptive Response area; Importantly, there have been international collaborations that have been reflected in works published in JAMA Psychiatry, with the participation of A. Koyanagi of the area of Mental Health in the Neurosciences program.

Finally, from the Directorate we would like to encourage you to continue working and collaborating with all of us, and with other national and international centers. We know that we have a great human team to achieve our priority objective: a job of excellence to achieve the best solutions for our patients.
1.2. Governing and advisory bodies

Board of trustees

Joan Elias García  Rector, Universitat de Barcelona
Domènec Espriu Climent  Vice-Rector for Research, Universitat de Barcelona
Jordi Berenguer Sau  Vice-rector for Knowledge Transfer and Innovation, Universitat Politècnica de Catalunya
Francesc Palau Martinez  Director, Institut de Recerca Sant Joan de Déu
Emili Bargalló Angeri  Director, Fundació de Recerca Sant Joan de Déu
Jaume Pérez Payarols  Director for Innovation, Hospital Sant Joan de Déu d’Esplugues de Llobregat
Josep Maria Haro Abad  Director for Research, Innovation and Teaching, Parc Sanitari Sant Joan de Déu
Manuel del Castillo Rey  General Manager, Hospital Sant Joan de Déu d’Esplugues de Llobregat
Enric Mangas i Monge  Director, Parc Sanitari Sant Joan de Déu

Research commission

Rafael Artuch Iriberri, president
Asteria Albert Cazalla
Pere Caminal Magrans
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Alfredo García-Alix
Àngels García Cazorla
Juan José García García
Maria Dolores Gómez Roig
Josep M Haro Abad
Lourdes Ibáñez Toda
Josep Jiménez Chillarón
Àngel Montero Carcaboso
Carmen Muñoz Almagro
Susana Ochoa Guerre
Francesc Palau Martínez
Marçal Pastor Anglada
Antoni Serrano Blanco
Judith Usall Rodie
Júlia Ribot Ballabriga, secretary

Executive Committee Institut de Recerca Sant Joan de Déu

Francesc Palau Martínez  Director, Institut de Recerca Sant Joan de Déu
Rafael Artuch Iriberri  Deputy Director, Institut de Recerca Sant Joan de Déu
Emili Bargalló Angeri  Director, Research Foundation Sant Joan de Déu
Jaume Pérez Payarols  Director for Innovation, Hospital Sant Joan de Déu
Daniela Tost Pardell  Director, Centre de Recerca en Enginyeria Biomèdica (CREB). Universitat Politècnica de Catalunya
Marçal Pastor Anglada  Director, Institut de Biomedicina - Universitat de Barcelona (IBUB)
Carles Escera i Micó  Institut de Neurociències - Universitat de Barcelona (UBNeuro)
Josep M. Haro Abad  Director for Research, Innovation and Teaching, Parc Sanitari Sant Joan de Déu
Júlia Ribot Ballabriga  Scientific manager, Institut de Recerca Sant Joan de Déu

Scientific Advisory Council

Antonio L. Andreu  Scientific director. European infrastructure for translational medicine (EATRIS)
Maria A. Blasco  Director. Centro Nacional de Investigaciones Oncológicas (CNIO)
Jordi Camí i Morell  Director. Parc de Recerca Biomèdica de Barcelona & Fundació Pasqual Maragall
Michael B. King  London’s Global University. Division of Psychiatry
Marisa Montolio  Scientific director. Duchenne Parent Project, Spain
Carlos Rodríguez-Galindo  Executive vice-president. St. Jude Children’s Research Hospital
Maite Tauber  Paediatric endocrinologist. Institut des Sciences du Cerveau, de la Cognition et du Comportement de Toulouse (ISC3T)
Montserrat Vendrell i Rius  Partner. Alta Life Sciences
1.3. Services and infrastructures

The Institut de Recerca Sant Joan de Déu makes available to its researchers a set of fundamental services and infrastructures for the performance of their projects. In order to facilitate high-level research, the IRJSD offers its professionals technical, scientific and support services as well as the most suitable infrastructures required to carry out their work:

**Scientific core facilities**
- Support of the Clinical Trials Unit
- Sequencing Unit
- Confocal Microscopy Unit
- Animal housing facility
- Biobank
- Methodological and statistical support
- Methodological support in neuroimaging
- Scientific and technical evaluations service

**Other scientific and technical services**
- UBNeuro Services
- IBUB Services
- CREB Services

**Management support services**
- Administration and human resources
- Clinical Research Ethics Committee
- Research management and Promotion
- Management of knowledge and communication
2 GLOBAL NUMBERS

2.1. Global numbers 2018
2.2. Global numbers 2015-2018
2.3. Research and innovation outputs
   Scientific publications
   Patents and utility models
   Spin-off
2.4. Training
   Doctoral theses
   Scientific seminars
2.1. Global numbers 2018

**TOTAL MEMBERS**
- 514
- 53 Group leader
- 215 Staff researcher
- 50 Postdoc - associate researcher
- 97 PhD student
- 64 Assistant researcher
- 37 Technician
- 32 Collaborator researcher

**TOTAL PROJECTS**
- 378
- 261 Competitive national project
- 36 Competitive international project
- 81 Non competitive

**TOTAL CLINICAL TRIALS & OBSERVATIONAL STUDIES**
- 147
- 15 Phase I
- 41 Phase II
- 50 Phase III
- 3 Phase IV
- 35 Observational study
- 3 Food & Medical product

**PUBLICATIONS**
- 443 Articles & reviews with Impact Factor
- 2287 Impact Factor
- 58 % Publications in first quartile
- 5.16 Mean impact factor
- 59 % Articles with main contributing authors

**BUDGET**
- 9.2 €
2.2. Global numbers 2015-2018

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2.3. Research and Innovation Outputs

SCIENTIFIC PUBLICATIONS

%Q1: % of publications published in journals ranked in the first quartile (top 25%)

Mean IF: Mean impact factor of all the scientific publications

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Higtest impact factor journals
The list reflects the 99 original articles and reviews published in the most relevant scientific journals (1st decil)
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PATENTS AND UTILITY MODELS

**Nonwoven membrane as a drug delivery System**

Date of grant: 25/07/2018  
Country of protection: AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR  
Grant number: EP310881A1  
Applicants: Universitat Politècnica de Catalunya i Hospital Sant Joan de Déu  
Inventors: Jose Antonio Tornero Garcia, Angel Montero Carcaboso, Joan Bertran Llavina

**Immunotherapy for Casr-Expressing Cancer (E.G. Neuroblastoma)**

Date of grant: 18/01/2018  
Country of protection: Estats Units  
Grant number: US2018020711A1  
Applicants: Hospital Sant Joan de Déu i Fundació Cellex  
Inventors: Carmen de Torres Gómez-Pallete

**Método de clasificación en subgrupos moleculares de pacientes con meduloblastoma**

Date of grant: 22/11/2018  
Grant number: PCT/ES2018/070347  
Applicants: Hospital Sant Joan de Déu  
Inventors: Cinzia Emilia Lavarino, Soledad Gomez Gonzalez

**Betaine for the prevention of obesity**

Date of grant: 15/11/2018  
Grant number: WO2018/20673A1  
Applicants: Hospital Sant Joan de Déu i Ajinomoto  
Inventors: Carlos Lerín Martínez, Jose Carlos Jiménez Chillaron, Marta Ramón Krauel

**SPIN-OFF**

**DBGEN Ocular Genomics**

(co-founders Roser González-Duarte and Gemma Marfany)
## 2.4. Training

### DOCTORAL THESES

A list provided below the 33 doctoral theses presented during 2018 in original language.

<table>
<thead>
<tr>
<th>Thesis Author</th>
<th>Title</th>
<th>Thesis directors</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Javier Rodríguez Fanjul</td>
<td>Neuroprotección mediante terapia combinada (hipotermia+allopurinol) en un modelo animal de daño cerebral hipóxico-isquémico</td>
<td>Alfredo García-Alix</td>
<td>January</td>
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<tr>
<td>Eva Maria Guix Comellas</td>
<td>Influència del seguiment infermer en l’adherència al tractament amb fàrmacs antituberculosos en la població pediàtrica</td>
<td>Antoni Noguera Julian, Enriqueta Force Sanmartín</td>
<td>January</td>
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<tr>
<td>Sally Sabra</td>
<td>Maternal heavy metals and toxins exposure and their influences on fetal growth restriction in clinical subtypes</td>
<td>Eduard Gratacos, Maria Dolores Gómez-Roig</td>
<td>January</td>
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<tr>
<td>María José Fábrega Fernández</td>
<td>Modulation of intestinal immune response by outer membrane vesicles from probiotic and commensal Escherichia coli strains</td>
<td>Laura Baldomà Llavinés, Rosa Giménez Claudio</td>
<td>January</td>
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<tr>
<td>Alejandra Darling</td>
<td>Malalties Neurodegeneratives Associades a Dipòsit Cerebral de Ferro: caracterització clínica i genètica</td>
<td>Belén Pérez Dueñas</td>
<td>February</td>
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<tr>
<td>Estrella Rubio Solsona</td>
<td>Estudio funcional de la proteína ANKK1 en el músculo esquelético: implicaciones en distrofias musculares</td>
<td>Janet Honicka y Francesc Palau</td>
<td>March</td>
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<tr>
<td>Tannia Valeria Carpio Arias</td>
<td>Aspectos cronobiológicos, emocionales y nutricionales en pacientes con Trastorno de Déficit de Atención e Hiperactividad</td>
<td>Jose Angel Alda</td>
<td>March</td>
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<tr>
<td>Gaia Botteri</td>
<td>Novel potential determinants in endoplasmic reticulum stress, inflammation and insulin resistance: Apo CIII and sAPPbeta</td>
<td>Manel Vazquez Carrera</td>
<td>March</td>
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<td>Gemma Escuder Romeva</td>
<td>Necessitats de la població atesa a les unitats psiquiàtriques penitenciàries de Catalunya</td>
<td>Susana Ochoa Güerre</td>
<td>April</td>
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<tr>
<td>Miguel Mª Alsina Casanova</td>
<td>Disfunción multiorgánica en el recién nacido con encefalopatía hipóxico-isquémica en la era de la hipotermia terapéutica</td>
<td>Alfredo García-Alix Pérez</td>
<td>May</td>
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<tr>
<td>Ana Esteve Solé</td>
<td>Estudio de los defectos primarios y secundarios de la vía IL12-Interferón gamma-TNFalfa con susceptibilidad a la infección por microorganismos intracelulares.</td>
<td>Laia Alsina Manrique de Lara, Manel Juan Otero</td>
<td>May</td>
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<tr>
<td>Albert Viel Oliva</td>
<td>Determinants estructurals i implicacions funcionals de l’interactoma proteic d’hCNT1</td>
<td>Marçal Pastor-Anglada</td>
<td>June</td>
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<tr>
<td>Hamsa Jameel Banjer</td>
<td>Role of the human Concentrative Nucleoside Transporter 1 (hCNT1) in oncogenesis</td>
<td>Marçal Pastor-Anglada</td>
<td>June</td>
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<tr>
<td>Gabriel Porcel Fernandez</td>
<td>Estudio del matrisoma y secretoma de fibroblastos humanos de piel, en el contexto de las distrofias musculars congenitas</td>
<td>Cecilia Jiménez Mallebrera</td>
<td>June</td>
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<tr>
<td>Guillem Pascual Pastó</td>
<td>Farmacocinètica i eficàcia preclínic de teràpies innovadores pel retinoblastoma refractari.</td>
<td>Angel Montero Carcaboso</td>
<td>June</td>
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<td>Montserrat Torrebadell Burriel</td>
<td>Análisis del valor pronóstico del perfil de expresión génica en la</td>
<td>Jordi Esteve Reyner Mireia Camós</td>
<td>June</td>
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<td>leucemia mieloblástica aguda de riesgo citogenético intermedio</td>
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<td>según la opción terapéutica post-remisión</td>
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<td>Anna Mensa-Vilaró</td>
<td>Implicación del mosaicism genético en las immunodeficiencias</td>
<td>Juan Ignacio Aróstegui Jordi</td>
<td>July</td>
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<tr>
<td>Daniel Natera</td>
<td>Application of CRISPR/Cas9 technology in collagen VI dominant</td>
<td>Caterina Marqués Gornés</td>
<td>July</td>
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<td>mutations on human dermal fibroblasts</td>
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<td>Caterina Marques</td>
<td>Aplicación de CRISPR/Cas9 para editar mutaciones dominantes</td>
<td>Cecilia Jiménez Mallebrera</td>
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<td>en genes de colágeno VI en fibroblastos</td>
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<tr>
<td>Julia Rebeca Sevilla Llewellyn-Jones</td>
<td>Clinical personality traits in high risk and recent onset of</td>
<td>Berta Moreno Kustner Susana</td>
<td>July</td>
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<td>psychosis patients</td>
<td>Ochoa Guerre</td>
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<tr>
<td>Mohammad Zarei</td>
<td>Unveiling the role of PPARbeta/delta on non-alcoholic fatty liver</td>
<td>Manel Vázquez Carrera</td>
<td>September</td>
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<td>Nerea Vega García</td>
<td>Estudi del perfil d’expressió de les histones deacetilasa (HDAC)</td>
<td>Mireia Camós Guijosa</td>
<td>October</td>
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<td></td>
<td>en pacientes pediàtrics amb leucèmia aguda</td>
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<td>Júlia Ballester-Plané</td>
<td>Beyond the motor impairment in dyselectic cerebral palsy:</td>
<td>Roser Pueyo Benito</td>
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<td>neuropsychological and connectome-based approach</td>
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<td>Liska Caviedes Cárdenas</td>
<td>Proteína multifuncional ADE2 como nexo entre vías de</td>
<td>Marçal Pastor-Anglada</td>
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<td>recuperación y síntesis de novo de nucleósidos</td>
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<td>Marta Ramon Krauel</td>
<td>Nutrició perinatal i programació de risc metabòlic a llarg termini:</td>
<td>Josep Jimenez-Chillarón Carles</td>
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<td>estudi de possibles mecanismes i intervencions en</td>
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<td>Judit Cabana Dominguez</td>
<td>Genètica i dependència de cocaina: Estudis d’associació,</td>
<td>Bru Cormand Noèlia Fernández</td>
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<td>Olga Laporta-Hoyos</td>
<td>Neuroimaging and executive function in dyselectic cerebral palsy</td>
<td>Roser Pueyo Benito</td>
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<td>Lorena Medina Pulido</td>
<td>Nuevas funciones de los transportadores concentrativos de</td>
<td>Marçal Pastor-Anglada Sandra</td>
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<td>nucleósidos CNT1 y CNT2</td>
<td>Pérez Torras</td>
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<td>Sandra Moro Villa</td>
<td>Nuevas implicaciones de los transportadores concentrativos de</td>
<td>Marçal Pastor-Anglada Sandra</td>
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<td>nucleósidos asociadas a la biología tumoral</td>
<td>Pérez Torras</td>
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<td>Rosa Torres Ferraz</td>
<td>Pla de desenvolupament d’una nova combinació de fàrmacs pel</td>
<td>Lourdes Ibáñez Clara Campàs</td>
<td>Desember</td>
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<td>tractament de la Síndrome de l’Ovari Poliquistic: del mercat al</td>
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<td>Marta Chamorro Fernández</td>
<td>Evaluación de los patrones de sueño en niños con TDAH de</td>
<td>Jose Angel Alda</td>
<td>Desember</td>
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<td>nuevo diagnóstico comparado con controles sanos</td>
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<tr>
<td>Laura Domènech-Salgado</td>
<td>A comprehensive multimomics approach towards understanding</td>
<td>Raquel Rabionet Eulàlia Martí</td>
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<td>obsessive-compulsive disorder</td>
<td>Xavier Estivill</td>
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<td>Olga Casulleras Gras</td>
<td>Regulació del transportador de nucleósids d’alta afinitat hCNT3</td>
<td>Marçal Pastor-Anglada Sandra</td>
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<td>per proteïnes d’interacció</td>
<td>Pérez Torras</td>
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</table>
SCIENTIFIC SEMINARS

- January, 9. Flu vaccination among healthcare personnel and vaccination recommendations for the adult population. Ángela Domínguez García, PhD.
- February, 1. 2nd Scientific Conference of the Institut de Recerca Sant Joan de Déu Barcelona (IRSJD).
- February, 6. Electrophysiological brain markers of cognitive function in neonatology and neuropaediatrics. Carles Escera, PhD.
- March, 20. Molecular mechanisms underlying development of the nervous system in health and disease. Elisa Martí, PhD.
- April, 10. NGS approaches in the study of complex disorders: a study of association of rare variants in obsessive-compulsive disorder. Raquel Rabionet Jansse, PhD.
- May, 22. ANKK1 and the molecular bases of addiction: from vulnerable brain structure to induced changes. Janet Hoenicka, PhD.
- June, 5. Impact of a mindfulness intervention (MBSR) on clinical severity and inflammatory biomarkers in patients with fibromyalgia. Laura Andrés Rodríguez.
- June, 7. Early detection of infant’s at risk for Cerebral Palsy: Early neuroimaging and clinical biomarkers. Roslyn N. Boyd, PhD.
- June, 19. New generation sequencing for diagnosis of hereditary metabolic diseases. Dèlia Yubero Siles, PhD.
- June, 28. Calibration-based routines for imputing categorical variables in complex data. Recai Yucel, PhD.
- July, 17. Advances in regenerative medicine. Gorka Oriv, PhD.
- October, 9. Changes in GABAergic synapse in Rett syndrome. Alfonso Luis de Oyarzabal Sanz, PhD.
- October, 23. Gate2Brain peptides: from discovery to applications. Meritxell Teixidó, PhD.
- October, 24. 1st Discussion Conference IRSJD 2018 – Mental Health.
- November, 6. Mitochondrial DNA deletions: Quantitative evaluation of single and multiple deletions generation and expansion in single cells. Selena Trifunov, PhD.
- December, 4. Effectiveness of Metacognitive Training (MCT) in persons with recent-onset psychosis. Susana Ochoa, PhD & MD.
- December, 18. Translational Data Science in Pediatric Oncology. Soledad Gómez González, PhD.
3 VERTICAL AREAS

3.1. Pediatric neuroscience
3.2. Molecular and cellular biology of developmental tumour
3.3. Adult-age disorders originating in the foetal period or in the early years of life
3.4. Infectious diseases and systemic inflammatory response in paediatrics
3.5. Mental Health
3.6. Foetal / Paediatric Diseases and environment, metabolic and genetic factors
3.1. Paediatric neuroscience

Coordinators: Jaume Campistol Plana, MD, PhD and Rafael Artuch Iriberri, MD, PhD

- **TOTAL MEMBERS**
  - 6 Group leader
  - 28 Staff researcher
  - 10 Postdoc - associate researcher
  - 7 PhD student
  - 14 Assistant researcher
  - 14 Technician
  - 1 Collaborator researcher

- **TOTAL PROJECTS**
  - 25 Competitive national project
  - 1 Competitive international project
  - 6 Non competitive

- **TOTAL CLINICAL TRIALS & OBSERVATIONAL STUDIES**
  - 7 Phase II
  - 11 Phase III
  - 1 Phase IV
  - 6 Observational study

- **PUBLICATIONS**
  - 83 Indexed articles & reviews
  - 75 Articles & reviews with Impact Factor
  - 301,823 Impact Factor
  - 49,30 % publications in the first quartile
  - 4,024 Mean impact factor
  - 80 % articles with main contributing authors from area
3 VERTICAL AREAS

3.1. Pediatric neuroscience

Members

Staff researcher
Roser Colomé Roura, Carme Fons Estupiñà, Camila García Volpe, Rosa Gassió Subirachs, María Julieta González, Silvia Maria Meavilla Olivas
Assistant researcher
Irene Galceran Nou

Selected projects


Selected clinical trials & observational studies

- EMR 700773-002. Phase IV. Open single-cohort phase IV study of long-term neurocognitive (NC) results in children aged 4-5 years with phenylketonuria treated with sapropterin dihydrochloride (Kuvan®) for 7 years. Codi EUDRACT: 2009-015844-41. Promotor: Merck KGaA. PI: Jaume Campistol Plana. 05/02/2014.

Selected publications


Networks

- CIBERER
- TREAT-NMD
MITOCHONDRIAL ENERGY METABOLISM AND DEVELOPMENT OF BIOMARKERS FOR THE INVESTIGATION OF INBORN ERRORS OF METABOLISM

Rafael Artuch Iriberri, MD, PhD

This year’s highlights
Our group increased its critical mass with the inclusion of two new post-doctoral researchers from another group in the neurosciences area who are expert clinical researchers on movement-related and neurodevelopmental disorders. We consequently increased our financing in competitive research projects and in the generation of scientific knowledge via publications. In the field of internationalisation, it may be noted that two members of our group were designated in 2018 as members of the scientific advisory board of the international laboratory quality control programme called ERNDIM, which is specialised in the analysis of biomarkers for the study of hereditary metabolic disorders.

Members
Staff researcher
Aida Ormazabal Herrero, Cristina Sierra March, Délia Yubero Siles, Mercedes Serrano Gimaré

Postdoc - associate researcher
Mercedes Casado Rio, Raquel Montero Sánchez, Juan Darío Ortigoza Escobar

PhD student
Abraham José Paredes Fuentes

Technician
Yahel Calzadilla Borras, Aroa Fernández de Miguel, Juan Moreno García, Tania Pardal Chofle

Selected projects
- Molecular diagnosis of mitochondrial oxidative phosphorylation defects: pathogenesis of CoQ10 deficiencies. FIS 2017. Instituto de Salud Carlos III (ISCIII). PI: Rafa Artuch Iriberri. 01/01/2018-31/12/2020
- Study of trace elements (Cu, Zn, Se and Mn) in cerebrospinal fluid in paediatric patients and analysis of related biomarkers. Instituto de Salud Carlos III (ISCIII). FIS. PI14/00032. PI: Aida Ormazabal Herrero. 01/01/2015-30/06/2018

Selected clinical trials & observational studies
- FSJD-PMM2-2016. Phase II clinical trial to assess the effectiveness and safety of acetazolamide in the treatment of cerebellar syndrome in patients with PPM2-CDG deficiency. Codi EUDRACT: 2017-000810-44. PI: Mercedes Serrano Gimaré. 02/06/2017-

Selected publications

Networks
- CIBERER: 2007
- ERN [metabERN]. European reference networks: 2017
- EUROGLYCANomics: Grupo europoeo CDG
Applied Research on Neuromuscular Disorders
Cecilia Jiménez Mallebrera, MD, PhD

This year’s highlights

We began 2019 with the award of two new grants for two projects that start off two research lines. One line, dealing with spinal muscular atrophy, is financed by the association Galicia AME for two years and its aim is to identify early biomarkers of response to treatment with antisense oligonucleotides in collaboration with Hospital de Sant Pau. The goal of the other research line is to investigate the efficiency of CRISPR/Cas genome-editing to correct dominant mutations in collagen VI genes and it is financed by CIBERER and by the association Noelia. These two grants have allowed us to contract pre-doctoral and post-doctoral personnel to carry out these projects.

Selected projects

- Application of proteomics and systems biology to the study of matrisome and miRNAs in congenital muscular dystrophies. FIS 2016. Instituto de Salud Carlos III (ISCIII). PI: Cecilia Jimenez Mallebrera. 01/01/2017-31/12/2019
- New therapeutic approach for Ullrich and Bethlem myopathies based on editing of dominant collagen VI mutations in patient fibroblasts. Obra Social Sant Joan de Déu. PI: Cecilia Jimenez Mallebrera. 08/10/2018-07/10/2021

Selected clinical trials & observational studies

- Retrospective study of the combination of pyrimidine nucleos(t)ides in patients with thymidine kinase 2 (TK2) deficiency. PI: Andres Nascimento. 02/11/2018-

Selected publications


Networks

- CIBERER
- TREAT-NMD
- EURO-NMD: European reference network for neuromuscular diseases
NEUROMETABOLIC DISORDERS AND SYNAPTIC STUDIES IN RARE NEUROGENETIC CONDITIONS
Mª Àngels García Cazorla, MD, PhD

Members
Staff researcher
Mª del Mar O’Callaghan Gordo, Jordi Muchart López, Judith Armstrong Morón, Federico Ramos, Anna López Sala
Postdoc - associate researcher
Alfonso Luís de Oyarzabal Sanz, Alejandra Darling
PhD student
Alba Tristán Noguero
Assistant researcher
Ines Fernanda Medina Ribera, Uliana Musokhranova, Natalia Alexandra Julia Palacios

Selected projects
• U-IMD. Unified European Registry for Inherited Metabolic Disorders. Third-Programme HEALTH 2017. European Commission. PI: Mª Àngels García Cazorla. 01/02/2018-31/01/2021
• Search for new therapeutic indications in the field of neurodegenerative and mitochondrial diseases for the PPAR-gamma agonist MIN-102 compound. Proyectos Retos Colaboración 2018. Ministerio de Economía Y Competitividad (MINECO). PI: Mª Àngels García Cazorla. 01/01/2018-31/01/2019
• Study of the frequency of attention difficulties in paediatric patients with epilepsy and the effect of pharmacological treatment with methylphenidate. Laboratorios Rubió. PI: Mª Àngels García Cazorla. 31/07/2017-30/07/2019

Selected clinical trials & observational studies
• Open extension study to assess the long-term safety and effectiveness of UX007 in subjects with glucose transporter type-1 deficiency syndrome (Glut1DS). Codi EUDRACT: 2015-000389-69. Promotor: Ultragenyx Pharmaceutical, Inc. PI: Mª Àngels García Cazorla. 05/06/2017-
• Randomised double-blind placebo-controlled study to investigate the effectiveness and safety of cannabidiol (GWP42003-P, CBD) as a complementary therapy in patients with tuberous sclerosis complex suffering poorly controlled epileptic seizures. Codi EUDRACT: 2015-002154-12. Promotor: GW Research. PI: Federico Ramos. 20/02/2017-
• Effect of lamotrigine on cognitive deficits associated with neurofibromatosis type 1: a random placebo-controlled phase-II study conducted at various centres (NFI-EXCEL). Codi EUDRACT: 2013-003405-26. Promotor: Erasmus MC. PI: Federico Ramos. 03/07/2017-

Selected publications

Networks
• 2007 - CIBERER
• 2017 - European Reference Network for Hereditary Metabolic Diseases (METABERN)
• 2014 - Connecting the growing brain
• 2015 - INTO – International Working Group on Neurotransmitter Related Disorders
**NEUROGENETICS AND MOLECULAR MEDICINE**
Francesc Palau Martínez, MD, PhD & Janet Hoenicka Blanco, MD, PhD

**This year’s highlights**
The Neurogenetics and Molecular Medicine (NeuroGene) research group carries out its scientific and translational work in the field of experimental biomedicine for neurogenetic and neuropsychiatric disorders, and in the clinical sphere of the Paediatric Institute for Rare Diseases (IPER). The scientific milestones reached in 2018 include, among others: (1) Description of ANKK1 as a myogenesis biomarker and its relation to Duchenne muscular dystrophy [Rubio-Solsona et al. PLoS One 2018]. (2) Relation between variants of the D3 dopamine receptor and addiction in early-onset Parkinson’s disease [Castro-Martínez et al. Parkinsonism Relat Disord 2018]. The training and dissemination activities included, among others, the coordination of the monographic issue “Science, medicine and reality of rare diseases” published by the journal ARBOR, and the work of F. Palau as editor-in-chief of the publication Orphanet Journal of Rare Diseases.

**Members**

**RESEARCH LABORATORY**
Postdoc - associate researcher
Laura Domínguez Berzosa, Lara Cantarero Abad
Assistant researcher
Montserrat Roura Llerda, Mireia Osuna López
PhD student
Azahara Civera Tregon, Elena Juárez Escoto, Abel Sola Bacaicoa
Technician
Dolors López López, Johanna Troya Balseca

**CLINICAL RESEARCH**
Staff researcher
Antonio Martinez Monseny, Mar Borregan Prats
Assistant researcher
Mercè Bolasell Girgas, Cesar Arjona Fernandez

**CLINICAL LABORATORY - GENOMICS AND HUMAN GENETICS**
Staff researcher
Loreto Martorell Sampol, Delia Yubero, Ma. Del Mar Pérez Iribarne, Isabel Plensa Nebot, Cristina Hernando Devailly
Assistant researcher
Núria Brandi, Silvia Vidal Falcó, Ainhoa Pascual Alonso
Technician
Jordi Genovís Escarré, Daniel Castillo Mestres, Paola Pacheco Fernández, Patricia Peral, Sara Manresa, Teresa Zabala, Lluïsa Ramírez, Patricia Fernández

**DANIEL BRAVO CENTER**
Bioinformatics Unit
Guerau Fernández, Jan Maynou
Confocal Microscopy Unit
Mònica Roldan Molina

**Projects**

- **Selected projects**
  - Role of ANKK1 in the genetics and pathophysiology of Parkinson’s disease. Instituto de Salud Carlos III (ISCIII). FIS. PI15/01013. PI: Janet Hoenicka. 18/04/2016-31/12/2018

**Selected publications**


**Networks**

- CIBERER, 2006
- CIBERSAM, 2007
- RD-ACTION - Data and Policies for Rare Diseases
- European Reference Network for Rare Neuromuscular Diseases (ERN-NMD)
- Orphanet-Spain
3.2. Molecular and cellular biology of developmental tumour
Coordinator: Jaume Mora Graupera, MD, PhD

- Total Members: 56
  - 5 Group leader
  - 16 Staff researcher
  - 8 Postdoc - associate researcher
  - 15 PhD student
  - 5 Assistant researcher
  - 7 Technician

- Total Projects: 24
  - 17 Competitive national project
  - 6 Competitive international project
  - 1 Non competitive

- Total Clinical Trials & Observational Studies: 55
  - 12 Phase I
  - 18 Phase II
  - 16 Phase III
  - 8 Observational study
  - 1 Food product

- Publications: 67
  - Indexed articles & reviews
  - 67 Articles & reviews with Impact Factor
    - Impact Factor: 720.999
    - % publications in the first quartile: 65.67
    - Mean impact factor: 10.7611
    - % articles with main contributing authors from area: 41.79
This year’s highlights
Notable achievements in 2018 included the following: (i) Award of the Schweisguth Prize of the International Society for Paediatric Oncology (SIOP) for our research on a new treatment with oncolytic adenoviruses in retinoblastoma. This prize was awarded to Dr. Guillem Pascual Pastó and it was presented orally at the 50th SIOP Congress (Kyoto, Japan, 16-19 November 2018). (ii) Award of a competitive project of ISCiii to continue our work on retinoblastoma (starting in January 2019). (iii) Award of a Miguel Servet Type 2 contract of ISCiii (starting in January 2019). Part of this project’s most significant scientific results were published in the journal Frontiers in Oncology (April 2018). The clinical trial FSJD-DIPG-DC completed the inclusion of patients.

Selected projects & observational studies
- FSJD-DIPG-DC. Phase I. Phase Ib clinical trial on the safety of immune therapy with autologous dendritic cells pulsed with lysate of allogenic tumour cell lines in patients with diffuse intrinsic pontine glioma (DIPG). Codi EUDRACT: 2015-003362-84. Promotor: Fundació Sant Joan de Déu. PI: Andrés Morales La Madrid. 06/06/2016 - We took part in the conception, preclinical justification and analysis of samples.

Selected publications
- In this study we proved that the release of drugs to paediatric sarcomas [rhabdomyosarcomas and Ewing’s sarcomas] can be increased, taking advantage of these tumours’ glucose avidity. If we encapsulate the drugs with glucose-coated polymers, we obtain some micelles [a type of nanoparticles] that are captured by tumours better and more quickly than non-encapsulated drugs. The publication Journal of Controlled Release is one of the most highly reputed in the field of pharmacy and pharmacology.
- This study is the first preclinical characterisation of the tissue compatibility of a new drug release system based on polymer nanofibre matrices containing a powerful anticancer drug. We proved that nanofibre matrices, placed on various healthy tissues including liver, blood vessels and nerves, produce only a mild local inflammatory reaction with no changes in the biochemical profiles relating to haematological, hepatic or renal activity. The journal Advanced Healthcare Materials is one of the most highly reputed publications in the field of biomedical engineering.

Networks
- Innovative Therapies for Children with Cancer
LEUKEMIA AND NON-MALIGNANT BLOOD DISORDERS

Mireia Camós Guijosa, MD, PhD

This year’s highlights

The Hereditary Erythropathology Unit of Hospital Sant Joan de Déu - Hospital de la Santa Creu i Sant Pau has been accredited as a CSUR (National Health System Reference Centre), which will help to strengthen our research activity in this field.

At the international meeting of the NOPHO group held in Gothenburg, Dr Montserrat Torrebadell presented the nation-wide results of the clinical trial NOPHO-DBH-AML 2012 for acute myeloid leukaemia.

At our hospital, Dr Susana Rives leads various clinical trials of cell therapy with CART19, which provide a therapeutic alternative for patients with high-risk acute lymphoblastic leukaemia.

Members

Staff researcher
Isabel Badell Serra, Rubén Berrueco Moreno, Albert Catalá Guijosa, Izaskun Elorza Álvarez, Susanna Gassiot Riu, Julia Marsal Ricoma, Susana Rives Solà, Anna Ruiz Llobert, Montserrat Torrebadell Burriel

Postdoc - associate researcher
Nerea Vega García

PhD students
Anna Alonso Saladrigues, Elena Esperanza Cebollada, Montserrat Mesegue Meda, Sandra Martin Pont, Maria Trabazo del Castillo, Susanna Gassiot

Assistant researcher
Clara Vicente García

Technician
Maria Camino Estella Aguado, Lidia Ruiz Bocanegra, Warda Suleman

Selected projects
- Pilot study of infusion of genetically modified autologous T-lymphocytes to express anti-CD19 in patients with leukaemia or lymphoma CD19+ resistant or refractory to treatment. PICI 2014. Instituto de Salud Carlos III (ISCIII). PI: Susana Rives Solà. 01/01/2015-31/12/2018

Selected clinical trials & observational studies
- Multinational phase-IV study to assess the “real life” treatment pattern in previously treated patients with haemophilia A receiving KOVALTRY (octocog alphan) for routine prophylaxis. TAUrus. Promotor: Bayer Hispania, S.L. U. PI: Ruben Berrueco Moreno. 07/03/2018-

Networks
- Innovative Therapies for Children with Cancer
- Grup clinic vinculat CIBER malaltie rares (CIBERER), Instituto de Salud Carlos III.
3.2. Molecular and cellular biology of developmental tumour

Coordinator: Jaume Mora Graupera

NEUROBLASTOMA
Carmen De Torres Gómez-Palle, MD, PhD

Members
Postdoc - associate researcher
Marta García López, Silvia Mateo Lozano, Carlos Javier Rodriguez Hernandez
PhD student
Eliana Carolina Gonçalves Alves.
Technician
Noelia Salvador Marcos

Selected projects

  PI: Carmen De Torres Gómez-Palle. 01/03/2016-29/02/2020
- NACANCELL_Development of a Nanodiagnostic platform for monitoring of Cancer cell secreted proteins. Instituto de Salud Carlos III (ISCIII) - Acciones complementarias. AC16/00026. PI: Carmen De Torres Gómez-Palle. 01/01/2017-31/12/2019
- Combined therapies for neuroblastoma based on the calcium receptor-sensor. FIS 2017. Instituto de Salud Carlos III (ISCIII). Proyectos de investigación. PI: Carmen De Torres Gómez-Palle. 01/01/2017-31/12/2020

Selected publications


Networks

- CaSR_Marie Curie International Training Network - CaSR Biomedicine_Calcium-Sensing Receptor Therapeutics for Non-Communicable Diseases.
SARCOMA AND HISTIOCYTOSIS
Jaume Mora Graupera, MD, PhD

This year’s highlights
2018 was marked by the completion of the study period on Ewing’s sarcoma financed by the cooperative group grant of AECC (5 years). It has been a key driving factor for the group in the study of the epigenetics of Ewing’s sarcoma and it should culminate in 2019 with the most ambitious publication in 5 years, which is the outcome of the work carried out during these 5 years. The continuity of the study in this field is ensured by the acquisition of the FIS project now in progress, the new interactions with outstanding groups in this field, such as the CRG group led by Luciano di Croce, and the cooperation with Angel Raya’s group of the Reparative Medicine Institute in Catalonia. 2018 was marked by the group’s international positioning with the largest number of immunotherapy clinical trials to date through the Ymabs company for the treatment of neuroblastoma patients. These studies draw patients from around the world and this has allowed us to acquire a uniquely broad experience with an immense number of patients. This number continues to grow, with all that this entails in terms of acquiring new knowledge and generating treatment protocols specific to our group.

Members
Staff researcher
Verónica Celis Passini, Moira Garraus Oneca, María Inmaculada Hernandez Muñoz
Postdoc - associate researcher
Sara Sánchez Molina
Assistant researcher
Estela Prada Varela, Alejandro Manzanares Quintela, Sara Pérez Jaume.
PhD student
Elisabet Figuerola Bou, Maria Sanchez Jimenez
Technician
Maria Jesus Nagel Moyano

Selected projects
- Search for and validation and clinical translation of new therapeutic targets based on integrative genomics and proteomics studies on Ewing’s sarcoma. Grupos estable. Modalidad B 2013. Asociación Española Contra el Cáncer. Grupos Estables Mod. B. PI: Jaume Mora Graupera. 01/10/2013-31/12/2018
- Characterisation and relevance of the epigenetic environment in the development of Ewing’s sarcoma. FIS 2016. Instituto de Salud Carlos III (ISCIII). Proyectos de investigación en salud. PI: Jaume Mora Graupera. 01/01/2017-31/12/2019

Selected clinical trials
- Y-MABS 201. Pivotal phase 2 trial of antibody naxitamab (hu3F8) and granulocyte-macrophage colony stimulating factor (GM-CSF) in high-risk neuroblastoma patients with primary refractory disease or with incomplete response to salvage treatment in bone and/or bone marrow. Codi EUDRACT: 2017-001829-40. Promotor: Y-mAbs Therapeutics A/S. PI: Jaume Mora Graupera. 05/03/2018

Selected publications

Networks
- Innovative Therapies for Children with Cancer
TRANSLATIONAL GENOMICS
Cinzia Emilia Lavarino, MD, PhD

This year’s highlights

- Prize for the best scientific publication IRSJD 2018.
- International patent [Registration no. OEPM - PCT/ES2018/070347]. Title: Method for classification of medulloblastoma in molecular subgroups.
- Implementation of the method for molecular classification of medulloblastoma in the clinical routine of our centre.
- Implementation of the Omics Design, Analysis and Interpretation (DAI-Omics) Unit in the catalogue of services of the Sant Joan de Déu Barcelona Research Institute.

Members

Staff researcher
Héctor Salvador Hernández

Postdoc - associate researcher
Soledad Gomez Gonzalez

Assistant researcher
Alba Parra Checa

PhD student
Laura García Gerique, Alicia Garrido Garcia

Technician
Isadora Lemos

Selected projects

- Method for classification in molecular subgroups of patients with medulloblastoma. FIS 2017. Instituto de Salud Carlos III [ISCIII]. Proyectos de investigación. PI: Cinzia Emilia Lavarino. 01/01/2018-31/12/2020
- Epigenetics in neuroblastoma pathogenesis: new molecular perspectives for the development of therapeutic strategies. Instituto de Salud Carlos III (ISCIII) - FIS. PI14/00038. PI: Cinzia Emilia Lavarino. 01/01/2015-31/12/2018.

Selected publications

3.3. Adult-age disorders originating in the foetal period or in the early years of life

Coordinator: Lourdes Ibáñez Toda, MD, PhD

- **TOTAL MEMBERS**
  - 4 Group leader
  - 16 Staff researcher
  - 3 Postdoc - associate researcher
  - 1 PhD student
  - 3 Assistant researcher
  - 2 Technician
  - 4 Collaborator researcher

- **TOTAL PROJECTS**
  - 22 Competitive national project
  - 2 Competitive international project
  - 11 Non competitive

- **TOTAL CLINICAL TRIALS & OBSERVATIONAL STUDIES**
  - 6 Phase III
  - 4 Observational study
  - 1 Medical product

- **PUBLICATIONS**
  - 35 Indexed articles & reviews
  - 33 Articles & reviews with Impact Factor
  - 115,854 Impact Factor
  - 45.45 % publications in the first quartile
  - 3.51 Mean impact factor
  - 90.90 % articles with main contributing authors from area
3.3. Adult-age disorders originating in the foetal period or in the early years of life
Coordinator: Lourdes Ibáñez Toda

**This year’s highlights**

In 2018 the metabolic endocrinology group has focused its research on the longitudinal prospective study of epigenetic, clinical and biochemical aspects of subjects born small for gestational age (SGA), and of adolescents with ovarian hyperandrogenism or polycystic ovary syndrome (PCOS). The longitudinal cohorts of SGA children and of adolescents with PCOS have been followed up, and new patients have been recruited, allowing us to determine the relation between liver volume and fat, and visceral adiposity in prepuberal SGA children (Malpique et al. Int J Obes 2018), and the effects of a new combination of insulin action sensitizers and an antiandrogen (SPIOMET) on Fetuin-A levels in adolescents with PCOS (Díaz-Silva M et al. Int J Endocrinol 2018).

**Members**

Staff researcher
Paula Casano Sancho, Marta Díaz Silva
Postdoc students
Rita Maria Martins de Sousa Maia Malpique, Giorgia Sebastiani
Collaborator researcher
Judith Bassols Casadevall, Francis de Zegher, Abel López Bermejo
Assistant researcher
Cristina García Beltran, Esther Lizagarra Mollinedo, Cristina Plou Pérez

**Selected projects**

- Pioglitazone+spironolactone+metformin versus oral contraception in adolescents with ovarian hyperandrogenism and hyperinsulinism. Instituto de Salud Carlos III (ISCIII). FIS 2015. PI: Lourdes Ibáñez Toda. 01/01/2016-31/12/2019
- MiRNAs and metabolic disorders of foetal origin: pathophysiological mechanisms and risk markers. Hospital Sant Joan de Dèu - Esplugues HSJD. BEQUES RECERCA 2016. PI: Lourdes Ibáñez Toda. 07/03/2017-06/03/2020

**Selected clinical trials & observational studies**

- FSJD-PIOSPIMET-2015. Random open prospective clinical trial with two groups of patients to assess the effectiveness and safety of the combination of ethinyl estradiol and levonorgestrel versus the combination of pioglitazone, spironolactone and metformin at low doses in adolescents with ovarian hyperandrogenism and hyperinsulinism: effects on ovulatory function, chronic inflammation parameters, markers of treatment evolution and effectiveness, and of development of type 2 diabetes. Codi EUDRACT: 2015-005092-24. Fundació Privada per a la Recerca i la Docència Sant Joan de Dèu - FSJD FSJD. PI: Lourdes Ibáñez Toda. 11/02/2016-

- WI191603. Treatment with recombinant growth hormone (rGH) in short patients born small-for-gestational-age (SGA) followed at Hospital Sant Joan de Dèu: Analysis of early predictors of good response useful in clinical practice. Fundació Privada per a la Recerca i la Docència Sant Joan de Dèu - FSJD FSJD. PI: Lourdes Ibáñez Toda. 14/11/2014-

**Selected publications**

- de Zegher F, López-Bermejo A and Ibañez-Toda L. Central Obesity, Faster Maturation, and ‘PCOS’ in Girls. Trends Endocrinol Metab 2018. 29(12): 816-819. FI: 10,769(Q1)
- Díaz-Silva M, García-Beltran C, López-Bermejo A, de Zegher F and Ibañez-Toda L. GLP-1 and IGF-I levels are elevated in late infancy in low birth weight infants, independently of GLP-1 receptor polymorphisms and neonatal nutrition. Int J Obes (Lond) 2018. 42(4): 915-918. FI: 5,151(Q1)

**Networks**

- CIBERDEM
3.3. Adult-age disorders originating in the foetal period or in the early years of life

Coordinator: Lourdes Ibáñez Toda

**This year’s highlights**

Three new projects subsidised by MINECO and Barcelona Magic Line were started, in addition to the publication of 5 articles in scientific journals. Likewise, one patent was granted and an application was submitted for a second patent.

**Members**

- **Staff researcher**
  Ruben Díaz Naderi, Marta Ramon Krauel
- **Postdoc students**
  Francesc Ribas Aulinas
- **PhD student**
  Montse Amat Bou
- **Collaborator researcher**
  Ivonne Palacios, Marin
- **Technician**
  Judith Cebrià Romeo

**Selected projects**

- **Encapsulated Synthetic Cellular Circuits to Restore Glycemic Control in Type 1 Diabetes**. Convocatòria de projectes sobre diabetes i obesitat. Fundació La Marató de TV3. PI: Ruben Díaz Naderi. 22/05/2017-21/05/2020.

**Selected publications**

3.3. Adult-age disorders originating in the foetal period or in the early years of life

Coordinator: Lourdes Ibáñez Toda

Selected projects

- Rare Coding Genetic Variants Associated with neonatal arterial ischemic stroke. Fundació La Marató de TV3. PI: Alfredo Garcia-Alix. 13/03/2018-11/03/2021.

Selected clinical trials & observational studies

- Effect of alopurinol on patients with hypoxic-ischaemic encephalopathy treated with hypothermia. ALBINO multicentre randomised blind placebo-controlled clinical trial. Codi EUDRACT: 2016-000222-19. Promotor: Instituto de investigación Sanitaria Hospital La Fe. PI: Marta Camprubi Camprubi. 05/05/2017-
- Evaluation of Real Time Continuous Glucose Monitoring in the very preterm infant. Codi. University of Cambridge. PI: Isabel Iglesias Platas. 04/05/2017

Selected publications

3.4. Infectious diseases and systemic inflammatory response in paediatrics

Coordinator: Carmen Muñoz-Almagro, MD, PhD

TOTAL MEMBERS
- 5 Group leader
- 11 Staff researcher
- 5 Postdoc - associate researcher
- 8 PhD student
- 4 Assistant researcher
- 3 Technician
- 5 Collaborator researcher

TOTAL PROJECTS
- 33 Competitive national project
- 3 Competitive international project
- 7 Non competitive

TOTAL CLINICAL TRIALS & OBSERVATIONAL STUDIES
- 3 Phase I
- 15 Phase II
- 13 Phase III
- 1 Phase IV
- 12 Observational study
- 1 Food product

PUBLICATIONS
- 59 Indexed articles & reviews
- 55 Articles & reviews with Impact Factor
- 361,456 Impact Factor
- 56.36 % publications in the first quartile
- 6.571 Mean impact factor
- 49.09 % articles with main contributing authors from area
VACCINE-PREVENTABLE DISEASES. DIAGNOSTIC INNOVATION TRANSVERSAL SUBLINE
Carmen Muñoz Almagro, MD, PhD

This year’s highlights
In 2018 the group continued to consolidate its research activity with 5 FIS projects on characterisation of nasopharyngeal microbiota in invasive pneumococcal disease, characterisation of nasopharyngeal microbiota in rhinovirus infection, molecular characterisation of B. pertussis, impact of adding PCV13 vaccine to the systematic calendar, and assessment of a new diagnostic algorithm for severe pneumonia in PICU. Likewise, the group has continued to cooperate with research networks of excellence of both national (CIBERESP) and European (PERTINENT, SPIDNET) scope, as well as with industry, conducting 4 validation or verification studies on new rapid diagnosis devices for infections and 5 pharmacological clinical trials. These activities have been disseminated through 12 scientific articles published in impact journals (5 of them in the first quartile).

Members
Staff researcher
Pedro Brotons de los Reyes, Juan José García García, Cristian Launes Montaña
Post-doc researchers
Cristina Esteva Afonso, Mariona Fernández de Sevilla Estrach, Natalia Timoneda Sole
PhD students
Sara Bobillo Perez, Didac Casas Alba, Desiree Henares Bonilla, Miriam Triviño Rodríguez
Assistant researcher
Selene Garcia Garcia, Susana Hernández Bou
Technician
Carles Cisneros Camps, Amaresh Pérez Argüello, Jesica Saucedo Verdes

Selected projects
- Human rhinovirus (HRV) in children under age 5 years: from the common cold to the intensive care unit - the role of microbiota.

Selected clinical trials & observational studies
- Study of influenza virus infection in children hospitalised in Spain in two consecutive flu seasons. Direct medical cost analysis. Promotor: Asociación Instituto Biodonostia. PI: Juan José García García. 10/05/2017-
- Multicentre open randomised phase-II/III study to determine the safety and effectiveness of solithromycin in adolescents (12 to 17 years of age, both inclusive) and children (> 2 months to < 12 years of age) with suspected or confirmed community-acquired bacterial pneumonia. Codi EUDRACT: 2014-004039-37. Promotor: Cempra Pharmaceuticals, Inc. PI: Juan José García García. 12/09/2016-

Selected publications

Networks
- 2016 - CIBERESP
- 2013 - SPIDNET
- 2015 - PERTINENT
This year’s highlights

In 2018, we began the study financed by the FIS grant in relation to the mitochondrial toxicity of the drugs used in the treatment of congenital CMV infection. The recruitment was slower than expected but by the end of the year we had included 8 patients. Despite the slow and laborious recruitment process, we believe that we now have a significant number of included patients and this should allow us to obtain some very interesting results. Additionally, we continued with the CCTs with antivirals for treatment of HCV and HIV infection. We also continued to cooperate with other groups on the study of patients with HIV infection, in relation to its treatment, effects, natural history, co-infections, transfer to adult units, etc.

Members

Staff researcher
Vicky Fumadó, Silvia Simó Nebot
PhD students
Anna Gamell
Ferran Bossacoma
Collaborator researcher
Emilia Sanchez

Selected projects

- Study of mitochondrial toxicity in newborns and infants with congenital cytomegalovirus infection treated with ganciclovir or valganciclovir. FIS 2017. Instituto de Salud Carlos III (ISCIII). PI: Clàudia Fortuny Guasch. 01/01/2018-31/12/2020
- Longitudinal study of mitochondrial DNA mutations in children exposed to HIV (infected and non-infected) and antiretrovirals. FIS 2013. Instituto de Salud Carlos III (ISCIII). PI: Clàudia Fortuny Guasch. 01/01/2014-30/06/2018

Selected clinical trials & observational studies

- An Open-Label, Multicenter Study to Evaluate the Pharmacokinetics, Safety, and Efficacy of Glecaprevir/Pibrentasvir in Pediatric Subjects with Genotypes 1 ? 6 Chronic Hepatitis C Virus (HCV) Infection. Codi EUDRACT: 2016-004102-34. Promotor: AbbVie Deutschland GmbH & Co. KG “AbbiVie”. PI: Clàudia Fortuny Guasch. 03/11/2017-
- Study of the safety, tolerability and pharmacokinetics of two formulations of posaconazole (POS) given intravenously (IV) and in oral suspension powder in immunodepressed paediatric patients with neutropenia. Codi EUDRACT: 2014-002807-10. Promotor: Merck, Sharp & Dohme de España, S.A. PI: Clàudia Fortuny Guasch. 07/07/2015-
- Randomised double-blind placebo-controlled clinical trial to assess the safety, tolerability, pharmacokinetics and effectiveness of a single infusion of bezlotoxumab (MK-6072, human monoclonal antibody to C. difficile toxin B) in children exposed to HIV (infected and non-infected) and antiretrovirals. FIS 2013. Instituto de Salud Carlos III (ISCIII). PI: Clàudia Fortuny Guasch. 01/01/2014-30/06/2018

Selected publications


Netwoks

- CoRISPE-cat and NENEXP Cohorts for Paediatric HIV Infection in Children and Mother-to-Child Transmitted HIV Infection in Catalunya (Spain)
- PENTA-Id Network
- CIBERESP, grupo de investigación CB15/00067
3.4. Infectious diseases and systemic inflammatory response in paediatrics

Coordinator: Carmen Muñoz-Almagro

This year’s highlights

Recruitment for the studies of isoniazid pharmacokinetics in newborns and small children continued in 2018. This recruitment is a slow and laborious process but we hope that we now have a significant number of included patients, which should allow us to obtain some very interesting results.

On the other hand, the studies are continuing on the diagnosis of tuberculosis infection in at-risk paediatric populations and on the role that may be played in this connection by the new tests for detection of Mycobacterium tuberculosis-specific gamma interferon. Lastly, the first doctoral thesis arising from the research line, on adherence to tuberculosis treatment in children and adolescents (Dr. Eva Maria Guix Comellas), was successfully defended in 2018.

Members

PhD students
Maria Goretti López Ramos, Eneritz Velasco, Joan Vinent Genestar

Selected projects

- Validation of the single daily dose of 10 mg isoniazid/kg of weight in newborns under 3 months of age. Instituto de Salud Carlos III (ISCIII). FIS 2013. PI: Antoni Noguera Julián. 01/01/2014-30/06/2018
- Phase IIA open clinical trial on absorption of a suspension of 10 mg isoniazid/ml for treatment of tuberculosis infection in patients under 6 years of age. Instituto de Salud Carlos III (ISCIII). PI CI 2014. PI: Antoni Noguera Julián. 01/01/2015-30/06/2019
- Intensification of the research activity of IRSJD-HSJD. Hospital Sant Joan de Déu - Esplugues HSJD. AJUT INTENSIFICACIÓ 2016. PI: Antoni Noguera Julián. 05/03/2018-31/12/2018

Selected publications


Networks

- PENTA Steering Committee (Paediatric European Network for the Treatment of AIDS)
- CIBER en Salud Pública (CIBERESP), Grupo de Investigación CB15/0006
- pTBnet (Red Europea para Estudio de la Tuberculosis Pediátrica)
**SYSTEMIC INFLAMMATORY RESPONSE IN PAEDIATRIC AGE**

Jordi Antón López, MD, PhD & Laia Alsina Manrique, MD, PhD

**This year’s highlights**

Our group is the leader in Spain in the study of immunodeficiencies secondary to the use of anti-TNFα monoclonal drugs during pregnancy, and in the study of primary immunodeficiencies associated with intracellular infections (such as mycobacteria and leishmanial). Likewise, a research line has been started in the growing field of primary immunodeficiencies with predominant component of immune deregulation (inflammation, lymphoproliferative disorders, autoimmunity), with particular interest in the study of cells with a regulatory function (regulatory T and B lymphocytes) and in the use of sirolimus/rapamycin in their treatment. Our group has taken part in key clinical trials on the handling of autoinflammatory disorders, juvenile idiopathic arthritis and systemic lupus erythematosus, and on the analysis of safety profiles with biological drugs. We are also a national reference centre in the study of such disorders as juvenile dermatomyositis, juvenile idiopathic arthritis-associated uveitis, and Kawasaki disease.

**Members**

PhD students
- Rosa Bou i Torrent, Àngela Deyà Martínez
- Estibaliz Iglesias Jiménez, Mónica Piquer Gibert, Ana Pilar García Garcia, Judith Sánchez Manubens

Post-doc researcher
- Ana Esteve Solé

Assistant researcher
- Violeta Bittermann, Clara Isabel Giménez Roca

Collaborator researcher
- Alexandru Vlaga, Anna Mensa Vilarró, Juan Ignacio Aróstegui Gorospe, Manel Juan Otero

**Selected projects**

- Modulating factors of primary immunodeficiency with susceptibility to severe intracellular pathogen infections in paediatric age. Instituto de Salud Carlos III (ISCIII). FIS 2015. PI: Laia Alsina Manrique de Lara. 01/01/2015-31/12/2019
- MORTBNet. Host-pathogen interactions in MultidrugResistant Tuberculosis Study of the Molecular Epidemiology, Host Immune Responses and GenomeBased Prediction and Early Identification of MDR-IB in High Tuberculosis Burden Settings. Instituto de Salud Carlos III (ISCIII). Acciones Complementarias 2016. 01/01/2017-31/12/2019

**Selected clinical trials & observational studies**

- NI-0501. Open, multi-centre pilot study with a single group to assess the safety, tolerability, pharmacokinetics and effectiveness of intravenous administration of NI-0501, an anti-interferon gamma (anti-iNFγ) monoclonal antibody, in patients with systemic-onset juvenile idiopathic arthritis (SoJIA) who develop macrophage activation syndrome/secondary HLH (MAS/HLH). Novimmune SA. Codi EUDRACT: 2016-004223-23. P.i. Jordi Antón López. 06/11/2017-

**Selected publications**


**Networks**

- 2000 - Jordi Antón member of PRINTO (Pediatric Rheumatology International Trials Organization)
- 2017 - Laia Alsina member of Comité del Registro Español de Inmunodeficiencias Primarias REDIP
3.5. Mental Health

Coordinators: Susana Ochoa Güerre, MD, PhD and Judith Usall Rodié, MD, PhD

- **TOTAL MEMBERS**
  - 6 Group leader
  - 39 Staff researcher
  - 1 Postdoc - associate researcher
  - 10 PhD student
  - 10 Assistant researcher
  - 7 Collaborator researcher

- **TOTAL PROJECTS**
  - 41 Competitive national project
  - 2 Competitive international project
  - 2 Non competitive

- **TOTAL CLINICAL TRIALS & OBSERVATIONAL STUDIES**
  - 1 Phase II
  - 1 Phase III
  - 1 Observational study

- **PUBLICATIONS**
  - 55 Indexed articles & reviews
  - 53 Articles & reviews with Impact Factor
  - 207.487 Impact Factor
  - 50.94 % publications in the first quartile
  - 33.915 Mean impact factor
  - 47.27 % articles with main contributing authors from area
This year's highlights

In the follow-up study of patients with a first psychotic episode, we have continued to work in the FIS line on traumatic and protective factors granted in 2016. In this year we obtained a PFIS grant linked to the project. A FIS grant has been obtained to assess the effect of attachment on metacognition and social cognition in patients with schizophrenia, patients with first psychotic episodes and healthy controls. Work was continued on the validation of instruments for patients with psychosis. In the field of prison mental health, this year the first thesis was presented at the PSSJD on this subject. A series of papers was published in connection with the POMONA study in the sphere of intellectual disability and mental health.

Members

Staff researcher
Hilari Andres Mora, Emma Casas Anguera, Jorge Cuevas Esteban, Gemma Escuder Romeva, Alexandra Foix Sanjuan, Marcia Irazabal Jiménez, María Trinidad Peláez Martínez, Regina Vila-Badía
Assistant researcher
Anna Butjosa Molines, Núria del Cacho Ortega

Selected projects

- Social cognition and cognitive biases in patients with first psychotic episodes in comparison to chronic schizophrenia and healthy controls. Projectes Recerca Orientats Salut Mental. Departament de Salut - Generalitat de Catalunya. PI: Susana Ochoa Güerrez. 17/02/2018-31/12/2020
- Traumatic experiences and protective factors in patients with a first psychotic episode and healthy controls. Ajuts rececera PSSJD. Parc Sanitari de Sant Joan de Déu - Serveis de Salut Mental. PI: Anna Butjosa Molines. 01/02/2018-31/01/2019
- Effectiveness of Individualised Metacognitive Training (MCT+) in patients with recent-onset psychotic disorder. Instituto de Salud Carlos III (ISCIII). PI: Susana Ochoa Güerre. 01/01/2015-31/12/2018

Selected publications

MENTAL HEALTH INTERVENTIONS
Judith Usall Rodié, MD, PhD

This year's highlights
A new paper was published on the EU m-Resist project.
The FIS Individual Metacognitive Training project on patients with a first psychotic episode was closed in 2018 and a paper on the results is being prepared for publication. We have continued to recruit patients in the SCORES study of psychological intervention to improve emotional recognition in patients with postmenopausal schizophrenia. A new paper has been published on the results of biomarkers in the clinical trial of treatment with raloxifene in patients with schizophrenia.

Members
Staff researchers
Belen Arraz Martí, Adela Berrozpe Blasco, Marta Coromina Sadurní, Ruth Cunill Clotet, Gemma Escartin Martín, Mar García Franco, Gabriel Ledesma Iparraguirre, Eva Miquel Fernandez, Elena Rubio Abadal, Luis San Molina, Sonia Vilamala Anton
PhD students
Marta Ferrer Quintero, Silvia Marcó Garcia
Assistant researcher
Raquel López Carrilero, Elia Vila Andreu

Selected projects
• Traumatic experiences and protective factors in patients with a first psychotic episode and healthy controls. Ajutsreccerca PSSJD. Parc Sanitari de Sant Joan de Déu - Serveis de Salut Mental. PI: Anna Butjosa Molines. 01/02/2018-31/01/2019
• Intestinal permeability as a cause of low-degree chronic inflammation in patients with schizophrenia: relation to diet, metabolic syndrome and severity of the illness. Proyectos de investigación. Instituto de Salud Carlos III (ISCIII). PI: Belen Arranz Martí. 01/01/2018-31/12/2020
• Legal incapacity in patients with severe mental disturbance: description of the clinical and neuropsychological profile, and development of a predictive model. OSSJD - Obra Social Sant Joan de Déu. PI: Elena Huerta Ramos. 01/01/2018-31/12/2019
• m-RESIST_Mobile Therapeutic Attention for Patients with Treatment Resistant Schizophrenia. H2020-PHC-2014-single-stage. EuropeanCommission. PI: Judith Usall Rodie. 01/01/2015-31/01/2018

Selected publications

Selected clinical trials & observational studies
• Multicentre observational study of the cost-effectiveness of long-acting antipsychotics versus oral antipsychotics in patients with schizophrenia. Promotor: Cluster de Salut Mental Catalunya. PI: Luis San Molina. 23/11/2016-
This year’s highlights

We have continued with the analyses of the data derived from earlier projects and we have written the respective articles. We have also continued to recruit patients with schizophrenia and depression for our study of auditory verbal hallucination, financed by ISCIII (file PI14/00047). Likewise, inasmuch as we have a sample of 48 healthy participants, we have written a preliminary article on the relation between the incapacity to monitor inner speech and the propensity for non-clinical auditory verbal hallucination. We have also analysed the data corresponding to the effects of depression and anxiety on verbal memory in the healthy sample and we have begun to report the results in an article.

Members

Staff researcher
Christian Núñez Leánez, Christian Stephan-Otto Attolini
This year's highlights
The “Mental disturbances in childhood and adolescence” group (CIBERSAM) has become consolidated in recent years, both in terms of research collaborations established on various levels, and in terms of project financing. On the one hand, the group cooperates in a stable manner with other groups of the CIBERSAM mental health biomedical research network, such as group 084 of the Hospital Clinic i Provincial de Barcelona (psychosis project). Additionally, a national networked research cooperation project led by the Autonomous University of Madrid has been started (autism project). It should be pointed out that, over the course of the year, we have consolidated our cooperation with international centres (MIND Institute, ISI-Global, MNC Melbourne). Likewise, public projects (FIS, MINECO projects) and European projects (European Commission) as well as private projects have been financed. Notable achievements in the past year have included the grant of two projects with participation of competitive funds: PERIS, Dr Sintes, with the collaboration of the Greta group (Group for Study and Treatment of Self-Injury) in the study of self-harming behaviour; and Dr Alda in the study of ADHD and ASD and microbiota. Also to be noted was the award of a mobility grant to Dr Dolz by the Carlos III Health Institute. The group (PI: Dr Campodon) has recently become a collaborating centre in a European Horizon 2020 project (ERC, reference: No 785994) which is conducted at ISGlobal Barcelona (PI: Dr Suryer), studying the effects of prenatal exposure to urban air pollution and pre- and postnatal cerebral development. We also participated in two clinical trials: one is a European test (reference: 2015-003503-39) addressed to assessing the effectiveness of omega-3 treatment in children at high risk for psychosis compared with omega-3 fatty acids in Europe. Codi EUDRACT: 2015-003503-39. Promotor: University Medical Center Utrecht. PI: Montserrat Dolz Abadia. 01/01/2016-30/06/2020

Members
Staff researcher
José Ángel Alda Diez, Mar Álvarez Segura, Aritz Arranbarri Paredes, Ester Campodon Rosanas, María Diez Juan, Neus Elias Carbonell, Fernando Lacasa Saludás, María Angeles Mareaña García de la Torre, Josep Lluís Matalí Costa, Daniel Muñoz Sanons, Marta Pardo Gallego, Bernardo Sánchez Fernández, Eduardo Serrano Troncoso, Anna Sintes Estevez, Esther Via Virgili, Francisco Villar Cabeza PhD student
Claudia Caprile Elola-Dlaso, Anna Huguet Miguel, Jordina Tor Fabra
Assistant researchers
Carlota Alcover Van de Walle, Marina Fabrega Ribera, Sara Parrilla Carrasco, Carlota Saumell Andreu, Ingrid Tortadés Arumi, Ania Perez Racaña
Collaborator researchers
Jordi Navarra Ordoño, Laura Puigcever Navarro

Selected projects
• Mindfulness mediante realidad virtual en niños recientemente diagnosticado de TDAH versus programa de mindfulness estándar (estudio aleatorizado). Premio AEPEHYA de Investigación. Asociación Española de Psiquiatría del Niño y el Adolescente. PI: Anna Huguet Miguel. 17/06/2017-16/06/2019
• Multicentre longitudinal study on neurobiological markers of stress in children and adolescents with psychosis- and transition to psychosis-risk syndrome. FIS. Instituto de Salud Carlos III (ISCIII). PI: Montserrat Dolz Abadia. 01/01/2016-30/06/2020

Selected clinical trials & observational studies
• A Double-blind, Randomized, Psychoactive Placebo-controlled, Study to Evaluate the Efficacy and Safety of 3 Fixed Doses [28 mg, 56 mg and 84 mg] of Intranasal Esketamine in Addition to Comprehensive Standard of Care for the Rapid Reduction of the Symptoms of Major Depressive Disorder, Including Suicidal Ideation, in Pediatric Subjects Assessed to be at Imminent Risk for Suicide. Codi EUDRACT: 2016-004422-42. Promotor: Janssen - Cilag, S.A. PI: Montserrat Dolt Abadia. 27/11/2018-
• Placebo-controlled trial in subjects at high risk for psychosis compared with omega-3 fatty acids in Europe. Codi EUDRACT: 2015-003503-39. Promotor: University Medical Center Utrecht. PI: Montserrat Dolz Abadia. 05/12/2016-

Selected publications
• CIBERSAM
This year's highlights

Last year the AGORA group obtained a predoctoral FI grant from AGAUR awarded to Laura Andrés Rodríguez [with Dr Luciano as thesis director]. Dr Feliu, together with Dr Borràs, directed the master's degree dissertation of Natalia Angarita Osorio, presented at UAB. One of the most important aspects was the start-up of the ULTREYA project (2018-2020), which seeks to assess the short- and long-term effects of the pilgrimage to Santiago de Compostela on mental health and quality of life, and to determine which personal characteristics predict a bigger change in the collected health variables. This is a prospective observational study in which participants answer an online battery of questionnaires (on anxiety, depression, psychological well-being, etc.) on beginning the pilgrimage, on ending it and 3 months after ending it. This project includes the collaboration of researchers of PSSJD [Dr Luciano and Dr Feliu], Hospital de la Santa Creu i Sant Pau [Dr Soler], University of Zaragoza [Dr García Campayo] and Sao Paulo Federal University [Dr Demarzo]. Project website: http://estudiocamino.org/

Members

Staff researcher
Antoni Rozadilla Sacanell, Lluis Torruella Barraquer

Post-doc researchers
Albert Feliu Soler

PhD students
Laura Andrés Rodríguez, Natalia Angarita Osorio, Adrián Pérez Aranda

Collaborator researcher
Jaume guado Carné, Xavier Borràs Hernández, Eugenia Cardeño sa Valera

Selected projects

- Miguel Servet Tipo I [Proyecto Asociado]
  Cost-effectiveness of a Mindfulness-Based Stress Reduction (MBSR) treatment for fibromyalgia syndrome: A 12-month randomised, controlled trial. Instituto de Salud Carlos III [ISCIII]. Miguel Servet tipo I 2014. PI: Juan Vicente Luciano Devis. 01/01/2015-30/06/2019

- Neurobiological effects of a mindfulness-based intervention (MBSR) vs. a psycho-educational intervention (FibroQol) in patients with fibromyalgia (EUDAIMON project). Instituto de Salud Carlos III [ISCIII]. FIS 2015. PI: Juan Vicente Luciano Devis. 01/01/2016-31/12/2019


Selected publications


Networks

- The following members of the AGORA group participate in the RedIAPP [ISCIII; RD16/0007/0012]: Laura Andrés Rodríguez, Albert Feliu Soler, Juan Vicente Luciano Devis, Adrián Pérez Aranda
This year’s highlights

- A FIS Health Research multi-centre project has been obtained to study gene expression regulators as biomarkers in psychoses related to cognitive functioning and neuroimaging changes. Our group is the project coordinator.
- We have continued recruitment in the project associated with the Miguel Servet contract for the study of biomarkers in recent-onset psychosis and chronic schizophrenia.
- A study of large-scale quantitative proteomics in post-mortem brain tissue has been conducted in the project associated with the Miguel Servet contract for the study of biomarkers in recent-onset psychosis and chronic schizophrenia. Collaboration with Dr Villen’s group at the University of Washington (Seattle, USA).
- A new paper has been published on the SP1 and SP4 transcription factors in relation to the improvement of symptoms in the clinical trial of treatment with raloxifene in patients with postmenopausal schizophrenia.
- A new paper has been published on 22 genes involved in inflammatory processes and immune response in post-mortem prefrontal dorsolateral cortex in geriatric patients with chronic schizophrenia in relation to microglia.
- A new doctoral student from the Neurosciences Programme of the Autonomous University of Barcelona (UAB) has been added to the group for the development of the project on detection of lipid drops in cells of the white series in psychosis as possible biomarkers. Collaboration with Dr Montserrat Torrebadall (HSJD) and Dr Enrique Claro (UAB).

Selected projects

- Effectiveness of Individualized Metacognitive Training (MCT+) in patients with recent-onset psychotic disorder. FIS. Instituto de Salud Carlos III (ISCIII). PI: Susana Ochoa Güerre. Co-PI: Belén Josemaría Ramos. 01/01/2015-31/12/2018
- Molecular alterations linked to symptoms and cognitive functioning in chronic schizophrenia and brief psychosis: Biomarkers for predicting cognitive decline and symptom progression. Beneficiario: Dra. Belén Ramos. Miguel Servet I. Instituto de Salud Carlos III (ISCIII). PI: Belén Ramos Josemaría. 01/01/2017-31/12/2021
- Molecular alterations linked to symptoms and cognitive functioning in chronic schizophrenia and brief psychosis: Biomarkers for predicting cognitive decline and symptom progression. Miguel Servet I (Proyecto). Instituto de Salud Carlos III (ISCIII). PI: Belen Ramos Josemaria. 01/01/2017-31/12/2019

Selected publications


Networks

- 2017 SGR 964, Grup de Recerca en transtorns mentals greus Generalitat de Catalunya.
- AGAUR programa for recognized research groups. Judith Usall i Rodié. (FUNDACIO PER A LA RECERCA I LA DOCENCIA SANT JOAN DE DEU (FSJD)). 01/01/2018-31/12/2020. 35.200 €. Miembro de equipo.
3.6. Foetal / Paediatric Diseases and environment, metabolic and genetic factors

Coordinator: Maria Dolores Gómez-Roig, MD, PhD

- **TOTAL MEMBERS**
  - 5 Group leader
  - 24 Staff researcher
  - 2 PhD student
  - 14 Assistant researcher
  - 1 Collaborator researcher

- **TOTAL PROJECTS**
  - 11 Competitive national project
  - 2 Competitive international project
  - 1 Non competitive

- **TOTAL CLINICAL TRIALS & OBSERVATIONAL STUDIES**
  - 3 Phase III
  - 1 Phase IV
  - 1 Observational studies

- **PUBLICATIONS**
  - 55 Indexed articles & reviews
  - 46 Articles & reviews with Impact Factor
  - 160.699 Impact Factor
  - 43.47 % publications in the first quartile
  - 3.693 Mean impact factor
  - 84.78 % articles with main contributing authors from area
PAEDIATRIC INTENSIVE CARE UNIT RESEARCH PROJECT GROUP

Francisco José Cambra Lasaosa, MD, PhD

Members
Staff researchers
Mónica Balaguer Gargallo, Elisabeth Esteban Torne, Iolanda Jordán García, Martí Pons Òdena
Assistant researcher
Carme Alejandre Galobardes, Sergio Benito Fernández, Patricia Corniero Alonso, Aida Felipe Villalobos, Elena Fresán Ruiz, Lluïsa Hernandez Platero, Nuria Millán García del Real, Susana Segura Matute, Marta Serradell Orea, David Vila Pérez
Collaborator researcher
Montserrat Esquerda Areste

Selected projects
- Analysis of a diagnostic algorithm for severe pneumonia in critically ill paediatric patients, using pulmonary ultrasound and procalcitonin, as a plan to improve healthcare quality. FIS 2016. Instituto de Salud Carlos III (ISCIII). Proyectos de investigación en salud. PI: Iolanda Jordán García. 01/01/2017-31/12/2019

Selected publications

Networks
- Multicenter study: prophylaxis against thrombosis practice (PROTRACT).
- Groupe français respiratoire GFRUP
- PALICC (Pediatric Acute Lung Injury Consensus Conference)
- Respiratory group of ESPNIC society
This year’s highlights

- Drafting and updating of the hospital’s new plan for catastrophes and multiple-victim incidents.

Members

Staff researchers
Andrea Aldemira Liz, Vanessa Arias Constantí, Gemma Claret Teruel, Ana Isabel Curcoy Barcenilla, Eva Gargallo Burriel, Lidia Martínez Sánchez, Sergi Navarro Vilarrubi, Cristina Parra Cotanda, Marta Simó Nebot, Victoria Trenchs Sainz de la Maza

Assistant researcher
David Muñoz Santanach

Selected publications


Netwoks

- Research in pediatric emergency medicine (REPEM) network (The European Paediatric Emergency Medicine Research Network. Pediatric Section of the European Society for Emergency Medicine)
- Red De Investigación De La Sociedad Española De Urgencias De Pediatría / Spanish Pediatric Emergency Research Group (RISeuP/SPERG), 2012
- Red de investigación y desarrollo de la emergencia pediátrica latinoamericana (RIDEPLA)
FOetal / Paediatric Diseases and environment, metabolic and genetic factors
Coordinator: Maria Dolores Gómez-Roig

3.6. This year’s highlights
Our goal is to characterise the effect of exposure during pregnancy to all these substances in order to expand our knowledge about them and to be able to predict pregnancy complications relating to environmental factors such as growth restriction.

In 2018:
(1) We published an article evidencing the serious problem of alcohol consumption during pregnancy. During the course of this study, the presence of EtG (an alcohol metabolite) was detected in the hair of a large number of pregnant women. For this reason, in 2018 we began an intervention study to reduce alcohol consumption in pregnant women.
(2) We also began a study called BiSC (Barcelona Life Study Cohort), the purpose of which is to understand the effect of air pollution on the placental function, foetal growth, and cardiovascular and cerebral development of the foetus. This is a cooperative project of ISGlobal (Barcelona Institute for Global Health), BCNatal (Hospital Sant Joan de Déu and Hospital Clínic i Provincial de Barcelona) and the Hospital de la Santa Creu i Sant Pau. At present the group is in the process of recruiting 600 volunteers who live in Barcelona and who are in their first three months of pregnancy.

Our group seeks to study the influence of the environment on obstetric complications and to decrease their effects in the prenatal and postnatal periods of newborns.

Members
Staff researchers
Sergio Cabré Gili, Silvia-Irena Ferrero Martínez, Miriam Pérez Cruz, Joan Sabrià Bach, María José Tojo Grandio, Edurne Mazarico, Patricia Pagès
PhD students
Edda Marimon García, Isabel Miró Sotelo
Assistant researcher
Laura Almeida Toledano, Erica Muñoz Sanz, Estela Rodríguez Quintero
Technician
Daniel Cuadras Palleja

Selected projects
• Study on the conditions of use of Cariban® and other anti-emetics in the treatment of nausea and vomiting in pregnancy: longitudinal observational prospective study. Proyectos de investigación. Proyectos de investigación en salud. Instituto de Salud Carlos III [ISCIII]. PI: María Dolores Gómez Roig. 01/01/2018-31/12/2020
• Traffic-related air pollution and birth weight: the roles of noise, placental function, green space, diet, physical activity, and socioeconomic status [FRONTIER]. RFA 17-1: Assessing adverse health effects of exposure to traffic-related air pollution, noise, and their interactions with socio-economic status. Health Effects Institute (HEI). PFIS. PI: Maria Dolores Gómez Roig. 01/06/2018-31/02/2019

Selected clinical trials & observational studies
• Study on the conditions of use of Cariban® and other anti-emetics in the treatment of nausea and vomiting in pregnancy: prospective observational longitudinal study. Promotor: Laboratorios Inibsa, S.A. PI: Jose María Boquía Ponsa. 02/06/2016
• Treatment of early onset foetal growth restriction with low molecular weight heparin: randomised clinical trial (TRACIP). Codi EUDRACT: 2017-001905-33. Promotor: Fundación Privada per a la Recerca i la Docència Sant Joan de Déu - FSJD FSJD. PI: Edurne Mazarico Gallego. 02/11/2017-

Selected publications
• Sabra S, Malmqvist E, Almeida-Toledano L, Gratacós E and Gómez-Roig MD. Differential correlations between maternal hair levels of tobacco and alcohol with fetal growth restriction clinical subtypes. Alcohol 2018. 70: 43-49. FI: 2,425(Q3)
• Gómez-Roig MD, Marchei E, Sabra S, Busardó FP, Mastrobattista L, Ichini S and Gratacós E. Maternal hair testing to disclose self-misreporting in drinking and smoking behaviour during pregnancy. Alcohol 2018. 67: 1-6. FI: 2,425(Q3)

Networks
• 2009 - Red SAMID-RETIC
• 2013 - BCNatal
3.6. Foetal / Paediatric Diseases and environment, metabolic and genetic factors

Coordinator: María Dolores Gómez-Roig

Selected projects

- Usefulness of integrated neuromonitoring as a predictor of neurodevelopment in patients subjected to heart surgery in paediatric age: from the clinic to the paediatric animal model. Proyectos de investigación en salud. Instituto de Salud Carlos III (ISCIII). PI: Joan Sanchez de Toledo. 01/01/2018-31/12/2020

Selected publications

- Bautista Rodríguez C, Sanchez-de-Toledo J and Da Cruz EM. The Role of Echocardiography in Neonates and Pediatric Patients on Extracorporeal Membrane Oxygenation. Front Pediatr 2018. 6: 297-297. FI: 2,335(Q2)
3.6. Foetal / Paediatric Diseases and environment, metabolic and genetic factors
Coordinator: Maria Dolores Gómez-Roig

Members
Staff researchers
Esperanza Carro Fernández, Sergio César Díaz, Isaac Moll Adrian

Selected projects
- Phase II predictors of arrhythmias and sudden death in paediatric patients with laminopathy. Fundación Andrés Marcio, niños contra la Laminopatia. PI: Georgia Sarquella Brugada. 01/02/2017-31/01/2020
- SGR 2017_Paediatric arrhythmias, familial heart diseases, cardiovascular genetics and sudden death (SAMS). SGR 2017-2019. Agaur - Agència de Gestió d’Ajuts Universitaris i de Recerca. PI: Georgia Sarquella Brugada. 01/01/2017-31/12/2020
- GUARD-HEART: Gateway to Uncommon And Rare Diseases of the HEART. Third-Programme HEALTH-ERN-01-2016: ERN-2016 – European Reference Networks. European Commission. PI: Georgia Sarquella Brugada. 01/03/2017-28/02/2019

Selected clinical trials & observational studies
- Open phase IV multicentre study to assess the diagnostic effectiveness of Nuubo nECGband prior to Holter monitor implantation. EUDRACT: N/A. Promoter: Smart Solutions Tecnologies S.L. PI: Georgia Sarquella Brugada. 11/03/2015-

Selected publications
4 CROSS-SECTIONAL AREAS

4.1. Genetics, molecular biology and gene therapy
4.2. Neuropsychology, cognitive and development neuroscience
4.3. Biomedical engineering
4.4. Epidemiology
4.1. Genetics, molecular biology and gene therapy

Coordinator: Marçal Pastor-Anglada, PhD

- **Total Members**: 66
  - 6 Group leader
  - 14 Staff researcher
  - 17 Postdoc - associate researcher
  - 25 PhD student
  - 4 Technician

- **Total Projects**: 56
  - 30 Competitive national project
  - 4 Competitive international project
  - 22 Non competitive

- **Publications**: 44
  - Indexed articles & reviews
  - 42 Articles & reviews with Impact Factor
  - 298.797 Impact Factor
  - 83.33% publications in the first quartile
  - 7.114 Mean impact factor
  - 52.27% articles with main contributing authors from area
MOLECULAR BIOLOGY AND GENE REGULATION OF ADIPOSE TISSUE AND ITS PATHOLOGIES
Francesc Villarroya Gombau, PhD

4 CROSS-SECTIONAL AREAS

4.1. Genetics, molecular biology and gene therapy
Coordinator: Marçal Pastor-Anglada

Selected projects

Selected publications

Networks
- CIBEROBN [Fisiopatología de la obesidad y nutrición]
- ADIPOPLAST - RED temática de excelencia [Red de investigación sobre plasticidad adiposa y su impacto fisiopatológico]
HUMAN MOLECULAR GENETICS I
Daniel Raul Grinberg Vaisman, PhD

This year’s highlights
In 2018 we described new genes and mutations responsible for intellectual disability in patients originally diagnosed with Opitz C or Bohring-Opitz syndrome (FOX1, ASXL1, PIGT, DPH1, MAGEL2 and others). We analysed the role of the WNT16, DKK1 and SOST genes and of miRNAs in relation to osteoporosis. We have also participated in a multi-centre study on the determinants of osteoporotic fractures and we conducted functional studies on the GPP51 gene in relation to atypical femoral fractures. In the field of lysosomal disorders, we continued our studies on therapeutic approaches in neurons derived from iPS cells for Sanfilippo C syndrome and in the Niemann-Pick C murine model. In the field of neurogenetics, we identified genes involved in various neurological and psychiatric disorders (autism, migraine, aggressiveness, ADHD) and we investigated the shared inheritability between 25 brain disorders. We also proved the importance of paternally inherited regulatory genetic variants in autism. Dr R. Corominas joined this line of research this year. Her work is notable in such fields as 7q11.23 aneuploidies and autism.

Members
Staff researcher
Susana Balcells Comas, Bru Cormand Rifà, Roser Corominas Cañada, Lluís Vilageliu Arqués
Postdoc - associate researcher
PhD student
Ester Antón Galindo, Noelia Benetó Gandia, Laura Castilla Vallmanya, Núria Martínez Gil, Laura Pineda Cirera, Neus Roca Ayats, Anu Shivalikanjli
Technician
Mónica Cozar Morillo

Selected publications
- Cabana-Domínguez J, Arenas C, Cormand B and Fernandez-Castillo N. MiR-9, MiR-153 and MiR-124 are down-regulated by acute exposure to cocaine in a dopaminergic cell model and may contribute to cocaine dependence. Transl Psychiatry 2018. 8(1): 173-173. FI: 4,691(Q1)

Networks
- GEFO/GENOMOS (international consortium for the study of the genetic bases of osteoporosis), 2002.
- IHGC (International Headache Genetics Consortium), 2006.
- ECNP (European College of Neuropsychopharmacology) Network: ADHD across the lifespan, 2015.
This year's highlights

The research of our group, UB CIBERER U-718, is focused on identifying new genes causing hereditary retinal dystrophy, and on characterising their function. It should be pointed out that the composition of the group changed greatly in 2018. The group's senior leader is Dr. Marfany, and one CIBERER postdoctoral researcher and three predoctoral researchers in different stages of their doctoral theses have joined us. In 2018 we formed a spin-off, DBGen Ocular Genomics, to offer genetic diagnosis to families affected by hereditary retinal disorders. In the research field, the group has developed new gene analysis tools: 1) cellular tools (primary cultures of retinal and hippocampus neurons), 2) organoids (retinal cultures, generation of optical cups from patient-derived hiPSC cells), and 3) animal cells (zebrafish, knockout mice generated by cre/loxP recombination, and mice models generated using CRISPR gene editing). In short, 2018 was a year of change, consolidation and growth.

Members

Postdoc - associate researcher
Serena Mirra
PhD student
Izarbe Aisa Marín, Elena Borrego Domènech, Vasileios Toulis

Selected projects

- PROJECTE 201417-30-31-32. Dissecting protein trafficking in retinal neurodegeneration by super-resolution imaging on animal models and human iPSCs. LA MARATÓ 2013. Fundació de La Marató TV3. PI: Roser Gonzalez Duarte & Gemma Marfany. 2015-2018

Selected publications


Networks

- CIBERER - UNITAT 718 (Centro de Investigación Biomédica en Red-Enfermedades Raras)
- COST ACTION BM1307 - PROTEOSTASIS (Member of the Core Management Group) 2013-2018
4.1. Genetics, molecular biology and gene therapy
Coordinator: Marçal Pastor-Anglada

Members
Staff researcher
Sandra Perez-Torras, Nerea Urtasun Plans
PhD student
Hamsa Banjer, Clara Boces Pascual, Olga Casulleras-Gras, Liska Caviedes Cárdenas, Aida Mata Ventosa, Sandra Moro-Villa, Catalina Perelló Reus, Eduard Manel Mas Marin

Selected projects

Selected publications
- Pastor-Anglada M and Perez-Torras S. Emerging Roles of Nucleoside Transporters. FRONT PHARMACOL 2018. 9: 606-606. FI: 3,831(Q1)

Networks
- CIBER-EHD
In our group we made two notable findings in 2018. On the one hand, we advanced in the study of the PPAR (peroxisome proliferator-activated receptor) β/δ nuclear receptor in the regulation of non-alcoholic fatty liver development and, more specifically, of how this receptor modulates the VLDL and FGF21 (fibroblast growth factor 21) receptor levels in the development of this disorder. Additionally, we also proved how the BACE1 (β-secretase/β-site amyloid precursor protein (APP)-cleaving enzyme 1) enzyme and the product of its activity, soluble APPβ (sAPPβ), take part in the occurrence of endoplasmic reticulum stress, inflammation, and insulin resistance induced by lipids in skeletal muscle.

Members
Staff researcher
F. Xavier Palomer Tarridas
Postdoc - associate researcher
Emma Barroso Fernández, Gaia Botteri, Marta Montori Grau, Lucia Peña Moreno, Javier Pizarro Delgado
PhD student
Mohammad Zarei

Selected projects
• Diabetic cardiomyopathy: searching for a therapeutic target. Fundació La Marató de TV3 - Ajuts econòmics a projectes de recerca de la Fundació Marató de TV3. 20154230. PI: Manuel Vazquez Carrera. 2016-2018

Selected publications
• Palomer FX, Pizarro J, Barroso E and Vazquez M. Palmitic and Oleic Acid: The Yin and Yang of Fatty Acids in Type 2 Diabetes Mellitus. Trends Endocrinol Metab 2018. 29(3): 178-190. FI: 10,769(Q1)

Networks
• 2007 CIBERDEM
4 CROSS-SECTIONAL AREAS

4.1. Genetics, molecular biology and gene therapy
Coordinator: Marçal Pastor-Anglada

This year’s highlights
In the context of the research line focused to the study of membranes vesicles (MVs) secreted by gut microbiota and probiotics we have contributed to prove the role of these MVs in the immune priming mediated by gut microbiota. Activation of the cytosolic immune receptor NOD-1 by internalized microbiota MVs in intestinal epithelial cells leads to controlled inflammatory responses that contribute to the training of immune system. This is an essential mechanism to trigger appropriate immune responses against invading microbes to assist pathogen eradication and host survival. In addition, we have provided new insights on the role of microbiota MVs and secreted factors on the modulation of intestinal tight junctions, expanding their barrier-protective effects against pathogen-induced disruption.

Members
Staff researcher
Josefa Badia Palacin, Rosa Giménez Claudio
Postdoc - associate researcher
Rodrigo Vera García
PhD student
Mª Alexandra Cañas Pacheco, Natalia Díaz Garrido, Mª José Fábrega Fernández

MICROBIOTA INTESTINAL
Laura Baldomà Llavinés, PhD

Selected projects
- Cooperation agreement for the performance of the research project “Study for the regulation of the NHD gene in Escherichia coli”. Universidad Nacional de Tucumán - Sense. PI: Laura Baldoma Llavines. 2009-2018

Selected publications
4.2. Neuropsychology, cognitive and development neuroscience

Coordinator: Carles Escera Micó, PhD

- **TOTAL MEMBERS**
  - 3 Group leader
  - 12 Staff researcher
  - 13 PhD student
  - 1 Assistant researcher
  - 1 Technician
  - 2 Collaborator researcher

- **TOTAL PROJECTS**
  - 14 Competitive national project
  - 1 Competitive international project
  - 5 Non competitive

- **PUBLICATIONS**
  - 11 Indexed articles & reviews
  - 10 Articles & reviews with Impact Factor
  - **40.533** Impact Factor
  - 70 % publications in the first quartile
  - **4.053** Mean impact factor
  - **54.55** % articles with main contributing authors from area
NEUROPSYCHOLOGY
Maria Mataró Serra, PhD

This year’s highlights
The group published 3 articles in impact journals, read 2 theses with international mention, and has 7 competitive projects.

Members
Staff researcher
Xavier Caldú Ferrús, Maria Angeles Jurado Luque, Roser Pueyo Benito
PhD student
Júlia Ballester Plané, Montse Blasco Sierra, Alba Castells Sánchez, María García Galant, Noemí Lamonja Vicente, Olga Laporta Hoyos, Sandra Luís Ruiz, Jonatan Ottino González, Xavier Prats Soteras
Collaborator researcher
Cristina Sánchez Castañeda

Selected projects
• Effects of combined therapies including exercise, mindfulness and cognitive stimulation on cognition and neuroplasticity in patients with chronic ischaemic stroke. Ajuts econòmics a projectes de recerca de la Fundació Marató de TV3. PI: Maria Mataro Serrat. 2018-2020
• Virtual training raising citizens’ awareness about sleep and healthy living’ (SweetDreams). KIC Health. 2018. Unió Europea. PI: Maria Mataro Serrat. 2018

Selected publications
This year’s highlights

In 2018, our research group continued with its activity in the study of brain mechanisms of auditory perception, in both the healthy population and in ageing population, especially promoting the research line addressed to identifying biomarkers for neurocognitive development in newborns. The most notable activities during this period were the holding of the 8th Mismatch Negativity Conference “MMN from basic science to clinical applications”, in Helsinki (Finland) in June 2018; the guest lecture held at the University of Toronto (Canada) “Neurocognitive mechanisms in audition as revealed with the frequency-following response”; and the leading of two work packs (RL2-Psychoacoustics and RL3-Neuroscience) in the project “ARTSOUNDSCAPES - The sound of special places: exploring rock art soundscapes and the sacred” financed with an advanced grant from the European Research Council (ERC; EC grant agreement number 787842).

Members

Staff researcher
Imma Clemente Lapena, María José Corral López, Jordi Costa Faidella, Maribel Nunez Peña, Iria San Miguel Insúa, Hans Supèr, Marc Via Garcia

PhD student
Natàlia Gorina, Alejandro Lerer, Teresa Ribas Prats.

Technician
Sonia Arenillas
4.2. Neuropsychology, cognitive and development neuroscience

Coordinator: Carles Escera Micó

Members

Staff researcher
Ferran Pons Gimeno, Marta Ramon Casas
PhD student
Joan Birulés Muntané
Assistant researcher
Jessica Sánchez-Galán
Collaborator researcher
Horgina Solé Montoliu

SELECTED PROJECTS

• Collaboration agreement for research on language acquisition in multilingual children under 18 years of age. St. Peter’s School. PI: Ferran Pons Gimeno. 2017-2018
• Collaboration agreement for research on cognition and speech perception in children. Fundació Privada Betània-Patmos. PI: Ferran Pons Gimeno. 2017-2018

SELECTED PUBLICATIONS

4.3. Biomedical engineering
Coordinator: Pere Caminal Magrans, PhD

- **TOTAL MEMBERS**: 75
  - 8 Group leader
  - 45 Staff researcher
  - 3 Postdoc - associate researcher
  - 14 PhD student
  - 5 Technician
  - 3 Collaborator researcher

- **TOTAL PROJECTS**: 73
  - 38 Competitive national project
  - 10 Competitive international project
  - 25 Non competitive

- **PUBLICATIONS**: 25
  - Indexed articles & reviews
  - 100.879 Impact Factor
  - 60.86 % publications in the first quartile
  - 4.39 Mean impact factor
  - 65.22 % articles with main contributing authors from area
BIOINFORMATICS AND DATA ANALYSIS PLATFORM
Pere Caminal Magrans, PhD & Alexandre Perera Lluna, PhD

Members
Staff researcher
Raul Benitez Iglesias, Jesus Escriva Munoz, Giovana Elizabeth Gavidia Bovedilla, Pedro Gomis Román, Alexander Vallmitjana Lees, Montserrat Vallverdú Ferrer
PhD student
Xavier Marimon Serra, Sergi Picart Armada
Technician
Maria Maqueda

Selected projects
- Online platform for Classification of Samples of medulloblastoma. Hospital Sant Joan de Déu. PI: Alexandre Perera Lluna. 2018-2019

Selected publications
4.3. Biomedical engineering

Coordinator: Pere Caminal Magrans

Members
Staff researcher
Dolors Ayala Vallespí, Jose Luis Eguía Gómez, Robert Joan Arinyó, Núria Pla García, Lluís Solano Albages, Marc Vigo Anglada
PhD student
Núria Bonet Codina, Ariel von Barnekow

Selected projects
- BEST: Bienestar y Salud mental en el puesto de trabajo. Institut de Recerca Sant Joan de Déu. PI: Dani Tost. 2018-2019
BIOMATERIALS AND TISSUE ENGINEERING

Maria Pau Ginebra Molins, PhD

Members
Staff researcher
Albert Barba Serrahima, Cristina Canal Barnils, Montserrat Español Pons, Francesc Xavier Gil Mur, Jordi Guillem Martí, Mireia Hoyos Nogués, Jose María Manero Planella, Carles Mas Moruno, Marta Pegueroles Neyera, Daniel Rodríguez Rius, Joanna Maria Sadowska, Elia Vidal Girona
Postdoc - associate researcher
Juan Tornín
PhD student
Mar Bonany, Inès Hamouda, Joanna Konka, Miguel Mateu, Joaquim Minguela, Luis Oliver, Santiago Raymond, Diego Torres
Technician
Meritxell Moltmeneu Trias, Mònica Ortiz Hernández, Miquel Punset Fusté

Selected projects
- EQC2018-004902-P. Characterisation system of the mechanical response of advanced materials to multidimensional scales. AEI. PI: Lluis Llanes, Maria Pau Ginebra. 2018-2019
- Cátedra AMES-UPC. AMES: PI: José María Manero. 2018-2019
- In-vitro biological assessment of coatings by means of in-vitro biological tests. AIN: Asociación de la Industria Navarra. PI: José María Manero. 2018-2019
- Preparation, texturising, functionalising and characterisation of polypropylene (PP) discs, and posterior surface characterisation by Raman spectroscopy of discs cultured in the presence of human fibroblasts in order to analyse the extracellular matrix which they deposit, for the VHRI General Surgery Research Group. VHRI: Fundació Hospital Universitari Vall Hebron - Institut de Recerca. PI: José María Manero. 2018-2019

Selected publications

Networks
4 CROSS-SECTIONAL AREAS

4.3. Biomedical engineering
Coordinator: Pere Caminal Magrans

Selected projects

Selected publications
INSTRUMENTATION AND BIOENGINEERING
Xavier Rosell Ferrer, PhD

Members
Staff researcher
Ramon Bragós Badia, Mireya Fernández Chimeno, Miguel Angel García Gonzalez, Miguel J García Hernández, Tomás García Sánchez, Lexa Nescolarde Selva, Juan Ramos Castro, Pere Joan Riu Costa

Selected projects
- A novel myocardial impedance mapping system for ablation of post infarction ventricular arrhythmias in humans. Fundació La Marató de TV3. MARATO 20150830. PI: Xavier Rosell. 2016-2018
- Translational development of a new system for mapping electric impedance of the myocardium for the catheter ablation of ventricular arrhythmias in myocardial infarction patients. Instituto de Salud Carlos III. 2015. DTS15/00099. PI: Xavier Rosell. 2016-2018
- RWECS. IAAF. PI: Xavier Rosell. 2016-2018
ROBOTICS AND VISION

Alicia Casals Gelpí, PhD

Members

Staff researcher
Joan Aranda López, Josep Fernández Ruzafa, Manel Frigola Bourlon, Enric Xavier Martín Rull, Antonio Benito Martínez Velasco

Postdoc - associate researcher
Albert Hernansanz Prats
PhD student
Narcís Sayols Baixeras

Collaborator researcher
Antonio Benedico Blanes, Carlos Morat, Laureano Tinoco

Selected projects

- Development of a physical simulation platform for training in selective biopsy of sentinel lymph node. PI: Alicia Casals Gelpi, Albert hernansanz. 2018

Selected publications


Networks

- 2015 - Clúster de Salut Mental de Catalunya
4.3. Biomedical engineering
Coordinator: Pere Caminal Magrans

**Selected projects**

**Networks**
- 2000 - EURADOS, European Radiation Dosimetry Group, www.eurados.org - Voting Member i Investigadors WG12 medical imaging
- SGR 2014, SGR 2017 Dosimetria i Radiofísica mèdica
4 CROSS-SECTIONAL AREAS

4.3 Biomedical engineering

Coordinator: Pere Caminal Magrans

Members
Staff researcher
Ana Barjau Condomines, Daniel Clos Costa, Rosa Pàmies Vilà, Gil Serrancolí Masferrer
PhD student
Miria Febrer Nafría

Selected projects
- CI17-00009. ABLE: Assistive Biorobotic Low-cost Exoskeleton. Fundació La Caixa. PI: Josep Maria Font. 2018
- Personalized robotic exoskeleton for gait rehabilitation. Fundació BBVA. PI: Josep Maria Font. 2018-2019
- DPI2017-90572-REDT. Red Nacional de Investigación en Biomecánica. MINECO. PI: Josep Maria Font. 2017-2019

Networks
- JM Font - Member of the Technical Committee for Multibody Dynamics, International Federation for the Promotion of Mechanism and Machine Science, IFToMM
- JM Font - Vice-President of the Spanish Chapter of the European Society of Biomechanics, ESB
- JM Font - PI of the Spanish Network of Biomechanics, Ministry of Economy and Competitiveness, Spain
- JM Font - Member of the European Society of Biomechanics, ESB
4.4. Epidemiology
Coordinator: Josep Maria Haro Abad, MD, PhD

- **TOTAL MEMBERS**
  - 31
  - 3 Group leader
  - 10 Staff researcher
  - 3 Postdoc - associate researcher
  - 2 PhD student
  - 13 Assistant researcher
  - 9 Collaborator researcher

- **TOTAL PROJECTS**
  - 36
  - 30 Competitive national project
  - 5 Competitive international project
  - 1 Non competitive

- **TOTAL CLINICAL TRIALS & OBSERVATIONAL STUDIES**
  - 3
  - 3 Observational study

- **PUBLICATIONS**
  - 116 Indexed articles & reviews
  - 113 Articles & reviews with Impact Factor
  - 461.028 Impact Factor
  - 59.29 % publications in the first quartile
  - 4.080 Mean impact factor
  - 49.14 % articles with main contributing authors from area
EPIDEMIOLOGY OF AGING: FACTORS ASSOCIATED WITH HEALTHY AGING
Josep Maria Haro Abad, MD, PhD

Members
Staff researcher
Andra de la Garza Puentes, Albert Sánchez Niubó, Sara Siddi
Assistant researcher

Selected projects
- MULTI-MODE III. EIT HEALTH. European Commission. PI: Josep Maria Haro. 01/01/2018-31/12/2018
- Research on mental disturbances in the immigrant and refugee population: prevalence, associated factors and received treatment. Convocatoria FAMI. Ministerio de Trabajo, Migraciones y Seguridad Social. PI: Josep Maria Haro. 01/01/2018-31/12/2018

Selected publications

 Networks
- CIBERSAM
- European Innovation Partnership on Active and Healthy Ageing (the Partnership)
4.4. Epidemiology
Coordinator: Josep Maria Haro Abad

Members
Postdoc - associate researcher
Beatriz Olaya Guzmán
Assistant researcher
Daniel Fernández Martínez,
Maria Victoria Moneta

Selected projects
• Sara Borrell_Beneficiari: Hans Oh. Instituto de Salud Carlos III (ISCIII). PI: Ai Koyanagi. 01/01/2018-31/12/2020
• Rio Hortega_Beneficiari: Núria del Cacho. Instituto de Salud Carlos III (ISCIII). PI: Ai Koyanagi. 15/01/2018-02/07/2018
• PFP00133 - Incorporació de científics i tecnòlegs. Departament de Salut - Generalitat de Catalunya. PI: Ai Koyanagi. 17/02/2018-31/12/2020

Selected publications
• DeVylder JE, Kelleher I, Lalane M, Oh H, Link BG and Koyanagi A. Association of Urbanicity With Psychosis in Low- and Middle-Income Countries. JAMA Psychiatry 2018. 75(7): 678-686. FI: 16,642(Q1)
• DeVylder JE and Koyanagi A. Evaluating the Clinical Relevance of Psychotic Experiences in Low- and Middle-Income Countries. Schizophr Bull 2018. 44(6): 1167-1169. FI: 6,944(Q1)

Networks
• CIBERSAM
This year’s highlights
The set of projects on initial medication non-adherence received three distinctions: the prize for the best article on health economy in Spain from the Health Economy Association; the ASISA research grant to expand the study in the paediatric population; and the CAMFIC grant to study initial non-adherence to cardiovascular treatment. The group—together with CIBERESP’s GenRisk consortium—also obtained a research grant from the Spanish Association against Cancer for the study of genetic and metabolic screening to prevent colon cancer. We continued to carry out territorial diagnoses of health services and risk factors in various areas of Barcelona province through Barcelona Provincial Council. We held the 12th edition of the Economic Assessment and Community Healthcare Policy Course, likewise participating in the courses of the School of Public Health in Mahon.

Members
Staff Researcher
Luisa Baldon Higuera, Vanessa Barneda, Laura González Suñer, Maria Iglesias Gonzalez, Cristina López Ortiz, Maria Rubio Valera, Enric Vicens Pons
Postdoc - associate researcher
Ignacio Aznar Lou, Elisabeth Parody Rua
PhD student
Gabriela Murugarra Centurión, Carles Vilaplana Carnerero
Assistant researcher
Montserrat Gil Girbau
Collaborator researcher
Ana Fernández Sánchez, Ana Maria Jove Masso, Martin Knapp, Maria Antonia March Pujol, Paul McCrone, Juan Manuel Mendive Arbeloa, Maria Teresa Peñarrubia María, Ramon Sabes Figuera, Luis Salvador Carulla

Selected projects
• Modelling of the complex intervention “Initial Medication Adherence” (IMA) in primary care: Non-Adherence phase-I study. Ajuts reccerca PSSJD. Parc Sanitari de Sant Joan de Déu - Serveis de Salut Mental. Pi: Maria Rubio Valera. 01/02/2018-31/01/2019
• Prevalence and impact of initial non-adherence to pharmacological treatment in the paediatric population: paediatric initial treatment non-adherence study. Proyectos de Investigación en Salud. Proyectos de Investigación en Salud. Pi: Maria Rubio Valera. 01/12/2018-30/11/2019
• Genetic and metabolomics screening towards the precision medicine in cancer prevention. Grupos Coordinados Traslacionales. Fundación Científica de la Asociación Española Contra el Cáncer (AEC). Pi: Antoni Serrano Blanco. 01/08/2018-31/07/2023

Selected clinical trials & observational studies
• Estudio observacional de postautorización para evaluar la seguridad de ADASUVE® (Loxapina para inhalador Staccato) en personas agitadas en la práctica clínica habitual. Promotor: Alexa Pharmaceuticals. Pi: Antoni Serrano Blasco. 16/07/2015-
• Aripiprazole once-monthly versus daily oral atypical antipsychotic treatment in patients with recent-onset schizophrenia: an observational, non-interventional study. Promotor: Otsuka Pharmaceutical, S.A. PI: Antoni Serrano Blanco. 30/05/2017-

Selected publications
Notes

The team members of areas and groups presents all information of the group including external collaborators. The global numbers of the institution does not include external collaborators.

The number of projects shows the total number of projects managed and active during 2018.

Clinical trials and observational studies correspond to all those active during 2018.

Publications include original articles and reviews published during 2018 (with assigned pagination) and authored by members of research groups during their membership. The impact factor and quartile assigned corresponds to the Journal Citation Reports of the Web of Science of 2017.

The Budget is the total resources managed.

June 2019

Institut de Recerca Sant Joan de Déu
Santa Rosa, 39-57
08950 Esplugues de Llobregat - Barcelona
T. 936 00 97 51
info@fsjd.org
www.fsjd.org